

## **Appendix G: Biological Resources**



## **G-1: Expanded Biological Resources Analysis**



**Expanded Biological Resources Analysis  
Prepared for the  
Draft EIR  
County of San Luis Obispo  
Los Osos Wastewater Project**



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## TABLE OF CONTENTS

Preface.....	iii
5.5 - Biological Resources .....	5.5-1
5.5.1 - Introduction .....	5.5-1
Methodology.....	5.5-2
5.5.2 - Environmental Setting.....	5.5-4
Regional Context.....	5.5-4
General Land Use .....	5.5-5
5.5.3 - Special Status Species .....	5.5-17
Special Status Plant Species .....	5.5-17
5.5.4 - Special Status Wildlife Species.....	5.5-39
5.5.5 - Regulatory Setting.....	5.5-68
Federal Regulations .....	5.5-68
State Regulations .....	5.5-69
San Luis Obispo County General Plan.....	5.5-71
5.5.6 - Thresholds of Significance .....	5.5-73
5.5.7 - Analysis.....	5.5-73
Special Status Species.....	5.5-74
Riparian Habitat.....	5.5-117
Federally Protected Wetlands .....	5.5-128
Wildlife Corridors and Nursery Sites .....	5.5-138
Local Policies or Ordinances Protecting Biological Resources .....	5.5-144
Conservation Plans .....	5.5-160

## LIST OF TABLES

Table 5.5-1: Special Status Plant Species .....	5.5-18
Table 5.5-2: Special Status Wildlife Species.....	5.5-40
Table 5.5-3: Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources .....	5.5-162

## LIST OF EXHIBITS

Exhibit 5.5-1: Special Status Species Habitat .....	5.5-79
Exhibit 5.5-2: Jurisdictional Waters and Wetlands .....	5.5-119
Exhibit 5.5-3: SRA and ESHA Lands .....	5.5-145





## **PREFACE**

This Expanded Biological Resources Analysis corresponds to Section 5.5, Biological Resources, of the Los Osos Wastewater Project Draft EIR. For readability and reference, the numbering system for headings and page numbers in the following environmental analysis uses the same section number as that used in the Draft EIR.

This Expanded Biological Resources Analysis of the Los Osos Wastewater Proposed Project Draft EIR is a summary of a compendium of knowledge regarding biological resource issues statewide, as well as those issues applicable to San Luis Obispo County and specifically Los Osos. Since the body of knowledge is considerable and contained in numerous appendices, it would be difficult to present it entirely in this document and in a manner that is easily understood by the reader. In order to aid the reader in locating background information, this section is formatted to facilitate the retrieval of appended information by presenting the reader with references that address the issue at hand.



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## 5.5 - BIOLOGICAL RESOURCES

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### 5.5.1 - Introduction

This section provides an evaluation of potential effects on biological resources, including special status species, natural habitats, riverine and wetland resources, wildlife movement corridors and nursery sites, and local policies or ordinances protecting biological resources. The following is a list of information reviewed in preparation of this section.

1. Biological Resources Assessment for the Los Osos Wastewater Project. July 2008. Michael Brandman Associates. This information is located in Appendix G-2 of the Draft EIR appendices.
2. Draft Los Osos Habitat Conservation Plan. February 2005. Los Osos Community Services District. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
3. San Luis Obispo County General Plan. January 2007. San Luis Obispo County Department of Planning and Building. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
4. County of San Luis Obispo Coastal Plan Policies Summary. July 2004. County of San Luis Obispo. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
5. County of San Luis Obispo Coastal Zone Land Use Ordinance. January 2006. Title 23 of the San Luis Obispo County Code. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
6. County of San Luis Obispo Coastal Plan Policies. April 2007. County of San Luis Obispo. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
7. Estero Area Plan Update. November 2004. San Luis Obispo County Department of Planning & Building. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.

8. Final EIR for the Los Osos Community Services District Wastewater Facilities Project. March 1, 2001. Crawford, Multari, and Clark Associates. This document is not contained in the EIR appendices, but is instead available for review at the San Luis Obispo County Department of Planning and Building. Pursuant to CEQA Guidelines Section 15150, this document is hereby incorporated by reference.
9. California Natural Diversity Database (2008). Data provided by the participants of the California Department of Fish and Game's RareFind 3 Application. This information is located in Appendix G-3 of the Draft EIR appendices.
10. California Native Plant Society (2008). Data provided by the participants of the California Native Plant Society Inventory of Rare and Endangered Plants (<http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>). This information is located in Appendix G-4 of the Draft EIR appendices.
11. Consortium of California Herbaria (2008). Data provided by the participants of the Consortium of California Herbaria (<http://ucjeps.berkeley.edu/consortium/>). This information is located in Appendix G-5 of the Draft EIR appendices.
12. Calflora Observation Library and Mapviewer. 2008. Data provided by the participants of the Calflora Observation Library and Mapviewer (<http://www.calflora.org/cgi-bin/occform.cgi>). This information is located in Appendix G-6 of the Draft EIR appendices.

## **Methodology**

### ***Literature Review***

Prior to habitat assessment surveys, a literature review was conducted of the environmental and regulatory setting for the proposed project. The literature review provides a baseline from which to evaluate the biological resources potentially occurring within the study area, and local and regional vicinity.

The literature review began with a thorough review of aerial imagery of the study area and vicinity, as well as the topographic electronic and hard copies of the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. The County of San Luis Obispo's Interactive Geographical Information Systems (GIS) Mapping website was used to verify the locations of developed and undeveloped land, in addition to previously mapped resources. Extensive information was obtained from previous environmental documents prepared for past wastewater facility project efforts in the community of Los Osos. These and other references are listed above or are provided by reference within Appendix G of this section of the Draft EIR. Also thoroughly reviewed for the subject analysis include local programs and plans such as the San Luis Obispo County General Plan, the Estero Area Plan Update, the San Luis Obispo Coastal Plan Policies, the San Luis Obispo Coastal Zone Land Use Ordinance (which forms part of the Elements of the San Luis Obispo County Plan), and the Draft Los Osos Habitat Conservation Plan (LOHCP), among

others. The Draft LOHCP was thoroughly reviewed for its technical content, which includes a high level of analysis for a wide range of biological resources related issues that are relevant to the local area and the proposed project.

A list of special status plant and wildlife species and their habitats that have been recorded in the vicinity of the study area was compiled from the Draft LOHCP and previous environmental documents, as well as the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDDB), a sensitive species and plant community account database. MBA conducted a query of the CNDDDB records based on a 5-mile radius surrounding the study area that included the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. The CNDDDB GIS database was also utilized, together with ArcGIS software, to confirm the locations of CNDDDB records. The California Native Plant Society (CNPS) online inventory database and Consortium of California Herbaria were also queried for the study area and vicinity. The CNPS online inventory provided additional sensitive species information for many species that have not been reported to the CNDDDB database. The locations of previously documented observations for sensitive plant and wildlife species were identified and plotted onto aerial and topographic maps to determine connectivity of suitable habitat and/or likely dispersing routes between the locations of observations and the survey area.

### **Survey Methodology**

Various habitat assessment surveys were performed by qualified MBA Biologists on April 8, 9, 23, and 24, 2008, and May 20 and 21, 2008. Transects resulting in 100 percent coverage of the study area were conducted on foot in order to determine the extent of plant communities and to assess the presence of suitable habitat for sensitive plant and wildlife species. Vehicle surveys and visual inspections were conducted throughout the community of Los Osos and surrounding areas that are currently being considered for a wastewater collection system or for project alternatives. This included developed residential properties, roads, and undeveloped parcels generally from Morro Bay State Park to the north, Montaña de Oro State Park to the south, Los Osos Creek to the east, and Morro Bay to the west. This area is referred to as "portions of the community of Los Osos to be served by the collection system," the "community collection system area," and "areas within the Urban Reserve Line (URL)".

Pedestrian transects could not be conducted within portions of the study area due to restricted access, or were not intensively surveyed using pedestrian transect methodology due to the fact that they are situated well outside any areas that are considered for the project. Surveys within these areas were conducted by walking perimeter transects and through binocular scans at perimeter locations. Habitat assessment findings for portions of these areas were further confirmed with biological resources studies that had been prepared by others for previous wastewater facility projects in the community of Los Osos. Visual findings in the field were cross-referenced with aerial imagery, as well as previous

studies and environmental documentation to confirm the presence of vegetation communities, suitable habitat for special status species, potential jurisdictional features, and other resources.

In the field, the biologist referred to aerial photographs with the project study areas outlined for reference while conducting the survey. Plant communities were mapped using recent aerial photography. Primary references used for the definitions of vegetation communities and habitat types include the “Preliminary Descriptions of the Terrestrial Natural Communities of California” (Holland 1986), and the CNPS’ “A Manual of California Vegetation” (Sawyer and Keeler-Wolf 1995). An attempt was made to reach consistency in plant community nomenclature between the subject effort and previous environmental documents. Parameters assessed regarding the habitat requirements for special status plant and wildlife species known to occur in the area include the presence of suitable physical characteristics (slope, aspect, and hydrology), vegetation and plant community compositions, and soil substrates. Additionally, the presence of suitable habitat for nesting, roosting, foraging, basking, dispersing, or other behavioral actions was assessed. Any evidence of previous disturbance within the study area was carefully noted and documented.

Common plant species observed during the site survey were identified by visual characteristics and morphology and recorded in a field notebook. Less familiar plants were identified in the field and later confirmed after the survey using taxonomical guides. In this section of the Draft EIR, scientific names for plant and wildlife species are provided immediately following common names for the first reference only. Wildlife species were detected during the site survey by sight, calls, tracks, scat, or other signs. All wildlife species detected were recorded in a field notebook. Notations were made regarding general habitat conditions for sensitive species potentially occurring on within the survey area based on the literature review and knowledge of the local area.

## **5.5.2 - Environmental Setting**

### **Regional Context**

The study area for the Los Osos Wastewater Project includes the unincorporated community of Los Osos and additional unincorporated lands to the immediate south and east. The general area is located centrally along the coast of California, approximately ten miles northwest of the City of San Luis Obispo and five miles south of the City of Morro Bay. The study area spans the western portions of the Los Osos Valley, which is generally bounded to the north by a series of extinct volcanoes known as “The Morro’s” or the “Seven Sisters”, to the south by the Irish Hills and Montaña de Oro State Park, and to the west by Morro Bay. The Los Osos Valley continues to the east away from the study area toward the City of San Luis Obispo.

Three major drainage features define the region and enter the Los Osos Valley area as tributaries or sub-tributaries to Morro Bay and the Pacific Ocean. These include Chorro Creek, Los Osos Creek, and Warden Creek. Chorro Creek generally trends north-to-south and originates in the Santa Lucia Mountains to the north of the study area. Los Osos Creek generally trends south-to-north and

originates in the Irish Hills south of the study area. A downstream reach of Los Osos Creek traverses the center of the study area. Warden Creek generally trends east-to-west and originates further to the east of the study area. Two downstream reaches of Warden Creek, which include Warden Lake (or Warden Creek wetlands), cross the eastern portions of the study area. Warden Creek eventually discharges into Los Osos Creek further to the north of the study area, downstream of which, the lower reach of Los Osos Creek discharges into Morro Bay.

The unique ecosystems and resources in the region have given rise to a large number of narrow ranging species that are endemic to the area. A late Pleistocene and Holocene Dune complex overlies the majority of the community of Los Osos and portions of the study area that occur west of Los Osos Creek. These areas overlie young sand dunes along the coast at the beach, middle-aged dunes within the coastal valley, and old dunes at higher elevations and inland areas. These areas contain windblown sand deposits that host a unique ecosystem of dune and coastal scrub communities.

### **General Land Use**

The study area includes all or portions of private and public property that are primarily used for public ROWs or parks, residential and private development, or agricultural practices. Excluding portions of the study area that fall within the Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs, the remaining properties are primarily used for agriculture or are fallow.

The Broderson property is an undeveloped 80-acre parcel, portions of which are proposed for use as a leachfield disposal option for the proposed project. Aside from two eucalyptus stands that intersect the property, the Broderson site is entirely occupied by native coastal sage scrub and central maritime chaparral vegetation. A few dirt trails are regularly used for pedestrian access to the property and the adjacent Morro Dunes Ecological Reserve. These trails could be used for passive recreation activities that include hiking and mountain biking, and may also be used by pedestrians walking their dogs. Residential development occurs to the north and west, and undeveloped land within the parcel boundaries and within the Morro Dunes Ecological Reserve occurs to the south and east.

The Mid-Town property is currently undeveloped, however, it had been previously disturbed in 2005 by vegetation clearing and excavation activities associated with the previous wastewater facility development efforts (LOCSO 2001). Portions of this property are proposed for use by the collection system. The site is currently vacant and surrounded by a perimeter fence, and is characterized by a predominance of bare ground and non-native grasses and forbs, with sparse low quality native coastal sage scrub vegetation. The land immediately to the north and west is undeveloped but disturbed, and mixed developments are located to the south and east.

The Cemetery, Giacomazzi, and Branin sites include mixed uses that are predominately associated with past or present agriculture. The southern portion of the Cemetery property contains the Los Osos Valley Memorial Park, while the remaining northern portion is characterized by fallow fields that had once been used for agriculture. Additionally, a small Pacific Gas and Electric (PGE) facility

and electrical line easement occurs in the central portion of the Cemetery property. The majority of the Giacomazzi property is used for agricultural dry farming, and was recently disked at the time of the habitat assessment surveys. There is a turn-around and storage area along the western boundary of the site that is disturbed and fallow. There are also two drainage features that converge into a stand of native riparian vegetation in the northeastern portion of the property. The Branin property is primarily used for agricultural practices. The lower reach of Warden Creek Lake (Warden Creek wetlands) occurs within the northern portion of the property. Agricultural land on the Branin property is setback from the wetlands by shallow sloping fallow areas that may also be used for grazing. General land use surrounding the Cemetery, Giacomazzi, and Branin properties include open undeveloped land that is actively grazed to the north, rural residential property, and agricultural land to the south, rural residential property and the upper reach of Warden Creek wetlands to the east, and rural residential property and agricultural land to the west. A large transmission easement also occurs to the east of all three properties. This easement continues further to the north and south.

The Tonini property is used for agricultural and grazing practices. Crops used to produce a hay mix (barley, oat, and wheat) and irrigated row crops such as peas are cultivated in the lower elevations of the southern and eastern portions of the property, while the higher elevation rolling hills in the northern and western portions of the property are actively grazed by cattle. A ranch house and various barn structures occur in the central portion of the property, and an east-to-west trending driveway provides access to the house from Turri Road to the east. One large north-to-south trending drainage feature and two tributaries traverse the eastern portions of the property.

The Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs are primarily developed. These areas include a wide range of developments including paved asphalt roads, concrete sidewalks, dirt shoulders, fallow margins, culverts, non-native ornamental landscape vegetation, and a variety of other landscaping elements and private property developments. Los Osos Valley Road is a major arterial that is frequented by commuters and residents traveling through the community of Los Osos from Morro Bay to the north and San Luis Obispo to the east. Vehicle traffic on Broderson Avenue is less intense and restricted to use by local residents. Turri Road is a winding country road that is used as an alternative route from South Bay Boulevard to and from Los Osos Valley Road. It is also used by moviemakers, bikers, and tourists, among others.

### ***Topography and Soils***

The majority of the study area is situated within the lower elevations of the western reach of the Los Osos Valley. With the exception of the rolling hills in the northwestern portion of the Tonini property, the study area is characterized by shallow topography with gentle downhill slopes that run toward sea level elevations within Morro Bay, Los Osos Creek, and Warden Creek. The highest elevations occur within the rolling hills on the Tonini property; approximately 541 feet above mean sea level (AMSL). The second highest elevations occur within the gently sloping stabilized dunes at the Broderson property, and are approximately 300 feet AMSL. The lowest elevations within the



survey area occur within Warden Lake on the Branin property at approximately 25 feet AMSL. Elevations within the Los Osos Valley Road ROW undulate between low spots at the intersection of Turri Road (approximately 50 feet AMSL), the Los Osos Creek crossing (approximately 120 feet AMSL), and Broderson Avenue (approximately 115 feet AMSL), and high spots at the intersection of South Bay Boulevard (approximately 160 feet AMSL) and Clark Valley Road (approximately 110 feet AMSL).

Two major watersheds discharge into the study area from the Irish Hills to the south and from the Santa Lucia Mountains to the east. Los Osos Creek enters the study area as a higher order intermittent coastal stream that conveys flows through a linear section of the study area at the Los Osos Valley Road overpass. From the study area, flows continue uninterrupted downstream to the north and northwest before discharging in to Morro Bay. Warden Creek enters the study area as a higher order perennial coastal stream that conveys flows through a linear section of the study area at the Turri Road overpass. From the study area, flows continue uninterrupted downstream to the west into Warden Lake (Warden Creek wetlands) before discharging into Los Osos Creek and eventually into Morro Bay. Two smaller watersheds also discharge into the study area. These smaller watersheds support local coastal streams draining from lower foothills to the north of the Tonini property and to the south of Los Osos Valley Road. These smaller intermittent and ephemeral coastal streams all discharge into Warden Creek and eventually enter into Morro Bay. Specifically, these include two unnamed ephemeral drainage features and tributaries that traverse the Tonini property (herein referred to as T-1, T-1a, T-1b, and T-2) and three unnamed drainage features that traverse Los Osos Valley Road (herein referred to as W-3, W-4, W-5, W-5a, and W-5b). The study area also includes two small ephemeral tributaries to Warden Lake that are restricted to the Giacomazzi property. These small tributaries are herein referred to as W-1 and W-2.

The study area is mapped as containing 19 soil mapping units belonging to 11 separate soil series, soil complexes, and land features (see Exhibit 4 of Appendix G-2 Biological Resources Assessment for the Los Osos Wastewater Project). In terms of their functions and values to local natural resources, the most significant soils that are known in the area are the fine windblown sands that belong to the Baywood series. Baywood fine sands are specifically bounded to the south by foothills of the Irish Hills, to the north and west by Morro Bay, and to the east by Los Osos Creek. These soils underlie and define a unique ecosystem of sand dunes and native scrub vegetation that is exclusive to the community of Los Osos and plays host to a number of special status species.

### ***Habitat Types / Vegetation Communities***

Twelve vegetation communities/habitat types occur within the project study area (see Exhibit 5 of Appendix G-2, Biological Resources Assessment for the Los Osos Wastewater Project): Urban/Developed, Disturbed Habitat/Ruderal, Eucalyptus Woodland, Extensive Agriculture, Non-Native Grassland, Coastal Sage Scrub, Central (Lucian) Coastal Scrub, Coast Live Oak Forest,

Central Coast Live Oak Riparian Forest, Central Coast Arroyo Willow Riparian Forest, Vernal Marsh, and Freshwater Marsh.

### **Urban/Developed Land**

A large portion of the study area is characterized by developed land. Most notably are the paved asphalt portions of Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs, and the residential developments that abut Broderson Avenue and occur sporadically along Los Osos Valley Road. Isolated rural residential and agricultural structures that constitute Urban/Developed Land also exist on the Mid-Town, Cemetery, and Tonini properties. Areas mapped as Urban/Developed Land contain a very low percent coverage of vegetation, limited primarily to individual specimens and/or isolated stands of non-native ornamental trees (other than *Eucalyptus* sp.), shrubs, and groundcover associated with landscaped areas on private residential property and within ROWs.

Urban/Developed Land also characterizes the residential properties and roads in the community of Los Osos that will be included as part of the collection system. This generally includes land north of developed areas around Bayview Heights Drive and Highland Drive, south of developed areas around Santa Ysabel Avenue, east of developed areas along the Morro Bay shores, and west of developed areas around South Bay Boulevard.

### **Disturbed Habitat**

Disturbed Habitat or Ruderal includes areas that have vegetative cover less than 10 percent and where there is evidence of soil surface disturbance from previous activity; or where the vegetative cover is greater than 10 percent; there is soil disturbance or compaction, and the presence of building foundations and debris. Vegetation within Disturbed Habitat consists of non-native and/or ruderal (weedy) species that are commonly associated with disturbed areas.

Disturbed Habitat occurs within portions of the study area that are currently fallow, or used as dirt access roads or ROWs. All of the areas mapped as Disturbed Habitat contain evidence of previous vegetation clearing and soil disturbance, including either previous disking or plowing from agricultural activities, or compaction and disturbance from off-highway vehicles or intensive grazing. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. There are isolated areas that contain Disturbed Habitat along Los Osos Valley Road, as well as disturbed upland areas on the Mid-Town, Cemetery, Giacomazzi, Branin, and Tonini properties. Disturbed Habitat also characterizes portions of the drainage features, roadside ditches, and upland swales that occur throughout the survey area. Common plant species observed within the Disturbed Habitat in these areas include non-native annual grasses such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oats (*Avena fatua*), and annual forbs such as filaree (*Erodium cicutarium*), pineapple weed (*Chamomilla suaveolens*), wild radish (*Raphanus sativus*), field mustard (*Brassica rapa*), bristly ox-tongue (*Picris echioides*), poison hemlock (*Conium maculatum*), and fennel (*Foeniculum vulgare*).

### ***Eucalyptus Woodland***

Eucalyptus woodland is a non-native vegetation community characterized by a dominance of gum tree species (*Eucalyptus* spp.). Physical structure and canopy is typically tall, with a sparse understory herbaceous layer, often with low species diversity. This community occurs as larger stands from historical plantings, and as smaller stands as windrows or ornamental landscaping in parks, residential properties, and other urban landscapes. This classification is used to describe single large specimens or clusters of mature eucalyptus trees. These trees, introduced mainly from Australia, are commonly used for ornamental landscaping. Throughout California, eucalyptus trees can spread into natural areas and may be considered exotic invasive elements because they may displace native vegetation. Therefore, while eucalyptus trees and stands are not typically considered to be biologically significant in terms of the overall habitat value associated with them, these tall trees provide cover and perching opportunities, and are sometimes used as nest sites by hawks, owls, and other raptors (birds of prey) and potential roost sites for insect and bat species.

Eucalyptus Woodland occurs in isolated stands along Los Osos Valley Road, and as single stands on the Broderson property. Stands along Los Osos Valley Road integrate with ornamental landscaping and developed areas, and the stands on the Broderson property integrate with coastal sage scrub.

### ***Extensive Agriculture***

Extensive Agriculture may be defined broadly as land used primarily for production of food and/or fiber. Chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by livestock or mechanized equipment. However, pasture and other lands where such equipment is used infrequently may not show as well-defined shapes as other areas. The number of building complexes is lower and the density of the road and highway network is much lower than in Urban/Developed Land.

Extensive Agriculture occupies the large majority of the Giacomazzi, Branin, and Tonini properties, as well as portions of private lands that exist adjacent to the Los Osos Valley Road ROW. Cultivated species observed in these areas include peas and hay mix dry crops such as wheat, barley, and oats.

### ***Non-Native Grassland***

Non-Native Grassland is described as a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include brome (*Bromus* sp.), wild oats (*Avena* sp.), fescue (*Vulpia* sp.), and barley (*Hordeum* sp.).

Non-Native Grassland occurs within the uncultivated portions of the Tonini property and in limited areas on the Giacomazzi property. Dominant species include ripgut brome, wild oats, and barley.

## Coastal Sage Scrub

For the purposes of this assessment, Coastal Sage Scrub habitat has been defined to include both elements of Coastal Dune Scrub (Holland 1986) and California sagebrush – black sage series (Sawyer and Keeler-Wolf 1995) due to the variability of the stands observed within the study area. In general, Coastal Sage Scrub habitat in the central California region is typically comprised of perennial low-growing, woody, drought-deciduous shrubs dominated by California sagebrush (*Artemisia californica*), and an herbaceous understory consisting of native and/or ruderal (weedy) herbaceous elements. In coastal areas on ancient dunes and stabilized backdune slopes, ridges, and flats, this community may occur as a dense coastal scrub community of scattered shrubs, subshrubs, and herbs, generally less than 3 feet tall and often developing considerable cover. Stands that are primarily associated with stabilized dunes are restricted to the coastal strip roughly between Bodega Bay and Point Conception. Diagnostic species include California sagebrush, black sage (*Salvia mellifera*), mock heather (*Ericameria ericoides*), California aster (*Corethrogyne filaginifolia*), silver dune lupine (*Lupinus chamissonis*), dune ragwort (*Senecio blochmanae*), and coastal sagewort (*Artemisia pycnocephala*). In coastal central California, this community intergrades toward the coast with foredunes and away from the coast with other Coastal Scrub types, Maritime Chaparral, or Coastal Sage-Chaparral Scrub.

Coastal Sage Scrub occurs in two locations within the study area: portions of the Broderson and the Mid-Town properties. The stands on the Broderson property are supported by stabilized dune substrates that give way to a variety of smaller plant species associations that include Coastal Sage Scrub - Disturbed, Mock Heather (Heather Goldenbush) Series- Disturbed, California Sagebrush – Black Sage Scrub Series- Disturbed, and Dune Lupine Scrub- Disturbed (Morro Group 2004b, Sawyer and Keeler-Wolf 1995, Holland and Keil 1985). In general, dominant plant species observed within the Broderson stands include shrubs such as California sagebrush, mock heather, and black sage, native herbaceous species such as dune lupine, and non-native herbaceous species such as veldt grass (*Ehrharta longiflora*). The Mid-Town stands are dominated primarily by remnant coyote brush and mock heather shrubs, and herbaceous species such as California croton (*Croton californicus*), and fig-marigold (*Carpobrotus edulis*). These stands are disturbed from previous vegetation clearing and excavation associated with construction activities for the previous wastewater facility project in 2005, in addition to other human-related disturbances associated with adjacent urban areas. Therefore, these areas contain a high percentage of disturbance-related plant species such as veldt grass and deerweed (*Lotus scoparia*), among others.

The Coastal Sage Scrub that occurs on the Broderson property provides high quality habitat for common and sensitive resources, including plant species such as Blochman's leaf daisy (*Erigeron foliosus* var. *blochmaniae*), saint's daisy (*Erigeron sanctarum*), San Luis Obispo wallflower (*Erysium suffretescens* var. *lompopense*), and dune almond (*Prunus fasciculata* var. *punctata*), among others, and wildlife species such as the Morro shoulderband snail and Morro Bay kangaroo rat. The Morro shoulderband snail is known to occupy the Broderson property. Habitat on the Mid-Town property is

much lower in quality than the Broderson property because of previous disturbances discussed above. The majority of the property has been excavated and graded, and as a result, the area has been colonized by invasive species such as veldt grass. Many of the existing shrub species are sparse and low growing.

### **Central Lucian Coastal Scrub**

Central Lucian Coastal Scrub habitat is described as being dominated by shrubs, 3 – 6 feet tall, usually quite dense, lacking the grassy openings of Northern Coastal Scrub and with greater crown overlap than Coastal Sage Scrubs. This community is lower growing and shares several evergreen sclerophylls as dominant species. Most growth occurs in late winter and spring, with flowering concentrated in spring and early summer, but may continue through most of the year. Some species are relatively inactive during the dry summer and fall, but this is less pronounced than in the Coastal Sage Scrubs. Similar to most coastal scrub and chaparrals, it is adapted to fire by crown sprouting. This community occurs on exposed, often south-facing slopes with shallow, rocky soils. This community is geographically and environmentally intermediate between Northern Coastal Scrub and Venturan Sage Scrub, intergrading with Upper Sonoran Mixed Chaparral on more mesic and rocky sites, and Venturan Sage Scrub in southern San Luis Obispo and Northern Santa Barbara counties. This scrub often interdigitates with madrean woodlands and even redwoods on even more mesic sites. Characteristic species include California sagebrush, coyote brush, saw-toothed goldenbush (*Hazardia squarosa*), lupines (*Lupinus* sp.), and black sage, among others. The community is common on the ocean side of the Santa Lucia range between Monterey and Point Conception, and is usually found below about 2,000 feet. In the context of this analysis, this habitat is synonymous with the Coyote Brush series description provided by Sawyer and Keller-Wolf (1995).

This community occurs in isolated stands within the survey area on the Giacomazzi property. Dominant species include coyote brush and California sagebrush. Understory herbaceous species include non-native grasses such as ripgut brome, barley, and oats, and non-native forbs such as field mustard, pineapple weed, and fennel.

### **Central Maritime Chaparral**

Central Maritime Chaparral is described as a variable sclerophyll scrub habitat characterized by a moderate to high percent cover of native shrubs typically dominated by manzanita (*Arctostaphylos* sp.) or ceanothus (*Ceanothus* sp.) species (Sawyer and Keeler-Wolf 1995, Holland 1986). This community is restricted to areas within the summer coastal fog incursion zone, on windward uplands and coastal lowlands that are supported by well-drained and nutrient poor sandy substrates (Sawyer and Keeler-Wolf). Other native species characteristic of this community may include coast live oak, chamise (*Adenostoma fasciculatum*), hollyleaf cherry (*Prunus ilicifolia*), coffee berry (*Rhamnus californica*), mountain mahogany (*Cercocarpus betuloides*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and black sage, with sparse California sagebrush, coyote brush, mock heather, and sticky monkeyflower (*Mimulus aurantiacus*) in drier areas (Holland

1986). This community is distributed in scattered locations near Monterey and Fort Ord, and in southern San Luis Obispo and northern Santa Barbara Counties.

Central Maritime Chaparral occurs as a single large stand on the north-facing slope that encompasses the majority of the Broderson property. This stand is characterized by moderate diversity of densely arranged, primarily sclerophyllous woody perennial shrub species underlined by fine sandy soils of old dunes. Smaller ecotonal areas characterized by a mix of coastal sage scrub and coast live oak forest species occur at the northern periphery of the Central Maritime Chaparral onsite, as well as within areas containing larger canopy breaks and solid canopies of coast live oak trees. Manzanita and coast live oak represent the dominant plant species within the stand on the Broderson property (LOCSO 2004). Other species observed include California sagebrush, black sage, wedgeleaf ceanothus, mock heather, deerweed (*Lotus scoparius*), and veldt grass, among others. The Central Maritime Chaparral within the Broderson property provides suitable habitat for common and sensitive plant and wildlife species associated with scrub-type communities in the local area, including the Morro manzanita and the Morro shoulderband snail.

### **Coast Live Oak Forest**

Coast Live Oak Forest, also known as Coast Live Oak series (Sawyer and Keller-Wolf 1995), is described as being similar to Mixed Evergreen Forest and Coast Live Oak Woodland, not quite so dense and with fewer tree species than the former; denser than the latter, forming a forest instead of a woodland. Dominated by coast live oak, a broad-crowned, sclerophyllous evergreen tree growing 60 feet tall or more. The growing season may begin earlier than in Mixed Evergreen Forest, at least in the southern coastal locations, whereas a greater reduction of growth probably occurs during the summer-fall drought. It is similar to Mixed Evergreen Forest and Coast Live Oak Woodland, but drier than the former and moister than the latter and may intergrade with these locally as well as regionally. This community may occur in valley bottoms as well as on slopes. Characteristic species include coast live oak, scrub oak (*Quercus berberidifolia*), and poison oak, among others. This community is known to occur from the coast ranges of Sonoma County to Santa Barbara County; however, it is most common away from the coast in the north and near the coast in the south. It is often adjacent to Mixed Evergreen Forest in the north or merging with Coast Live Oak Woodland in the south at elevations usually below 3,000 feet.

Coast Live Oak Forest occurs in one location within the survey area along Los Osos Valley Road and adjacent and west of Los Osos Creek within the Los Osos Oaks State Reserve. This stand is almost entirely comprised of coast live oak trees with little development in the understory. This stand intergrades with Central Coast Arroyo Willow Riparian Forest within areas associated with Los Osos Creek, and with Disturbed Habitat and developed areas associated with the Los Osos Valley Road ROW. The proximity of this habitat within the survey area to Los Osos Valley Road and associated disturbances reduce the overall quality for wildlife species. Although nesting is unlikely, common wildlife species may use the area as foraging habitat.

### **Central Coast Live Oak Riparian Forest**

Central Coast Live Oak Riparian Forest, also known as Coast Live Oak - Arroyo Willow series (Sawyer and Keller-Wolf 1995), is described as a low, evergreen sclerophyllous riparian forest, usually with an open appearance, dominated by coast live oak. This community is associated with drier outer flood plains along perennial streams, and is ecotonal between more mesic cottonwood- or willow-dominated types within or adjacent to the active stream channel and primary floodplain, as well as more xeric chaparrals in upland areas. Central Coast Live Oak Riparian Forest habitat is known from canyon bottoms and flood plains of the South Coast and Transverse ranges, from Sonoma County south to near Point Conception. This community includes many species usually associated with Coast Live Oak Woodland or Chaparral in the open scrub and woodland understory, with annual grasses dominating the herbaceous layer. Typical plant species found within Central Coast Live Oak Riparian Forest include coast live oak, Mexican elderberry (*Sambucus mexicana*), coyote bush (*Baccharis pilularis*), skunkbush (*Rhus trilobata*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), wild oats (*Avena Fatua*), and bromes (*Bromus* spp.). According to mapping prepared for the Draft LOHCP, Central Coast Live Oak Riparian Forest or Coast Live Oak - Arroyo Willow series represents the most abundant riparian habitat type mapped within the Los Osos area (LOCSO 2005). This habitat is contiguous and dense along the lower reach of Los Osos Creek downstream of the Los Osos Valley Road crossing, as well in areas surrounding Eto Lake and its unnamed tributary west to South Bay Boulevard (LOCSO 2005).

Central Coast Live Oak Riparian Forest habitat was observed at a single location within the survey area at Los Osos Oaks State Reserve. The stand that exists within the survey area continues further upstream and to the south along Los Osos Creek, and integrates with Coast Live Oak Forest habitat occupying upland areas to the immediate southwest and west, and Central Coast Arroyo Willow Riparian Forest and Arroyo Willow - Black Cottonwood series riparian habitat further downstream. The habitat onsite contains a dense closed-canopy that is co-dominated by coast live oak trees and arroyo willow trees (*Salix lasiolepis*). Little understory growth exists within onsite areas that are characterized by this community, and especially within the bare active channel and adjacent channel margins of Los Osos Creek itself. Dominate understory species observed within limited areas include poison oak, mugwort, Himalaya blackberry, and horsetail (*Equisetum hyemale*).

Previous and ongoing disturbance associated with Los Osos Valley Road and adjacent urban elements has reduced the overall quality of the Central Coast Live Oak Riparian Forest habitat within the study area. Previous developments and ongoing maintenance associated with the Los Osos Valley Road ROW and Los Osos Creek over crossing have resulted in the removal and trimming of trees. Understory pedestrian trails leading down to the creek and signs of trash and human use have also contributed to a reduction in the overall value of the stand. Additionally, the area is subject to regular indirect disturbances associated with pedestrians and vehicles using the Los Osos Valley Road ROW. Central Coast Live Oak Riparian Forest habitat onsite and in the immediate vicinity provides suitable

nesting opportunities for common and sensitive bird species, including raptors, and marginal upland habitat for amphibian species that occur within the perennial waters of Los Osos Creek. The dense riparian canopy that serves as an overstory for Los Osos Creek also may function to facilitate wildlife movement through the riparian corridor, in addition to providing important ecological elements for aquatic species that may inhabit the Creek during wet months, such as southern steelhead.

### **Central Coast Arroyo Willow Riparian Forest**

Central Coast Arroyo Willow Riparian Forest habitat, also known as Arroyo Willow series (Sawyer and Keller-Wolf 1995), is described as containing a dense closed-canopy of the shrub/tree, arroyo willow (*Salix lasiolepis*), with a sparse understory of shrub species. Other species associated with this habitat type include trees such as western sycamore (*Platanus racemosa*) and shrubs such as coyote bush, and other willow species such as red willow (*Salix laevigata*) and black willow (*Salix goodingii*). This habitat typically occurs within low gradient stream reaches and seasonally flooded bottomlands supported by moist or saturated sandy or gravelly soils, distributed near the coast from Monterey south to Santa Barbara. In the community of Los Osos, this habitat also occurs within or around dune slack ponds in the coastal fog incursion zone. According to mapping prepared for the Draft LOHCP, larger stands of Central Coast Arroyo Willow Riparian Forest or Arroyo Willow Series are narrowly distributed within the Los Osos area. This habitat is limited to isolated areas within the lower reach of Los Osos Creek, including one moderately sized stand downstream of the Los Osos Valley Road crossing, and one relatively large stand downstream of the Los Osos Creek and Warden Creek confluence (LOCSO 2005). Scattered smaller stands are more abundant, particularly within areas east of Los Osos Creek and within Warden Creek and its tributaries.

Central Coast Arroyo Willow Riparian Forest habitat occurs primarily within six locations within the study area including the Giacomazzi property, Los Osos Valley Road, Warden Creek at the Turri Road crossing, and the Turri Road culvert within the Tonini property. With the exception of the small isolated stand at Turri Road, the remaining stands are directly connected with and/or in the immediate vicinity of better quality stands associated with Warden Creek and its wetlands and tributaries. This habitat also lines the margins of the Warden Creek wetlands located within the Freshwater Marsh habitat on the Branin property. Dominant plant species within the Central Coast Arroyo Willow Riparian Forest habitat observed onsite include arroyo willow within the tree stratum, mulefat (*Baccharis salicifolia*) and coyote bush within the shrub stratum, and poison hemlock, curly dock (*Rumex crispus*), fennel, and broad-leaf cattail (*Typha litifolia*) within the herbaceous stratum.

The Central Coast Arroyo Willow Riparian Forest habitat that occurs within the study area is disturbed with the exception of the stands that occur within Los Osos Creek, the Giacomazzi property, and the larger stands that were not ground-truthed within the Warden Creek wetlands on the Branin property. The stand mapped within Los Osos Creek contains an open canopy above the active channel for the Creek, and intergrades with the denser Central Coast Live Oak Riparian Forest habitat. The dominant overstory arroyo willows within the stands on the Giacomazzi property and



Warden Creek wetlands are broad-leafed and mature, and provide a closed canopy for the overall stand. Although small and disjunct, the stands along Los Osos Valley Road exhibit healthy plant species compositions; however, they occur in the immediate vicinity of existing roads and are subject to associated direct and indirect impacts. Additionally, the riparian habitat within Warden Creek at the Turri Road crossing is sparse and contains evidence of disturbance from previous developments and agricultural activities from the adjacent uplands.

Habitat quality of the Central Coast Arroyo Willow Riparian Forest habitat onsite is relatively high; however, it is limited by the small size of the individual stands. The stands within Los Osos Creek and the Giacomazzi and Branin properties are more or less contiguous with adjacent stands of riparian and/or wetland habitat that occurs offsite. The stands within the Giacomazzi and Branin properties function as extensions of larger better quality habitat that occurs further to the north and northeast within the Warden Creek wetlands. These areas, along with the stand within Los Osos Creek, provides suitable nesting opportunities for common and sensitive bird species, including raptors, and marginal upland habitat for amphibian species that occur within the Warden Creek wetlands and perennial waters within Los Osos Creek. The stands of habitat that occur along Los Osos Valley Road and at the Turri Road culvert within the Tonini property provide limited opportunities for common wildlife species due to the overall size and quality of the stands. These areas provide only marginal nesting and foraging habitat for common wildlife species. The riparian habitat that occurs within Warden Creek at the Turri Road crossing provides suitable nesting and foraging opportunities for a number of common and sensitive wildlife species, and may function to facilitate wildlife movement through the riparian corridor that is supported by Warden Creek.

### **Vernal Marsh**

Vernal Marsh habitat, also known as the Spikerush series (Sawyer and Keller-Wolf 1995), is described as containing an arrangement of low-growing annual and perennial herbs, whose dominance and relative abundance may fluctuate due to seasonality (Holland 1986). These habitats typically occupy the margins of permanent water bodies, and isolated low-lying depressions, swales, and seeps throughout the coastal and interior valleys of California. This habitat is supported by an ephemeral and unstable hydrology regime in which sites supporting this habitat are temporarily inundated during and immediately following the winter rains, however, they are greatly diminished or completely dried up by summer. The growing season for vegetation within Vernal Marsh habitats typically occurs between late spring to early summer. This habitat tends to become more alkaline later in the season due to receding water and evaporation.

Vernal Marsh habitat characterizes the larger ephemeral drainages that traverse the Tonini property and the seasonal wetlands that occur adjacent to Los Osos Valley Road. The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on the project site is the spikerush (*Eleocharis macrostachya*). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*), curly dock

(*Rumex crispus*), yellow sweet clover (*Melilotus officinalis*), and blue-eyed grass (*Sisyrinchium bellum*), and species typical of upland habitats such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), and bristly ox-tongue (*Picris echioides*).

Consistent with the majority of the wetland habitat identified in the Los Osos community by the Draft LOHCP, the Vernal Marsh habitat within the study area could also be defined as Disturbed Wetlands from the Disturbed Wetland Series (LOCSO 2005, Sawyer and Keller-Wolf 1995) due to a number of disturbance factors. The Vernal Marsh habitat along Los Osos Valley Road has been previously disturbed as a result of various utilities projects within the ROW, and the hydrology regime has been altered as a result of road and culvert developments. These areas are also routinely disturbed by pollutants carried via nuisance and agricultural runoff from the adjacent roads and agricultural lands, in addition to direct and indirect vehicle disturbance within the ROW. Vernal Marsh habitat within the Tonini property is routinely disturbed by grazing and pollutants associated with grazing and agricultural activities. The hydrology regime that supports these wetlands appears to be relatively undisturbed from development, with the exception of a few culverts that facilitate water flows beneath Turri Road and the existing dirt access road on the property.

### **Freshwater Marsh**

Freshwater Marsh habitat is dominated by perennial, emergent monocot species, which grow up to 4 to 5 feet tall and often form completely closed canopies. Dominant plant genera typically found within Freshwater Marsh include bulrush (*Scirpus* spp.) and cattail (*Typha* spp.). This community occurs in areas permanently flooded by fresh water, which lack any significant hydrologic flow. This community occurs in coastal valleys near river mouths and around the margins of lakes and springs. Within California, this community is most extensive in the upper portion of the Sacramento-San Joaquin River Delta and is common in the Sacramento and San Joaquin Valleys in river oxbows and other areas within active floodplains.

Freshwater Marsh occurs intermixed with elements of riparian forest within the northern portions of the Branin property in the area referred to as the Warden Creek wetlands. Dominate species present include hard-stem bullrush (*Scirpus acutus*) and arroyo willow. The Freshwater Marsh habitat within the study area is relatively undisturbed; however, the surrounding margins and upland areas contain evidence of intensive grazing that may present an adverse affect on the water quality of the area and an edge effect from vegetation removal for the creation of grazing land.

### **Flora**

Dominant and sub-dominant tree, shrub, herbaceous, and woody vine plant species that were specifically observed within each of their respective habitat type/vegetation communities are provided above. A complete list of all plant species observed during the habitat assessment for the project site is provided in Appendix G-2.

## **Fauna**

Wildlife species observed or otherwise detected during surveys include common species typical of agricultural areas, and lowland scrub and forest communities located in proximity to urban areas. The majority of the species observed are commonly associated with urban settings. A complete list of wildlife species detected onsite is included in Appendix G-2.

### **5.5.3 - Special Status Species**

#### **Special Status Plant Species**

Thirty-nine special status plant species were analyzed for their potential to occur within the study area. A discussion is provided below for each special status plant species determined to be present, presumed present, or have a high potential to occur based on the results of botanical surveys and/or the best available scientific research. Further information detailing the listing status, habitat requirements, species life form, blooming periods, and potential to occur within the surveys area for all thirty-nine sensitive plant species included in the analysis are provided in Appendix G-2, and are summarized in Table 5.5-1 below.

Table 5.5-1: Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<b>Lichens</b>									
<i>Bryoria spiralifera</i>	spiraled old man's beard	—	—	—	NC	Occurs on twigs and small branches of trees and older shrubs within coast live oak woodland, chaparral, and coastal sage scrub habitats. Endemic from central to northern California. Known from Humboldt, Sonoma, Monterey, and San Luis Obispo Counties. Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<i>Cladonia firma</i>	Popcorn lichen	—	—	—	NC	Common at the base of small shrubs. Restricted to the Elfin Forest within Los Osos. Known Elevation Limits: Unknown	Lichen	—	<b>Not Likely to Occur.</b> Suitable habitat for this species exists however the study area is outside this species known range.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Hypogymnia mollis</i>	Los Osos black and white lichen	—	—	—	NC	Occurs on bark and twigs of trees and older shrubs in coast live oak woodland, chaparral, and coastal sage scrub habitats. Known from fog belt of central California within Monterey, San Luis Obispo, Riverside, and San Diego Counties. Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<i>Parmotrema hypolecinum</i>	Long-fringed parmotrema	—	—	—	NC	Occurs on bark and twigs of trees and older shrubs in coast live oak woodland, chaparral, coastal sage scrub, and arroyo willow series habitats. Known from fog belt of central California within Marin, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties. Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest and Central Coast Arroyo Willow Riparian Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Sulcaria isidifera</i>	Splitting yarn lichen	—	—	—	C	Occurs on trunks of coast live oak trees, chamise, and ceanothus. Known from the Los Osos/Baywood Park area in San Luis Obispo County. Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<b>Vascular Plants</b>									
<i>Agrostis hooveri</i>	Hoover bentgrass	—	—	1B.2	NC	Occurs in chaparral, cismontane woodland, and valley foothill grassland communities with dry sandy soil. Hoover's bentgrass is native and endemic to California. It occurs in Los Osos Valley, San Luis Valley, and the East slope of Santa Lucia Mountains in San Luis Obispo County and south to La Purisma Hills in Santa Barbara Counties.	Perennial Herb	Apr - Jun	<b>Not Likely to Occur.</b> Although non-native grassland occurs within limited portions of the survey area, these areas are not supported by dry sandy soils and are highly disturbed.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Known Elevation Limits: 6 - 610 meters			
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	—	—	1B.2	NC	Found in broad-leaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland. San Luis Obispo County to Monterey County. Known Elevation Limits: 60 - 310 meters	Evergreen shrub	Dec - Mar	<b>Low Potential to Occur.</b> Marginal coastal sage scrub habitat occurs within lower elevations of the survey area for this species; however, this species is more likely to occur in higher elevations. This species has not been previously observed within the coastal sage scrub habitat on the site.
<i>Arctostaphylos morroensis</i>	Morro manzanita	FT	—	1B.1	C	The distribution of Morro manzanita is correlated with Baywood fine sands and is found in association with coastal scrub, maritime chaparral, and coast live oak woodland communities in sites with no or low to moderate slopes.	Evergreen shrub	Dec - Mar	<b>Species Present.</b> This species has been documented as occurring on the Broderson property (Holland and Keil 1985, Morro Group 2004). Suitable coastal sage scrub supported by Baywood fine sands occurs within the Broderson and Mid-Town properties.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						San Luis Obispo County, from Morro Bay to just south of Hazard Canyon. Known Elevation Limits: 5 - 205 meters			
<i>Arctostaphylos osoensis</i>	Oso manzanita	—	—	1B.2	NC	Grows in chaparral and in cismontane woodland on dacite porphyry buttes. Narrowly endemic to the mountains North of Los Osos Valley, San Luis Obispo County. Known Elevation Limits: 300 - 500 meters	Evergreen shrub	Feb - Mar	<b>Not Likely to Occur.</b> No dacite porphyry buttes occur within the survey area. No chaparral or cismontane woodland occurs within the survey area.
<i>Arctostaphylos tomentosa ssp. daciticola</i>	Dacite manzanita	—	—	1B.1	NC	Located in chaparral and cismontane woodland on dacite porphyry buttes. Near Cambria and northeastern portion of Los Osos Valley, San Luis Obispo County. Known Elevation Limits: 100 - 300 meters	Evergreen shrub	Mar	<b>Not Likely to Occur.</b> No dacite porphyry buttes occur within the survey area. No chaparral or cismontane woodland occurs within the survey area.



Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Arenaria paludicola</i>	Marsh sandwort	FE	SE	1B.1	NC	Found in marshes and swamps. Occurs within the counties of Los Angeles, San Bernardino (in southern San Bernardino), Santa Cruz (Felton), San Francisco (northern), and San Luis Obispo (Oceano). Known Elevation Limits: 3 - 170 meters	Stoloniferous herb	May - Aug	<b>Low Potential to Occur.</b> Marginal freshwater marsh habitat occurs within limited portions of the Branin property. No portions of the project are proposed within this area.
<i>Calochortus obispoensis</i>	San Luis mariposa lily	—	—	1B.2	NC	Found in chaparral, coastal scrub, grassland, and freshwater seep habitats of dry, serpentine soils. Endemic to San Luis Obispo County. Found in hills around San Luis Valley, from Cuesta Pass to Prefumo and See Canyons, south to Arroyo Grande.	Bulbiferous herb	May - Jul	<b>Not Likely to Occur.</b> Although coastal scrub and non-native grassland habitat occurs within the survey area, these areas are not supported by dry, serpentine soils.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Known Elevation Limits: 75 - 730 meters			
<i>Arctostaphylos pechoensis</i>	Pecho manzanita	—	—	1B.2	NC	Closed-cone coniferous forest, chaparral, and coastal scrub habitats supported by siliceous shale. Known Elevation Limits: 125 - 850 meters	Evergreen shrub	Nov - Mar	<b>Not Likely to Occur.</b> Although coastal scrub habitat occurs within the survey area it is not supported by siliceous shale.
<i>Calystepia subacaulis</i> ssp. <i>episcopalis</i>	Cambria morning glory	—	—	1B.2	NC	Chaparral, cismontane woodland, and coastal plain habitats. Known Elevation Limits: 60 - 500 meters	Rhizomatous herb	Apr - Jun	<b>Not Likely to Occur.</b> The survey area does not contain chaparral, cismontane woodland, or coastal plain habitat.
<i>Carex obispoensis</i>	San Luis Obispo sedge	—	—	1B.2	NC	This species chiefly occurs on steep, serpentine-derived hillsides in association with chaparral and coastal sage scrub habitats. Monterey and San Luis Obispo Counties.	Rhizomatous herb	Apr - Jun	<b>Not Likely to Occur.</b> The survey area is not characterized by any steep serpentine-derived hillsides.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Known Elevation Limits: 10 - 790 meters			
<i>Castilleja densiflora</i> <i>ssp. obispoensis</i>	Obispo Indian paintbrush	—	—	1B.2	NC	Grows in valley and foothill grasslands. Occurs in Arroyo Grande, Pismo Beach, Port San Luis, San Luis Obispo, Lopez Mountain, Morro Bay, Cayucos, San Simeon, Pico Creek, Cambria, Piedras Blancas, and Burro Mountain.  Known Elevation Limits: 10 - 400 meters	Annual herb	Mar - May	<b>Low Potential to Occur.</b> Marginal non-native grassland supported by clay soils occurs for this species in limited areas on the Giacomazzi and Tonini properties; however, these areas are highly disturbed from grazing and agricultural practices.
<i>Chorizanthe breweri</i>	Brewer's spineflower	—	—	1B.3	NC	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats; primarily on serpentine substrates. Only found in San Luis Obispo County in the outer South Coast Ranges.	Annual herb	Apr - Aug	<b>Not Likely to Occur.</b> Although coastal scrub habitat occurs within the survey area it is not supported by serpentine substrates.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Known Elevation Limits: 45 - 800 meters			
<i>Chorizanthe pungens</i> ssp. <i>pungens</i>	Monterey spineflower	FT	—	1B.2	NC	Occurs in stabilized sand dunes and is found within open, dune scrub vegetation. Monterey spineflower occurs from the Monterey Peninsula (Monterey County) northward along the coast to southern Santa Cruz County, and inland to the Salinas Valley. Known Elevation Limits: 3 - 450 meters	Annual herb	Apr - Jun	<b>High Potential to Occur.</b> Suitable coastal sage scrub for this species occurs on the Broderson and Mid-Town properties. This species has been documented as occurring within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985).
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	—	—	1B.2	NC	Valley and foothill grasslands supported by alkaline soils. Known Elevation Limits: 1 - 230 meters	Annual herb	May - Oct	<b>Not Likely to Occur.</b> Although non-native grassland occurs within limited portions of the survey area, it is not supported by alkaline soils and is highly disturbed.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Cirsium frontinale</i> var. <i>obispoense</i>	Chorro Creek bog thistle	FE	SE	1B.2	NC	Found in chaparral (cismontane woodlands/serpentine seeps). Occurs within San Luis Obispo County in Pismo Beach and southern Morro Bay. Known Elevation Limits: 35 - 380 meters	Perennial herb	Feb - Jul	<b>Not Likely to Occur.</b> The survey area does not contain chaparral or cismontane woodland habitats that are supported by serpentine soils, nor does it contain any serpentine seeps.
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Salt marsh bird's beak	FE	SE	1B.2	NC	Grows in the higher reaches of coastal salt marshes to intertidal and brackish areas influenced by freshwater input. Cuesta-By-The-Sea and at Sweet Springs Marsh, San Luis Obispo County. Known Elevation Limits: 0 - 30 meters	Annual herb hemiparasite	May - Oct	<b>Not Likely to Occur.</b> The survey area does not occur within any coastal salt marshes or brackish backwaters. The freshwater marsh and riverine habitats within the survey area are not suitable for this species.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Dithyrea maritima</i>	Beach spectaclepod	—	ST	1B.1	NC	It is found in small transverse foredunes within approximately 50-300 meters from the surf. The dunes of San Luis Obispo and Santa Barbara counties and on San Nicholas and San Miguel Islands. Known Elevation Limits: 3 - 50 meters	Rhizomatous herb	Mar - May	<b>Not Likely to Occur.</b> The survey area does not occur within any areas that are characterized by transverse foredunes.
<i>Dudleya abramsii</i> ssp. <i>bettinae</i>	San Luis serpentine dudleya			1B.2	NC	Coastal scrub and valley foothill grassland communities on serpentine soils. Endemic to San Luis Obispo County. Known Elevation Limits: 20 - 180 meters	Perennial herb	May - Jul	<b>Not Likely to Occur.</b> The survey area does not contain habitats that are supported by serpentine soils.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	—	—	1B.1	NC	Sandy openings within coastal sage scrub at coastal locales. Also coastal bluff scrub, valley and foothill	Perennial herb	Apr - Jun	<b>Not Likely to Occur.</b> Although the survey area contains coastal sage scrub and non-native grassland habitats, these areas are not

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						grassland, and maritime chaparral. Supporting substrates include clays and serpentinite or in rocky areas with little soil. Known sites have been mapped as Las Flores loamy fine sand and Terrace Escarpments. Requires strong coastal maritime microclimate. Known Elevation Limits: 5-450 meters			supported by terrace escarpments or clays or rocky areas with little soil development.
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	—	—	1B.2	NC	Coastal dune and coastal scrub habitats. Endemic to Santa Barbara and San Luis Obispo Counties. Blochman's leafy daisy is also found in undisturbed areas with suitable soils. Known Elevation Limits: 3-45 meters	Rhizomatous herb	Jun - Aug	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-Town properties.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Erigeron sanctarum</i>	Saint's daisy	—	—	4.2	NC	Found in chaparral, cismontane woodland, and coastal scrub. Occurs in Santa Barbara, Santa Cruz Island, Santa Rosa Island, and San Luis Obispo. Known Elevation Limits: 160-350 meters	Rhizomatous herb	Mar - Jul	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-Town properties.
<i>Eriodictyon altissimum</i>	Indian knob mountainbalm	FE	SE	1B.1	C	Maritime chaparral and coastal scrub. Ridges in open, disturbed areas within chaparral on Pismo sandstone. Between San Luis Obispo and Pismo Beach on Indian Knob Ridge, San Luis Obispo County. Known Elevation Limits: 80-270 meters	Evergreen shrub	Mar - Jun	<b>High Potential to Occur.</b> Suitable coastal sage scrub for this species occurs on the Broderson and Mid-Town properties. The CNDDDB has three records of known occurrence for Indian Knob mountainbalm west of Broderson Avenue and east of bend in Travis Drive, south of Los Osos; in Los Osos on a north-



Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
									facing slope between Broderson Avenue and Bayview, just above Highland Drive; and in Los Osos at the extension of Bayview at Calle Cordoniz, 50 yards southwest of the road.
<i>Erysimum insulare ssp. suffrutescens</i>	suffrutescent wallflower	—	—	4.2	NI	Found in coastal bluff scrub, coastal dunes, maritime chaparral, and coastal scrub. Known along the coast of California from Los Angeles County to San Luis Obispo County. Known Elevation Limits: 0-150 meters	Perennial herb	Jan – Jul	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-Town properties.
<i>Fritillaria viridea</i>	San Benito fritillary	—	—	1B.2	NC	Found in chaparral (serpentine). Occurs in Monterey, San Benito, and San Luis Obispo counties. Potential to occur.	Bulbiferous herb	Mar - May	<b>Not Likely to Occur.</b> The survey area does not contain any chaparral supported by serpentine soils.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Known Elevation Limits: 200-1525 meters			
<i>Lasthenia glabrata</i> <i>ssp. coulteri</i>	Coulter goldfields	—	—	1B.1	NC	Coastal salt marshes, playas, vernal pools. From interior portions of Monterey County, south to coastal and interior portions of San Diego County, and on Santa Rosa Island. Known. Known Elevation Limits: 1-1220 meters	Annual herb	Feb - Jun	<b>Not Likely to Occur.</b> The survey area does not contain any coastal salt marshes, playas, or vernal pools. The vernal marsh habitat that occurs on the Tonini property does not provide suitable hydrological conditions for this species. It is known to occur on the undeveloped lots at the shore end of Pine and Ramona (LOHCP). The CNDDDB also has records of known occurrence for Coulter's goldfields within in Sweet Springs Nature Preserve and at the southern end of Morro near Shark's Inlet.
<i>Layia jonesii</i>	Jones' layia	—	—	1B.2	NC	Found on serpentine or clay-based chaparral and valley grassland habitats. Known Only	Annual herb	Mar – May	<b>Not Likely to Occur.</b> The survey area does not contain any chaparral or grassland habitats

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						From Monterey and San Luis Obispo Counties.  Known Elevation Limits: 5-400 meters			supported by clay or serpentine soils.
<i>Monardella crispera</i>	Crisp monardella	—	—	1B.2	NC	Coastal Dunes, often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation. Known in Santa Barbara and San Luis Obispo Counties. Occurs in the dunes of Point Arguello, Guadalupe, Point Sal, Casmalia, and Oceano. Known Elevation Limits: 10-120 meters	Rhizomatous herb	Apr - Aug	<b>Low Potential to Occur.</b> The survey area does not contain any open sand areas within coastal dunes. The coastal sage scrub habitat that occurs on the Broderson and Mid-Town properties is marginal and does not contain open sand areas.
<i>Monardella frutescens</i>	San Luis Obispo monardella	—	—	1B.2	NC	Found in chaparral supported by serpentine soils. Monterey County, San Benito County, and San Luis Obispo County. Known Elevation Limits: 10-200 meters	Rhizomatous herb	May - Sep	<b>Not Likely to Occur.</b> The survey area does not contain chaparral supported by serpentine soils.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Monardella undulata</i>	Curly leafed monardella	—	—	4.2	NC	Occurs in coastal sand dune, chaparral, and coastal scrub communities. Curly-leaved monardella is found from Marin to Santa Barbara Counties. Known Elevation Limits: 0-305 meters	Annual herb	May - Sep	<b>High Potential to Occur.</b> The coastal sage scrub habitat that occurs on the Broderon and Mid-Town properties provides suitable habitat for this species. Curly-leaved monardella is known and documented in Los Osos (Holland and Kiel, 1985) and found occasionally in undeveloped properties throughout Los Osos (LOHCP).
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	Short-lobed broomrape	—	—	4.2	NC	Found in coastal bluff scrub and coastal dunes. San Diego County, San Luis Obispo County, San Nicolas Island, Santa Catalina Island, Santa Cruz Island, San Miguel Island, Santa Rosa Island; Baja California and Isla Guadalupe, Mexico. Known Elevation Limits: 3-305 meters	Perennial herb parasitic	Apr - Oct	<b>Moderate Potential to Occur.</b> The Broderon and Mid-Town properties provide marginal coastal sage scrub habitat for this species. The site does not contain any coastal dunes or coastal bluff scrub.

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Prunus fasciculata punctata</i>	Dune (sand) almond	—	—	4.3	NC	Found in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub and sand. Endemic to Santa Barbara and San Luis Obispo Counties. Known Elevation Limits: 15-200 meters	Deciduous shrub	Mar - Apr	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-Town properties.
<i>Sanicula maritima</i>	Adobe sanicle	—	Rare	1B.1	NC	Found in wet to dry clay soils of coastal prairie and coastal sage scrub plant communities. Its distribution is centered in the coastal hills of San Luis Obispo and Monterey County. Known Elevation Limits: 30-240 meters	Perennial herb	Feb - May	<b>Not Likely to Occur.</b> The survey area does not any of the preferred habitats that are supported by supported by wet to dry clay soils.
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Cuesta Pass checkerbloom	—	Rare	1B.2	NC	Grows in open sites on serpentine rock and soils at in the vicinity of Sargent cypress	Perennial herb	May - Jun	<b>Not Likely to Occur.</b> The survey area does not contain open sites on serpentine rock and soils in

Table 5.5-1 (Cont.): Special Status Plant Species

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						forest. Restricted to a small area on West Cuesta Ridge, San Luis Obispo County. Documented occurrences limited to the vicinity of West Cuesta Ridge. Known Elevation Limits: 600-800 meters			the vicinity of Sargent cypress forest.
<i>Suaeda californica</i>	California seablite	FE	—	1B.1	NC	It is restricted to the upper intertidal zone within coastal marsh habitat. Occurs along the perimeter of Morro Bay. Known Elevation Limits: 0-15 meters	Evergreen shrub	Jul - Oct	<b>Not Likely to Occur.</b> The survey area is not located within the upper intertidal zone and is not characterized by coastal marsh habitat. This species is frequent on shoreline margins of undeveloped properties at Pecho Road and Pasadena Drive and First Street (LOHCP). The CNDDDB has records of a known occurrence for California seablite in Baywood Park at Sweet Springs Marsh.

**Table 5.5-1 (Cont.): Special Status Plant Species**

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
U.S. Fish and Wildlife Service		California Department of Fish and Game				California Native Plant Society			
FE	Federal Endangered	CE	California Endangered			1A	Plants presumed extinct in California.		
FT	Federal Threatened	CT	California Threatened			1B	Plants rare, threatened, or endangered in California and elsewhere.		
PE	Proposed Endangered	CR	California Rare			2	Plants rare, threatened, or endangered in California, but more common elsewhere.		
PT	Proposed Threatened					3	Plants in need of more information.		
FC	Federal Candidate					4	Plants of limited distribution.		
						Draft Los Osos Habitat Conservation Plan (DLOHCP)			
						C	Covered Species		
						NC	Not Covered Species		
						NI	Not Included		
						Other			
						G	Global Ranking Rarity		
						S	State Ranking Rarity		
<p>Notes:</p> <p>Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the area.</p> <p>Low Potential to Occur - There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.</p> <p>Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.</p> <p>High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 3 miles).</p> <p>Species Present - The species was observed on the survey area at the time of the survey or during a previous biological survey.</p>									

Twelve special status plant species were determined present, presumed present, or have a high potential to occur within various portions of the survey area including the vascular plant species; Morro manzanita (*Arctostaphylos morroensis*), Monterey spineflower (*Chorizanthe pungens*), Blochman leafy daisy (*Erigeron blochmaniae*), saint's daisy (*Erigeron sanctarum*), Indian knob mountainbalm (*Eriodictyon altissimum*), San Luis Obispo wallflower (*Erysimum capitatum* ssp. *lompocense*), curly-leafed monardella (*Monardella undulata*), and dune almond (*Prunus fasciculata punctata*), and the non-vascular lichens; spiraled old man's beard (*Bryoria spiralifera*), Los Osos black and white lichen (*Hypogymnia mollis*), long-fringed parmotrema (*Parmotrema hypolecinum*), and splitting yarn lichen (*Sulcaria isidifera*). Each species listing status, general habitat requirements, and the extent to which they were determined to occupy the survey area is summarized below.

### ***Morro Manzanita***

Morro manzanita is a federally threatened and CNPS List 1B.1 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species. Marginal habitat supported by Baywood fine sands also occurs within the community of Los Osos.

### ***Monterey Spineflower***

Monterey spineflower is a federally threatened and CNPS List 1B.2 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.

### ***Blochman Leafy Daisy***

Blochman leafy daisy is a CNPS List 1B.2 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.

### ***Saint's Daisy***

Saint's daisy is a CNPS List 4.2 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.

### ***Indian Knob Mountainbalm***

Indian knob mountainbalm is a federally endangered, state endangered, and CNPS List 1B.1 plant species.

### ***San Luis Obispo Wallflower***

San Luis Obispo wallflower is a CNPS List 4.2 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.

### ***Curly-leafed Monardella***

Curly-leafed monardella is a CNPS List 4.2 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.



### **Dune Almond**

Dune almond or sand almond is a CNPS List 4.3 plant species. Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson property for this species.

### **Spiraled Old Man's Beard, Los Osos Black and White Lichen, Long-Fringed Parmotrema, and Splitting Yarn Lichen**

The spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen are narrow endemic non-vascular species that have a high potential to occur within portions of the study area that generally support older coast live oak trees and native shrubs. These lichens have the highest potential to occur within the coastal sage scrub on the Broderson property, the central Lucian coastal scrub on the Giacomazzi property, and the coast live oak forest and central coast live oak riparian forest habitat in the vicinity of Los Osos Creek.

### **5.5.4 - Special Status Wildlife Species**

Fifty-five special status wildlife species were analyzed for their potential to occur on the project study area. A discussion is provided below for each special status wildlife species determined to be present, presumed present, or have a high potential to occur based on the results of protocol surveys and/or the best available scientific research. Further information detailing the listing status, habitat requirements, and potential to occur on the project site for all fifty-five sensitive wildlife species, including species that were determined to have a low potential or are unlikely to occur, are included in the analysis is provided in Appendix G-2, and are summarized in Table 5.5-2 below.

Table 5.5-2: Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<b>Insects and Invertebrates</b>							
<i>Coelus globosus</i>	Globose dune beetle	—	—	NC	—	Coastal dunes, forming tunnels underneath native vegetation. Found in California's coastal dune system. Have colonized on the California Channel islands.	<b>Not Likely to Occur.</b> Coastal dune habitat does not occur on the project site.
<i>Danaus plexippus</i>	Monarch butterfly	—	TP	NC	—	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located within wind-protected tree groves of <i>Eucalyptus</i> sp., <i>Pinus radiata</i> , <i>Cypressus</i> sp., among others, with nectar and water sources nearby.	<b>High Potential to Occur.</b> Eucalyptus trees occur throughout the survey area that provide suitable winter roosting habitat for the Monarch butterfly. Specifically, suitable trees occur on the Broderson and Mid-Town properties, and along Los Osos Valley Road near Los Osos Creek.
<i>Plebejus icariodes moroensis</i>	Morro blue butterfly	—	—	NI	G5 S1S3	This butterfly is known to occur within coastal sage and coastal dune scrub habitats that support their larval host plant, the silver dune lupine ( <i>Lupinus chamissonis</i> ), and suitable nectar sources such as deerweed ( <i>Lotus scoparia</i> ). The typical adult flight season occurs from early April to June. This species is restricted to the immediate coast in San Luis Obispo and western Santa Barbara counties.	<b>Species Present.</b> This species has been previously observed within coastal sage scrub habitat on the Broderson and Mid-Town properties and is presumed present. These sites currently contain this species host plant ( <i>Lupinus chamissonis</i> ) as well as nectar sources ( <i>Lotus scoparia</i> ).

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Helminthoglypta walkeriana</i>	Morro shoulderband snail	FE	—	C	—	Coastal dune and scrub communities dominated by mock heather ( <i>Ericameria ericoides</i> ). Known within the southern portion of Morro Bay and endemic to the western portion of San Luis Obispo County.	<b>Species Present.</b> Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the Broderson and Mid-Town properties. Additional habitat occurs within the developed areas in the community of Los Osos. The CNDDDB has two records of known occurrence for the Morro shoulderband snail in the immediate vicinity of the survey area. These areas include the coastal scrub south of Highland Drive Between Broderson Ave and Bayview Drive, and south of Pecho Valley Road in the Los Osos Oaks State Reserve.
<i>Tryonia imitator</i>	California brackish water snail	—	—	NC	—	Inhabits coastal lagoons, estuaries and salt marshes from Sonoma to San Diego County. Specifically known from coastal lagoons and where creek mouths join tidal marshes. Found only in permanently submerged areas in a variety of sediment types, able to withstand a wide range of salinities. Present populations are scattered throughout the former range;	<b>Not Likely to Occur.</b> No coastal lagoon or saltmarsh habitat occurs within the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						however, the Sonoma County populations are believed to be extinct.	
<b>Fish</b>							
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	SSC	NC	—	Brackish water habitats along the California coast from Agua Hedionda Lagoon in San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, requiring fairly still but not stagnant water, with high oxygen levels.	<b>Not Likely to Occur.</b> No coastal brackish water habitat occurs within the survey area.
<i>Oncorhynchus mykiss irideus</i>	Steelhead - South/Central California Coast ESU	FT	SSC	NC	—	Steelhead inhabit riparian, emergent, palustrine habitat. Perennial streams usually characterize spawning and rearing habitat with clear, cool to cold, fast flowing water with high dissolved oxygen content and abundant gravels and riffles.  The South/Central California Coast ESU is known from Malibu Creek, Ventura River, Santa Clara River, and Santa Ynez River, although in greatly reduced numbers. Recent records show that they have been found in Mission and Atascadero	<b>High Potential to Occur.</b> Suitable habitat for this species occurs within portions of the survey area that fall within Los Osos Creek.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						creeks (Santa Barbara County) and Mulholland, Big Sycamore, and Topanga canyons (Los Angeles County).	
<b>Reptiles and Amphibians</b>							
<i>Anniella pulchra nigra</i>	black legless lizard	—	SSC	NC	—	Areas with sandy or loose loamy soils under the sparse vegetation of beaches, sand dunes, chaparral, or pine-oak woodland; or sycamores, cottonwoods, or oaks that grow on stream terraces. Antioch (Contra Costa County), south through the Coast, Transverse, and Peninsular ranges; parts of the San Joaquin Valley; and the western edge of the Sierra Nevada Mountains and Mojave Desert to El Consuelo (Baja California Norte).	<b>Moderate Potential to Occur.</b> Marginal coastal sage scrub habitat supported by Baywood fine sands occurs within the survey area however this habitat is not associated with beaches, sand dunes, chaparral, pine-oak woodland, sycamores, cottonwoods, or oaks that grow on stream terraces.
<i>Emys (Clemmys) marmorata pallida</i>	Southwestern pond turtle	—	SSC	NC	—	Permanent or nearly permanent fresh water habitats below 6,000 feet in elevation. Inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons. Requires basking sites such as	<b>Moderate Potential to Occur.</b> Suitable permanent or near permanent aquatic and terrestrial foraging and breeding habitat occurs within Warden Lake (Warden Creek wetlands) on the Branin property.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						partially submerged logs, vegetation mats, or open mud banks. In lower elevations and latitudes, this species may be active at aquatic sites year-round. Uses protected upland terrestrial sites near aquatic sites with appropriate slope aspect and soils for an oviposition site.	
<i>Phrynosoma coronatum</i> (frontale population)	coast horned lizard	—	SSC	NC	—	The California horned lizard seems to occur in several habitat types, ranging from areas with an exposed gravelly-sandy substrate containing scattered shrubs (e.g. California buckwheat) to clearings in riparian woodlands, to dry uniform chamise chaparral to annual grassland with scattered perennial seepweed or saltbush. Maximum abundance is reached in sandy loam areas on alkali flats. California endemic with distribution from Lake Shasta southward along the edges of the Sacramento Valley into much of the South Coast Ranges, San Joaquin Valley, and Sierra Nevada foothills to northern Los Angeles, Santa Barbara and Ventura Counties. Several fine-scaled populations in	<b>Low Potential to Occur.</b> Marginal habitat occurs within limited portions of the Broderson and Mid-Town properties for this species. This species is more likely to occur within maritime chaparral habitats in higher elevations than that which characterizes the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						the Shandon-Cuyama Valley region, Santa Barbara and San Luis Obispo counties.	
<i>Taricha torosa torosa</i>	Coast range newt	—	SSC	NC	—	Frequents terrestrial habitats, breeds in ponds, reservoirs, and slop-moving streams. Coastal drainages from the vicinity of central Mendocino County, south to Boulder Creek, San Diego County. Populations in southern California are highly fragmented. Known elevation range of this species extends from near sea level to 1830m (6,004 ft).	<b>Moderate Potential to Occur.</b> This species has a moderate potential to occur within and immediately adjacent to Los Osos Creek, Warden Creek, and Warden Lake (Warden Creek wetlands). Within the survey area, these include portions of the Los Osos Valley ROW at the Los Osos Creek crossing, portions of the Branin property, and portions of the Turri Road ROW at the Warden Creek crossing.
<i>Thamnophis hammondi</i>	Two-striped garter snake	—	SSC	NC	—	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats. Monterey County southward (including Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties) along the coast and drainages within the coast and peninsular ranges to the Mexican border.	<b>Moderate Potential to Occur.</b> This species has a moderate potential to occur within and immediately adjacent to Los Osos Creek, Warden Creek, and Warden Lake (Warden Creek wetlands). Within the survey area, these include portions of the Los Osos Valley ROW at the Los Osos Creek crossing, portions of the Branin property,

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
							and portions of the Turri Road ROW at the Warden Creek crossing. This species also has a potential to occur within the vernal marsh habitat on the Tonini property.
<i>Ambystoma californiense</i>	California tiger salamander	FC	SSC	NC	—	Grasslands and low foothill regions where lowland aquatic sites are available for breeding. Large vernal pools, vernal playas, and large sag ponds. Occupies existing burrows during dormant phase in dry season. Disjunct remnant vernal pool complexes in Sonoma and Santa Barbara Counties, and scattered along narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County, and in sag ponds and human-maintained stock ponds in the coast ranges from the San Francisco Bay area south to Temblor Range.	<b>Moderate Potential to Occur.</b> No large vernal pools, vernal playas, sag ponds, or maintained stock ponds occur within the survey area. Marginal aquatic habitat for this species occurs within the Warden Creek wetlands on the Branin property, and within the drainage feature on the Tonini property. However, the Warden Creek wetlands do not contain the preferred aquatic habitat for this species, and are characterized by very dense thickets of <i>Scirpus acutus</i> and likely support a number of predators that would deter this species. Additionally, the drainage feature on the Tonini property does not contain the preferred aquatic habitat for this species, and provides limited small shallow pools and supports flows throughout the



Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
							winter and into the spring season. No CNDDDB records of this species exist within 5 miles of the survey area.
<i>Rana aurora draytonii</i>	California red-legged frog	FT	SSC	NC		Inhabits lowland streams, wetlands, riparian woodlands, and livestock ponds. Found along the coast and coastal mountain ranges of California from Humboldt County to San Diego County; Sierra Nevada (mid-elevations [above 1,000 feet] from Butte County to Fresno County)	<b>Species Present.</b> This species was observed during protocol surveys conducted by MBA in 2008 at three locations within a drainage feature that traverses the Tonini property. A total of two adults and seven tadpoles were confirmed.
<b>Avian</b>							
<i>Accipiter cooperi</i>	Cooper's hawk	—	—	NC	G5 S3	(Nesting) Open, uninterrupted, or marginal type woodlands. Nest sites in riparian growths of deciduous trees, live oaks.	<b>High Potential to Occur.</b> Suitable nesting opportunities for this species occur within the riparian and oak forest habitats located within the Giacomazzi property and along Los Osos Valley Road adjacent to Los Osos Creek, in addition to the riparian trees within the freshwater marsh habitat on the Branin property. Suitable foraging habitat occurs within the riparian forest and scrub, and adjacent upland areas on and off

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
							the survey area. This species has a high potential to use portions of the site for nesting and foraging.
<i>Accipiter striatus</i>	Sharp-shinned hawk		SSC	NC		(Wintering) Prefer riparian habitats they are not restricted to them and are found in mid-elevation habitat such as pine forests, woodlands and mixed conifer forests. For nesting they occur in dense tree stands that are cool, moist, well shaded and usually near water. For hunting habitat, they often use openings at the edges of woodlands and also brushy pastures. Permanent resident on the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid-elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties; winters over the rest of the state except very high elevations.	<b>Moderate Potential to Occur.</b> This species is unlikely to nest within the survey area due to elevation restrictions. However, suitable foraging opportunities for wintering individuals occur within the riparian and oak forest habitats located within the Giacomazzi property and along Los Osos Valley Road adjacent to Los Osos Creek, in addition to the riparian trees within the freshwater marsh habitat on the Branin property.
<i>Athene cunicularia hypugea</i>	Burrowing owl	—	SSC	NC	—	Open grasslands, desert, and sparse scrublands with low-growing vegetation and suitable burrows. Restricted to the central valley	<b>Moderate Potential to Occur.</b> Marginal habitat for this species occurs within the extensive agriculture and disturbed ruderal

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						extending from Redding south to the Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego and the Sonoran desert.	habitats on the Cemetery, Giacomazzi, Branin, and Tonini properties; however, the survey area is outside of this species known range. The Los Osos Valley is generally isolated from areas that would provide adequate linkage to this species known range.
<i>Aquila chrysaetos</i>	Golden eagle	—	SSC FP	NC		Cliffs and escarpments or tall trees for nesting; annual grasslands, chaparral, and oak woodlands for hunting. Foothills and mountains throughout California; uncommon nonbreeding visitor to lowlands such as the Central Valley.	<b>Low Potential to Occur.</b> No nesting habitat for this species occurs on or in the immediate vicinity of the survey area. Marginal wintering and foraging habitat occurs within the Cemetery, Giacomazzi, Branin, and Tonini properties, however this species is unlikely to occur within the local area. Much of the survey area is subject to other anthropogenic disturbances that further reduce the potential for this species to occur.
<i>Arenaria melanocephalus</i>	Black turnstone	—	—	NC	—	Found on rocky shores of marine habitats along the coast. In the summer they are found on partial to rugged, rocky, intertidal coasts, but also occur on outer coast sandy	<b>Not Likely to Occur.</b> No portions of the survey area contain coastal habitat for this species.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						beaches and on mudflats. Distributed along the shores of Pacific Coast during the winter. In the fall, the Black Turnstone migrates along the central California coast.	
<i>Buteo regalis</i>	ferruginous hawk	—	SSC	NC	—	(Wintering) Large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting. Its wintering habitat is similar in being open and it may also occur in areas of mixed grassy glades and pineries. Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, eastward to the Sierra Nevada foothills and southeastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County.	<b>Moderate Potential to Occur.</b> This species is unlikely to nest within the survey area due to elevation restrictions. Suitable wintering and foraging habitat occurs within the Cemetery, Giacomazzi, Branin, and Tonini properties.
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	SSC	NC	—	(Nesting) Sandy or gravelly beaches along coast, on estuarine salt ponds and shores of large alkali lakes. Sandy, gravelly or friable soils for nesting. Coastal areas from Del Norte County to San Diego County.	<b>Not Likely to Occur.</b> No suitable coastal beach or estuarine habitat occurs within the survey area. No shore habitat of large alkali lakes occurs within the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Circus cyaneus</i>	Northern harrier	—	SSC	NC	—	(Nesting) Coastal salt and fresh-water marsh, wet and lightly grazed pastures, old fields, dry uplands, upland prairies, mesic grasslands, drained marshlands, croplands, shrub steppe, meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands. Occurs from annual grassland up to lodgepole pine and alpine meadow habitats. It breeds from sea level to 1,700 m (0-5700 ft) in the Central Valley and Sierra Nevada, and up to 800 m (3600 ft) in northeastern California. It is a permanent resident of the northeastern plateau and coastal areas; it is a less common resident of the Central Valley.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs within the Cemetery, Giacomazzi, Branin, and Tonini properties. Marginal freshwater marsh habitat for nesting occurs on the Branin property.
<i>Contopus cooperi</i>	Olive-sided flycatcher	—	—	NC	G4 S4	Mid- to high-elevation mountains and coniferous forests, often associated with forest openings and edges. Presence in early successional forests appears to depend on availability of snags or live trees that provide suitable foraging and singing perches. It is frequently found along wooded shores of streams, lakes, and rivers, where natural edge habitat occurs	<b>Not Likely to Occur.</b> The survey area occurs outside the known elevation range for this species. Marginal forest habitat occurs in the vicinity of Los Osos Creek, however this species is not likely to occur at such low elevations.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						and standing dead trees often are present. The breeding range extends south from Canada, extending as far south as the mountains of southern California. Winters primarily in the Andes Mountains of South America, with small numbers in Central America and southern Mexico.	
<i>Dendroica petechia brewsteri</i>	Yellow warbler	—	SSC	NC	—	(Nesting) Riparian plant associations preferring willows, cottonwoods, aspens, sycamores, and alders. Montane shrubbery in open conifer forests. Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes in the Sierra Nevada; winters along the Colorado River and in parts of Imperial and Riverside Counties; two small permanent populations in San Diego and Santa Barbara Counties.	<b>Moderate Potential to Occur.</b> Marginal nesting habitat for this species occurs within the riparian forest habitats on the Giacomazzi and Branin properties, and within the Los Osos Creek area. The survey area is outside this species known range.
<i>Elanus leucurus</i>	White-tailed kite	—	FP	NC	—	(Nesting) Prefers rolling foothills and valley margins with scattered oak trees and river bottomlands, or marshes adjacent to deciduous woodlands. Foraging habitat consists of open grasslands, meadows, and marshes in close	<b>High Potential to Occur.</b> Marginal nesting opportunities for this species occur within the riparian and oak forest habitat within limited portions of the Los Osos Valley Road ROW adjacent to Los Osos Creek, and

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						proximity to isolated trees with dense canopies for nesting and perching. Lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border.	the Giacomazzi and Branin properties. White-tailed kite has a reduced potential to nest in the riparian and oak habitats within the Los Osos Valley Road ROW due to the proximity to noise and other human-related disturbances associated with the road.
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE	SE	NC	—	Mature riparian woodlands with thick understory along rivers, streams, or other wetlands, where dense growths of willows ( <i>Salix</i> sp.), mulefat <i>Baccharis</i> , arrow weed ( <i>Pluchea</i> sp.), buttonbush ( <i>Cephalanthus</i> sp.), tamarisk ( <i>Tamarix</i> sp.), Russian olive ( <i>Eleagnus</i> sp.) or other plants are present, often with a scattered overstory of cottonwood ( <i>Populus</i> sp.). The breeding range for this species includes Owens Valley, south fork of the Kern River, the Los Angeles Basin, the Santa Ynez River near Buellton, the Prado Basin riparian forest in Riverside County, the Santa Margarita and San Luis Rey Rivers in San Diego	<b>Moderate Potential to Occur.</b> Suitable riparian habitat exists, however the survey area is outside of this species known range.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						County, Middle Peak in the Cuyamaca Mountains, and near Imperial Beach.	
<i>Falco columbarius</i>	merlin	—	SSC FP	NC	—	(Wintering) Forages along coastlines, open grasslands, savannas, and woodlands; often forages near lakes and other wetlands. Does not nest in California; rare but widespread winter visitor to the Central Valley and coastal areas.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, scrub, and forest habitats within the survey area. This species is unlikely to nest in the area.
<i>Falco mexicanus</i>	prairie falcon	—	SSC	NC	—	Annual grasslands to alpine meadows, but they are also associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas, typically dry environments of western North American where there are cliffs or bluffs for nest sites. Uncommon permanent resident and migrant that ranges from southeastern deserts northwest along the inner Coast Ranges and Sierra Nevada. It is distributed from annual grasslands to alpine meadows within this region. It is not found in the northern coastal fog belt, or along the coastline.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, scrub, and forest habitats within the survey area. This species is unlikely to nest within the survey area.



Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Falco peregrinus anatum</i>	Peregrine falcon	D	SE FP	NC	—	Nests consist of scrape on a depression or ledge of an open site associated with cliffs, banks, dunes, mounds, and man-made structures near wetlands, lakes, rivers, or other water. Open habitats, including tundra, marshes, seacoasts, savannahs and high mountains. Breeds mostly in woodland, forest, and coastal habitats. Common along the coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California. In winter, found inland throughout the Central Valley, and occasionally on the Channel Islands. Migrants occur along the coast, and in the western Sierra Nevada in spring and fall.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, marsh, scrub, and forest habitats within the survey area. No suitable nesting habitat occurs within the survey area for this species.
<i>Haematopus bachmani</i>	Black oystercatcher	—	—	NC	—	Black Oystercatcher is almost always found along the rocky shoreline of the Pacific Coast, although in winter, it can also occur on nearby mudflats. Found along almost the entire Pacific Coast of North America, stretching from southern Alaska all the way to Baja California.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Lanius ludovicianus</i>	Loggerhead shrike	—	SSC	NC	—	<p>Forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.</p> <p>Found throughout the foothills and lowlands of California as a resident. Winter migrants are found coastally, north of Mendocino County.</p>	<p><b>Moderate Potential to Occur.</b> Suitable nesting and foraging habitat occurs within the grassland habitats within the Cemetery, Giacomazzi, Branin, Tonini properties, and the scrub habitat within the Broderson and Mid-Town properties,</p>
<i>Laterallus jamiacensis coturniculus</i>	California black rail	—	ST FP	NC	—	<p>Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations. Northern reaches of the San Francisco Bay estuary, especially the tidal marshland of San Pablo Bay and associated rivers; several small, fragment subpopulations still existed at Tomales Bay, Bolinas Lagoon, Morro Bay, and in southeastern California.</p>	<p><b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.</p>

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Limosa fedoa</i>	Marbled godwit	—	—	NC	—	Coastal mudflat wintering grounds. The species winters in greatest numbers along the Pacific coast from central California south through Southern California. A number of Important Bird Areas (IBAs) in both the United States and Canada help protect important habitat for Marbled Godwit. These sites include California's Morro Bay IBA, which regularly hosts over 2,000 wintering godwits.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Numenius americanus</i>	Long-billed curlew	—	—	NC	—	Breed mainly in the native grasslands of arid western regions, and are often found in farm fields and grasslands during migration and on their wintering grounds. Occur in coastal marshes and mudflats during the winter. Nest on the ground in the open, on dry prairie. Breeding grounds include northeastern California. Wintering range along entire Pacific Coast of California.	<b>Not Likely to Occur.</b> No suitable wintering habitat for this species occurs within the survey area. The survey area is outside this species known breeding range.
<i>Numenius phaeopus</i>	Whimbrel	—	—	NC	—	Dry heath uplands to dwarf shrub, and mossy lowlands. During the winter, it forages in tidal flats, mangroves and a variety of other coastal habitats. Winter along the coast of California.	<b>Not Likely to Occur.</b> No suitable wintering habitat for this species occurs within the survey area. The survey area is outside this species known breeding range.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Passerculus sandwichensis rostratus</i>	Large-billed savannah sparrow	—	SSC	NC	—	(Wintering) Inhabits coastal salt marshes and dune grasses. Wintering only along the coast of California.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FE	SE FP	NC	—	Estuarine, marine subtidal, and marine pelagic waters along the California coast. Specifically, they are found on rocky shores and cliffs, in sloughs, and coastal river deltas. Colonial nester and rooster on small coastal islands just outside the surf line. Forages (piscivorous diver) over open water along the coast. Ranges along entire California coast. Breeds on Channel Islands (Santa Barbara, Anacapa, and Santa Cruz). Also occasionally can be found on Salton Sea.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE	SE FP	NC	—	Found in salt marshes traversed by tidal sloughs that provide tidal circulation, and shallow water and mud flats on low tides intermittent with sparse vegetation. Currently limited to San Francisco Bay, San Pablo Bay, Suisun Bay, and tidal marshes associated with estuarine sloughs draining into these bays.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Selasphorus sasin</i>	Allen's hummingbird	—	—	NC	G5 SNR	Inhabit mixed evergreen, riparian woodlands, eucalyptus and cypress groves, oak woodlands, and coastal scrub areas in breeding season. Males maintain territories that overlook open coastal scrub or riparian shrubs where they perch in conspicuous places. Females choose nest sites in areas where there is more tree cover. They locate the nest in shrubs and trees with dense vegetation. Breeds in a narrow strip along the Pacific coast, throughout California.	<b>High Potential to Occur.</b> Suitable riparian, oak, and coastal scrub habitat for this species occurs throughout the survey area, specifically within the Broderson and Mid-Town properties, as well as the Giacomazzi and Branin properties, the Los Osos Oak Preserve, and Los Osos Creek. Marginal habitat also occurs within the sparse riparian stands along the Los Osos Valley Road ROW.
<i>Thalasseus elegans</i>	Elegant tern	—	SSC	NC	—	Nests on open sandy disturbed beaches and on salt-evaporating pond dikes in association with the Caspian tern. Only 3 known breeding colonies in the southern California region.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Strix occidentalis occidentalis</i>	California spotted owl	—	SSC	NC	—	In northern California it resides in dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats. In southern California, it occurs at low elevations (sea level to 1,000 m), and occupies habitats dominated by hardwoods, primarily oak and oak-	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						conifer woodlands. The south Cascade Range and northern Sierra Nevada from near Burney (Pit River), Shasta County, California south through the remainder of the western Sierra Nevada and Tehachapi Mountains to Lebec, Kern County.	
<i>Toxostoma redivivum</i>	California thrasher	—	—	NC	—	Breeds from sea level to the higher parts of the montane chaparral. It will breed in adjacent oak woodlands and pine-juniper scrub as well as occasionally in parks and gardens, but only if dense cover is available. Endemic in what is known as the California Biotic Province (mostly in the western part of the state).	<b>Low Potential to Occur.</b> No highly suitable habitat for this species occurs within the survey area. Marginal scrub habitat occurs within the Broderson property, however this species is more likely to occur further south and offsite within the maritime chaparral.
<b>Mammals</b>							
<i>Antrozous pallidus</i>	Pallid bat	—	SSC	NC	—	Found in rocky, mountainous areas and near water. Also, found over more open, sparsely vegetated grasslands, and prefer foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the	<b>Low Potential to Occur.</b> Marginal nighttime roosting habitat and foraging habitat occurs within limited portions of the survey area,

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						hibernation roost, which is in caves or cracks in rocks. Occurs throughout California with the exception of the high Sierra Nevada.	
<i>Corynorhinus townsendii pallescens</i>	Pale big-eared bat	—	SSC	NC	—	Found in all habitats within elevations up to the alpine zone. Requires caves, mines, or buildings for roosting. An insectivore that prefers mesic habitats for foraging.	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Corynorhinus townsendii townsendii</i>	Townsend's western big-eared bat	—	SSC	NC	—	Coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and desert, and high-elevation forests and meadows. Roost and hibernate in caves, mine tunnels, buildings, and other human made structures. Throughout California; prefer humid, coastal regions of northern and central California	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Dipodomys heermanni morroensis</i>	Morro Bay kangaroo rat	FE	SE FP	NC	—	Optimum habitat consists of the earlier successional stages of the coastal sagebrush community that occur on the old, stabilized dune terraces. The optimum vegetation is an essentially herbaceous annual, with scattered woody perennial shrubs.	<b>High Potential to Occur.</b> Suitable coastal sage scrub habitat occurs on the Broderson and Mid-Town properties for this species. This species has not been trapped since 1985 and may be extinct or extirpated from the area.

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	FP	NC	—	Shallow inshore habitats supporting kelp forests. Known from Ano Nuevo, San Mateo County to Point Sal, Santa Barbara County.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Eumops perotis</i>	Western mastiff bat	—	SSC	NC	—	Resides at low elevations in the coastal basin. Favors rugged, rocky areas where suitable crevices are available for day-roosts. Day-roosts are located in large cracks in slabs of granite or sandstone. Also frequently roost in buildings, provided there is sheltering space. Occurs in central California through southern California. Have been recorded from Butte County southward in the western lowlands through the southern California coastal basins, the western portions of the southeastern desert region, and central Sierra Nevada and Yosemite Valley.	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Myotis evotis</i>	Long-eared myotis	—	—	NC	—	Prefers coniferous woodlands and forests, but is found in brush, woodland, and forest habitats. Widespread in California, but avoids the arid Central Valley and hot deserts. Occurs along the entire	<b>Low Potential to Occur.</b> Marginal roosting and foraging habitat occurs within limited portions of the survey area,



Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						coast and in the Sierra Nevada, from sea level to at least 2700m (9000ft).	
<i>Myotis thysanodes</i>	Fringed myotis	—	—	NC	—	Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Roosts in caves, mines, buildings, and crevices. Widespread in California, occurring in all but the Central Valley and Mojave desert. Found at 1300-2200 m (4000-7000ft).	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Myotis volans</i>	Long-legged myotis	—	—	NC	—	Found in coniferous forest, also found in riparian and arid habitats. May shift habitats seasonally. Roosts in cracks on the ground, spaces beneath tree bark, buildings, and crevices. Typical habitat is montane or subalpine forest, ponderosa pine woodland, pinon juniper woodland, and montane shrub with willow. Occurs throughout California.	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Myotis yumanensis</i>	Yuma myotis	—	SSC	NC	—	Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in caves, mines, buildings, and	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,

Table 5.5-2 (Cont.): Special Status Wildlife Species

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						crevices. Widespread in California. Found in a wide variety of habitats ranging from sea level to 3300m (11,000ft), but it is uncommon to rare above 2560m (8000ft).	
<i>Phoca vitulina</i>	Harbor seal	—	—	NC	—	Prefers to remain close to shore in subtidal and intertidal habitats. Often swims into bays and estuaries. Groups form on emergent offshore and tidal rocks, mudflats, sandbars, and sandy beaches. Found on California islands and along entire mainland coast.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Tadarida brasiliensis</i>	Mexican free-tailed bat	—	—	NC	—	All habitats up through mixed conifer forests are used, but open habitats such as woodlands, shrubland, and grasslands are preferred. Requires caves, mine tunnels, crevices, or buildings for roosting and hibernation. Found throughout California, mostly absent from high Sierra Nevada (from Tehama to Tulare cos.) and north coastal region (from Del Norte and Siskiyou cos. to northern Sonoma Co).	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,

**Table 5.5-2 (Cont.): Special Status Wildlife Species**

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Taxidea taxus</i>	American badger	—	SSC	NC	—	Grasslands, savannas, mountain meadows, and openings in desert scrub. An uncommon, permanent resident found throughout most of the state, with the exception of the North coast area.	<b>Low Potential to Occur.</b> Marginal habitat occurs within limited portions of the survey area for this species.
Federal		State		Draft Los Osos Habitat Conservation Plan (DLOHCP)			
FE	Federal Endangered	SE	State Endangered	C	Covered Species		
FT	Federal Threatened	ST	State Threatened	NC	Not Covered Species		
PFT	Proposed Federal Threatened	SSC	California State Species of Concern	NI	Not Included		
C	Candidate for Federal Listing	FP	California State Fully Protected Species	Other			
D	Delisted	TP	Threatened Phenomenon	G	Global Ranking Rarity		
				S	State Ranking Rarity		
<p>Notes:</p> <p>Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the area.</p> <p>Low Potential to Occur - There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.</p> <p>Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.</p> <p>High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 3 miles).</p> <p>Species Present - The species was observed on the survey area at the time of the survey or during a previous biological survey.</p>							

Nine special status wildlife species were determined present, presumed present, or have a high potential to occur within various portions of the survey area based on the results of protocol surveys conducted for the proposed project and best available scientific research that includes the results of recent protocol survey efforts for projects in the area. These species include Cooper's hawk (*Accipiter cooperi*), Monarch butterfly (*Danaus plexippus*), Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*), white-tailed kite (*Elanus leucurus*), Morro shoulderband snail (*Helminthoglypta walkeriana*), southern steelhead (*Oncorhynchus mykiss irideus*), Morro blue butterfly (*Plebejus icariodes moroensis*), California red-legged frog (*Rana aurora draytonii*), and Allen's hummingbird (*Selasphorus sasin*). Each species listing status, general habitat requirements, and the extent to which they were determined to occupy the survey area is summarized below.

### **Cooper's Hawk**

Cooper's hawk has recently been delisted from a California State species of special concern to a species whose only designation is a Global and State rank. Suitable nesting habitat for this species occurs within the riparian and oak habitats within the Los Osos Valley Road ROW near Los Osos Oak State Reserve, in addition to the Giacomazzi and Branin properties. This species forages throughout a wide range of habitats, therefore the majority of the study area could potentially be used for foraging by this species.

### **Monarch Butterfly**

Monarch butterfly winter roosting sites are designated as a "threatened phenomenon" by the CDFG. There are stands of eucalyptus trees that occur in the Broderson and Mid-Town properties, as well as along the Los Osos Valley Road ROW that provide suitable winter roosting habitat for this species.

### **Morro Bay Kangaroo Rat**

The Morro Bay kangaroo rat is a federally-endangered and California State-endangered kangaroo rat that has a high potential to occur within the coastal sage scrub habitat on the Broderson property. Although unlikely, this species may also occur within the disturbed coastal sage scrub on the Mid-Town property as well.

### **White-tailed Kite**

The white-tailed kite is a fully protected species in the State of California that most commonly occurs within riparian and oak woodland habitat, and emergent trees within and adjacent to marsh habitats. This species was determined to have a high potential to nest within the riparian habitat on the Giacomazzi property, and the emergent trees within the freshwater marsh habitat on the Branin property. Marginal nesting opportunities also exist within the oak forest habitat within Los Osos Oaks State Reserve and the riparian forest habitat within Los Osos Creek; however, the proximity of these areas to urban developments and human-related disturbances strongly reduce the potential for this species to nest in the area. This species forages within a wide variety of habitat types, however

the highest quality foraging habitat for this species occurs within the open extensive agriculture, non-native grassland, and disturbed habitat on the Cemetery, Giacomazzi, Branin, and Tonini properties.

### ***Morro Shoulderband Snail***

The Morro shoulderband snail is a federally endangered species that is presumed to be present within portions of the project site including the Broderson property, the Mid-Town property, and residential properties within the community of Los Osos. All of these sites contain suitable coastal sage scrub habitat and/or Baywood fine sandy soils that are the preferred habitat for this species. Furthermore, the Broderson property is located within USFWS-designated Critical Habitat for this species, specifically within Critical Habitat Unit 2 known as the “South Los Osos” Unit.

### ***Southern Steelhead***

The southern steelhead – South-Central California Coast ESU is a federally threatened species and California State species of special concern that has a high potential to occur within portions of the survey area that includes Los Osos Creek. The relevant reach of Los Osos Creek that occurs in the vicinity of the study area has been designated by the National Marine Fisheries Service (NMFS) as Critical Habitat for this species.

### ***Morro Bay Blue Butterfly***

The Morro Bay blue butterfly is not federally or State endangered or threatened, or listed as a California State species of special concern. However, this species is considered locally endemic and rare, and has been given a State rank of S1S3. A State rank of S1S3 indicates this species exact status is unknown, however ranges from being critically imperiled to vulnerable in California because of extreme rarity (5 or fewer occurrences or less than 1,000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor. This species’ Global rank (G5) is considered secure. Suitable coastal sage scrub habitat occurs within the Broderson and Mid-Town properties for this species.

### ***California Red-legged Frog***

The California red-legged frog is a federally threatened and California State Species of Special Concern. Suitable vernal marsh and freshwater marsh habitat occurs within the Tonini property Warden Creek at the Turri Road crossing, and Warden Lake on the Branin property.

### ***Allen’s Hummingbird***

Allen’s humming bird is not federally or State endangered or threatened, or a California State species of special concern. This species has been designated a Global rank of G5, and a State rank of SNR. Globally, this species is considered secure; however, in California, this species is not specifically ranked because its conservation status has not yet been fully assessed. Due to its range throughout coastal habitats, this species could be considered rare and potentially vulnerable. Allen’s hummingbird was determined to have a high potential to nest and forage within the coastal scrub,

riparian, and oak habitat that occurs within the Broderson, Mid-Town, and Giacomazzi properties, and portions of Los Osos Oaks State Reserve and Los Osos Creek that occur within the study area.

### **5.5.5 - Regulatory Setting**

#### **Federal Regulations**

The USFWS administers the federal Endangered Species Act (FESA) which provides a process for listing species as either threatened or endangered, and methods of protecting listed species. Section 9 of the FESA prohibits “take” of threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes constraints on development, particularly if development would result in take of the species or its habitat. Under the regulations of the FESA, the USFWS may authorize take when it is incidental to, but not the purpose of, an otherwise lawful act. Under Section 10(a) of the FESA,

The National Oceanic and Atmospheric Administration (NOAA) and NMFS enforces the Magnuson-Stevens Fishery Conservation and Management Act to conserve and manage the fishery resources found off the coast of the U.S., anadromous species and continental shelf fishery resources. The conservation and management of migratory species is addressed through the implementation and enforcement of international fishery agreements. The Act includes the protection of essential fish habitat in the review of projects conducted under federal permits, licenses, or other authorities that affect or have the potential to affect such habitat.

The discharge of dredged or fill material (temporarily or permanently) into areas delineated as waters of the United States, including wetlands, typically requires prior authorization from the United States Army Corps of Engineers (USACE), pursuant to Section 404 of the Clean Water Act (CWA). Waters of the United States with at least intermittently flowing water or tidal influences, are demarcated by an ordinary high water mark (OHWM), and typically indicated by the presence of an incised streambed with defined bank shelving. The OHWM is defined in the Code of Federal Regulations, CFR 328.3(e), as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands.

The USACE regulates the discharge of dredged or fill material including, but not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, drainage channel maintenance, temporary mining and farm/forest roads, and excavating without stockpiling.

Under Section 401 of the CWA, the Central Coast Regional Water Quality Control Board (RWQCB) regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

## **State Regulations**

The California Environmental Quality Act (CEQA) requires that projects, which may result in adverse affects to biological resources, be evaluated in terms of their significance. Under CEQA, an analysis of significance of impacts to plants and wildlife, and their habitat, in addition to sensitive natural communities such as riparian habitat and oak woodland, is required.

The CDFG administers CESA, which also includes CFG Code Sections 2050 - 2068, and provides policy for the protection of plant and wildlife species, and their habitat in California. CESA and the CFG Code establish separate categories of protection, which generally define the degree to which a sensitive resource is endangered or threatened or otherwise at risk.

CFG Code Sections 1600 - 1607 regulate the alteration of jurisdictional waters, which may include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, lakes, and watercourses with subsurface flows, and mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFG’s jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) characterized by (1) the presence of hydrophytic

vegetation; (2) the location of definable bed and banks; and (3) the presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an ordinary high water mark (OHWM) to be claimed as jurisdiction. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

CFG Code Section 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. CFG Code Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. Section 3511 of the CFG Code lists fully protected bird species, where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

CFG Code Section 5050 makes it illegal to take fully protected reptiles and amphibians or parts thereof may not be taken or possessed at any time. No licenses or permits may be issued for their take except for collecting these species for necessary scientific research.

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code 13260(a)), pursuant to provisions of the State Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)).

The CNPS is a California resource conservation organization that has developed an inventory of California's special status plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. A CNPS list species is assigned a status value by the CNPS based on rarity indices of List 1A, List 1B, List 2, List 3, or List 4, and a level of endangerment value for each rarity index of 0.1, 0.2, or 0.3. CNPS rarity indices of List 1A and levels of endangerment of 0.1 correspond to species of highest priority in protecting the resource from threatening or endangerment of extinction, whereas rarity indices of List 4 and levels of endangerment of 0.3 correspond to species of lowest priority in protecting the resource from threatening or endangerment of extinction. In addition, the CNPS provides an inventory of plant communities that are considered special status by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats. Appendix G-2 provides a detailed discussion on the rarity indices.



## **San Luis Obispo County General Plan**

The San Luis Obispo County General Plan (General Plan) outlines the development goals of the county and provides a basis for government decision making, as well as for informing the public about the rules that guide development within the county. The County Plan includes both ordinances and elements.

### ***Estero Area Plan***

Information regarding biological resources is included in the Estero Area Plan Update in Section 6: Land Use, Section 7: Combining Designations, and Section 8: Planning Area Standards. These sections include Area Land Use information, the Combining Designations for Sensitive Resource Areas and Environmentally Sensitive Habitat Areas, and Development Standards.

### **Land Use Ordinances**

Land use ordinances contain standards for development based on what the effects of an action or project will be on specific land uses. Specific ordinances relevant to a discussion of biological resources include:

- Title 22 - Land Use Ordinance (revised in 2008)
- Title 23 - Coastal Zone Land Use Ordinance (CZLUO) (revised in January, 2006)

### **Elements**

Land use elements serve as a statement of County land use policies and intentions regarding future growth. They also serve as a guide for daily decisions regarding land use. The elements within the General Plan address components such as Land Use, Conservation, and Open Space. Some elements are required to be included in the plan, whereas state law also allows the adoption of additional elements. These are selected based on their appropriateness to local conditions.

### ***Local Coastal Plan***

The Community of Los Osos utilizes the San Luis Obispo County Local Coastal Program (LCP) as a planning tool to guide development in the coastal zone, in partnership with the California Coastal Commission. The LCP contains the ground rules for future development and the protection of coastal resources.

The elements of the General Plan include the LCP, which applies to those areas within the Coastal Zone. For the purposes of preparing the LCP, the County is divided into four segments. Los Osos is located within the region covered by the Estero Area Plan (reference here).

### **Coastal Plan Policies**

The County of San Luis Obispo Coastal Plan Policies forms part of the San Luis Obispo County Land Use Element of the General Plan (revised April 2007). Relevant to biological resources, these policies address Environmentally Sensitive Habitats in Chapter 6 and Coastal Watersheds in Chapter

9. The Coastal Plan Policies are implemented through the County of San Luis Obispo Coastal Zone Land Use Ordinances.

**Coastal Zone Land Use Ordinance**

The County assumes permit authority in the Coastal Zone based on the adopted and certified Coastal Zone Land Use Element (CZLUE) and the Coastal Zone Land Use Ordinance (CZLUO). Relevant to the study area and the proposed project, the CZLUO provides policy protecting categorical sensitive biological resources that include; Sensitive Resource Areas (SRAs) and Environmentally Sensitive Habitat Areas (ESHAs); Wetlands, Streams, and Riparian Vegetation; Terrestrial Habitat Protection; and Mature Trees. These areas are high-priority areas for preservation and developments requiring a land use permit within or adjacent to these areas and are subject to Section 23.07.160 – Section 23.07.176 of the CZLUO.

SRAs are subject to the provisions of Sections 23.07.160 – Section 23.07.166 of the CZLUO. The CZLUE and CZLUO combining designations for SRAs are applied by the official maps of the Land Use Element of the Estero Area Plan Update to identify areas “with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources.”

ESHAs are subject to the provisions of Section 23.07.170 of the CZLUO. According to the CZLUO, an ESHA is a “type of SRA where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations.”

Wetlands, streams, and riparian vegetation are subject to the provisions of Section 23.07.172 – Section 23.07.174 of the CZLUO. Provisions protecting wetlands are intended “to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands.” Provisions protecting streams and riparian vegetation are intended “to preserve and protect the natural hydrological system and ecological functions of coastal streams.”

Terrestrial habitat containing sensitive resources is subject to the provisions of Section 23.07.176 of the CZLUO. Provisions protecting terrestrial habitats are intended “to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitats. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal.”

Tree removal is subject to the provisions of Sections 23.05.060 – 23.05.064 of the CZLUO. The purpose of tree removal standards is “to protect existing trees and other coastal vegetation from indiscriminate or unnecessary removal consistent with Local Coastal Plan policies and pursuant to

Section 30251 of the Coastal Act which requires protection of scenic and visual qualities of coastal trees.

### **5.5.6 - Thresholds of Significance**

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to biological resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a.) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- b.) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- c.) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d.) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?
- e.) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f.) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

### **5.5.7 - Analysis**

This section analyzes proposed projects 1 through 4 as described in detail in Section 5.1 of the Draft EIR. The analysis includes a discussion of project-specific and cumulative impacts, provides mitigation measures where required, and concludes with a determination of level of significance after mitigation. Mitigation measures for all proposed projects 1 through 4 are provided on pages 5.5-54 through 5.5-62, and pages 5.5-78 and 5.5-79 of this section of the Draft EIR.

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## Special Status Species

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**5.5-A:** The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

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### *Project-Specific Impact Analysis*

#### **Proposed Project 1**

##### *Collection System*

Proposed Project 1 utilizes a septic tank effluent (STE) collection system that is comprised of both septic tank effluent pumps (STEP) and septic tank effluent gravity (STEG) conveyance lines. This is referred to as a STEP/STEG system. With this system, old septic tanks would be discontinued from service and new STEP/STEG tanks, together with effluent pumps and controls, would be installed at each connection. A total of 4,679 new septic tanks, together with associated pumps and controls, would be installed. New sewer lateral lines will provide conveyance from each property to the street collection system, from which wastewater is directed through a local collection system of pipelines, including force main lines, a pressure sewer collector system, isolation valves, and flushing ports. Wastewater is then directed from the local conveyance system into a linear conveyance system of force main lines to the treatment plant site. Treated effluent is then directed from the treatment plant site through a closed treated effluent conveyance system directly to the effluent disposal sites.

Proposed Project 1 would include two sub-elements within the STEP/STEG collection system component: 1) septic tank abandonment, and 2) pipelines:

##### *Septic Tank Abandonment:*

The septic tank abandonment sub-element for the STEP/STEG system includes the abandonment or removal of 4,679 existing septic tanks and the installation of 4,679 new STEP/STEG tanks within each property lot within the collection system area. In preparation of the installation of new septic tanks, approximately 75 percent of lots would require the unearthing and removal of existing front yard septic tanks, and approximately 25 percent of lots would require the abandonment of existing back yard septic tanks. Once existing septic tanks are removed or abandoned, 4,679 new 1,500-gallon STEP/STEG tanks will be installed. Approximately 95 percent of lots would require the installation of new septic tanks in the front yard, and approximately 5 percent of lots would require the installation of new septic tanks in the back yard. The excavation requirements for each new 1,500-gallon STEP/STEG tank would be 50 cubic yards of excavated soil. The estimated footprint for each new 1,500-gallon STEP/STEG tank would be approximately 18-feet by 10-feet, thereby resulting in approximately 19.7 total-acres of temporary impacts for the installation of all 4,679 new STEP/STEG tanks. Impacts associated with septic tank abandonment would be restricted to developed and disturbed land within the property lots to be served by the collection system.

Existing septic tank connectors will be abandoned, and house lateral lines will be re-routed to connect to new 4-inch sewer lateral lines within each property lot. The new sewer lateral lines will run from the new septic tanks to the sewer collector lines located in the abutting street for each property. A

total of 25 linear feet of new sewer lateral lines will be required for front yard placement of septic tanks (95 percent of lots), and 75 linear feet of new sewer lateral lines will be required for back yard placement of septic tanks (5 percent of lots). Impacts associated with the sewer later lines would be temporary and restricted to developed and disturbed land within the property lots to be served by the collection system.

In addition, the installation of 4,679 new effluent pumps and controls, and electrical service connection upgrades will be required within each property lot. Effluent pumps approximately 12 square feet in size will be contained within front yard lots and would require electrical connection to existing electrical panels for each house. The new effluent pumps will convey wastewater from the new septic tanks to the new lateral lines and into the sewer collector lines and force main for the collection system. Impacts associated with the effluent pumps and controls, and electrical service connection upgrades would also be restricted to developed and disturbed land within the property lots to be served by the collection system.

#### Pipelines

The pipelines sub-element for the STEP/STEG system generally includes force main lines and sewer collector lines as conveyance routes for the wastewater influent, and pipelines as conveyance routes for the treated effluent.

The force main lines and sewer collector lines for the wastewater influent include the installation of approximately 40,600 linear feet of 6-, 8-, and 10-inch PVC force mains, 18,700 linear feet of 14-inch force mains, 203,600 linear feet of pressure sewer collector lines, 630 isolation valves and air release valves, and 240 flushing ports. The 6-, 8-, and 10-inch forced mains and pressure sewer collector lines located would be placed at depths of 4 to 6 feet. The 14-inch force main lines will convey wastewater influent to treatment facilities and would be placed at variable depths. They would also require a single 500-linear foot crossing of Los Osos Creek.

The pipelines for treated effluent include the installation of approximately 17,000 linear feet of 12-inch pipeline from the treatment plant to the Broderson leach fields and 9,800 linear feet of 12-inch pipeline from the treatment plant to the Tonini sprayfields. This pipeline will convey treated effluent from the treatment facilities to the disposal sites, which include the leachfield site located on the Broderson property, and the sprayfields site located on the Tonini property. The treated effluent pipelines would require two creek crossings, including a 500-linear foot crossing of Los Osos Creek (to convey treated effluent water from the treatment facility west to the leachfield site on the Broderson property) and a 500-linear foot crossing of Warden Creek (to convey treated effluent water from the treatment facility east and north to the sprayfield site on the Tonini property).

Approximately 500 linear feet of open-cut trenching for pipe installation will be required in the crossing of Los Osos Creek and Warden Creek for Proposed Project 1.

With the exception of the crossings of Los Osos Creek and Warden Creek, impacts associated with the force main lines and sewer collector lines for the wastewater influent would be primarily restricted to developed and disturbed land contained within existing public right-of-ways associated with arterial and collector streets located throughout the collection system area.

#### Short Term Construction Impacts

The STEP/STEG system for Proposed Project 1 could result in significant direct and indirect short-term construction impacts to special status species and their habitat. The following provides a project-specific impact analysis of the short-term construction impacts on special status plant and wildlife species and their habitat for the collection system element of Proposed Project 1.

- ***Special Status Plant Species***

The collection system component of Proposed Project 1 could result in significant direct impacts to special status plant species during project construction. The collection system would be primarily restricted to developed and disturbed land contained within existing public right-of-ways and private properties. Although portions of the collection system would result in temporary impacts associated with excavation and backfilling of undeveloped land, these areas are associated with undeveloped portions of street margins and residential properties that are disturbed and largely dominated by bare earth, non-native ruderal (weedy) plant species, and non-native ornamental landscape vegetation. Some undeveloped land within the collection system area for Proposed Project 1 may contain isolated native plant species that are either remnant and have sustained encroaching urbanization or are disturbance-tolerant and have established themselves concurrent with the urban environment.

The entire footprint of the collection system area and west of Los Osos Creek is supported by underlying Baywood fine sand soils. In appropriate undisturbed environments, and in association with stands of native vegetation and natural communities, Baywood fine sand soils are known to provide suitable substrate for special status plant species known to the local area. Special status plant species associated with habitats that are supported by Baywood fine sandy soils include the Morro manzanita (*Arctostaphylos morroensis*), Monterey spineflower (*Chorizanthe pungens*), Blochman leafy daisy (*Erigeron blochmaniae*), saint's daisy (*Erigeron sanctarum*), Indian knob mountainbalm (*Eriodictyon altissimum*), San Luis Obispo wallflower (*Erysimum capitatum* ssp. *lompocense*), curley-leafed monardella (*Monardella undulata*), and dune almond (*Prunus fasciculate punctata*) (Holland and Keil 1985, LOCSD 2005, CNDDDB 2008). Despite Baywood fine sands being known to support special status plant species in appropriate environments, the underlying Baywood fine sands soils and substrate within the collection system area are disturbed as a result of urban land uses and developments that characterize the area. Because of these disturbances, collection system areas located and west of Los Osos Creek do not provide highly suitable substrate conditions for special status plant species. Given the urbanized nature of the collection system area, there is an overall lack of large contiguous stands of native vegetation and natural communities in the area that could

provide appropriate vegetation associations for special status plant species. The lack of native vegetation and natural communities within this portion of the collection system area has given way to a prevalence of non-native plant species, many of which are ornamental landscape plants and known to inhibit the establishment of other plant species. Other contributing factors that reduce the suitability of the collection system area for special status plant species include adverse conditions in hydrology, water quality, and salinity levels. As a result, the likelihood of any special status plant species occurring within the collection system footprint located west of Los Osos Creek is very low. Despite adverse conditions and the unlikelihood for occurrence, Morro manzanita has been documented as occurring in small or low-density patches within the urbanized environment located west of Los Osos Creek (USFWS 2005, USFWS 1998, LOCSD 2005), and developments associated with the collection system on individual property lots could result in direct impacts to this species.

In addition to portions of the collection system that are proposed west of Los Osos Creek, the collection system for all Proposed Projects 1 through 4 require force main lines outside the community for conveyance of wastewater, and pipelines for conveyance of treated effluent to the disposal sites. Excluding creek crossings, these conveyance lines would be restricted to developed and disturbed land contained within the public right-of-ways for Los Osos Valley Road, Broderson Avenue, and Turri Road. Developed and disturbed land within these public right-of-ways are primarily characterized by paved asphalt and concrete associated with urban/developed land, and bare earth and non-native ruderal (weedy) vegetation associated with fallow areas and disturbed riparian and wetland habitats. For all Proposed Projects 1 through 4, force main line and pipeline conveyance of wastewater and treated effluent would require the crossing of Los Osos Creek within the Los Osos Valley Road ROW, and the crossing of Warden Creek within the Turri Road ROW. Areas proposed for creek crossing are primarily characterized by disturbed riparian and wetland habitats, and unvegetated streambed. The specific locations of conveyance lines for all Proposed Projects 1 through 4, including the locations of open-cut trenching for the crossings of Los Osos Creek and Warden Creek, have been designed to minimize disturbance of riparian and wetland habitats, and unvegetated streambed, and none will not occur within suitable habitat for any special status plant species that are known to the area. Therefore, the conveyance lines for all Proposed Projects 1 through 4 are not anticipated to result in any significant impacts to special status plant species.

In conclusion, construction activities associated with the collection system component of Proposed Project 1 could result in significant direct impacts in isolated areas to a single special status plant, the Morro manzanita. Mitigation Measures 5.5-A1, 5.5-A3, and 5.5-A13 will reduce potential impacts to this species to less than significant.

- ***Special Status Wildlife Species***

The collection system component of Proposed Project 1 could result in significant direct and indirect impacts to special status wildlife species and their habitat, including federally-

designated critical habitat, during project construction, including the Morro shoulderband snail (*Helminthoglypta walkeriana*), southern steelhead (*Oncorhynchus mykiss irideus*), and California red-legged frog (*Rana aurora draytonii*).

- ***Morro Shoulderband Snail***

The Morro shoulderband snail is a federally endangered species that is endemic to the western portion of San Luis Obispo County and specifically, south of Morro Bay, west of Los Osos Creek, and north of Hazard Canyon. Critical habitat for the Morro shoulderband snail was designated on February 7, 2001 that includes 2,566-acres of land within three critical habitat units that occur within and around the community of Los Osos (USFWS 2001). Critical habitat for this and other special status species within the vicinity of the study area is depicted on Exhibit 5.5-1. The primary constituent elements (those habitat components that are essential for the primary biological needs of foraging, sheltering, reproduction, and dispersal) of critical habitat for the Morro shoulderband snail consists of sand or sandy soils for reproduction, a slope no greater than 10 percent to facilitate movement of individuals, and the presence of, or capacity to develop, native coastal dune scrub vegetation (USFWS 2001, 2003, 2005).

The species typically inhabits accumulated litter and the undersides of low shrub branches in coastal dune scrub vegetation, particularly mock heather (*Ericameria ericoides*), golden yarrow (*Eriophyllum staechadifolium*), deerweed (*Lotus scoparius*), dune almond (*Prunus fasciculata* var. *punctata*), buckwheat (*Eriogonum* spp.), and coyote brush (*Baccharis pilularis*) (USFWS 1998, 2003, LOCSD 2005, CNDDDB 2008). Surveys conducted by the USFWS and CDFG also determined that snails may occur on California sage-black sage, dune lupine-goldenbush, Morro manzanita-California sagebrush, and several other maritime chaparral and coastal sage scrub plant communities (LOCSD 2005). While the species has most often been found in mock heather associated with native dune scrub habitats, it has also been found within introduced ice plant (*Mesembryanthemum* spp. and *Conicosia* spp.) and fig-marigold (*Carpobrotus edulis*) at suitable locations (LOCSD 2005). Other key features of this species habitat in coastal areas include areas with dense veldt grass, thick leaf litter under shrub canopies, rocks, debris piles, downed wood, woody debris, and at the base of fence posts in moist pockets (USFWS 1998, 2003).

The collection system component of Proposed Project 1 could result in significant impacts to Morro shoulderband snail habitat. The collection system and disposal sites components of Proposed Projects 1 through 4 will occur within portions of land contained within Critical Habitat Unit 2 and Unit 3 for the Morro shoulderband snail. The area proposed for leachfields on the Broderson property as part of the disposal sites component occur within Critical Habitat Unit 2, and the northeastern portions of the collection system in the community of Los Osos occur within portions of Critical Habitat Unit 3 for this species. In addition to land contained within these Critical Habitat Units, there are additional areas proposed for the collection system that contain marginal habitat for this species. Although the northeastern portions of the





Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates  
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## Exhibit 5.5-1 Special Status Species Habitat

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES EXPANDED ANALYSIS SECTION



collection system in the community of Los Osos for all Proposed Projects 1 through 4 occur within portions of Critical Habitat Unit 3, these areas do not contain the primary constituent elements that have been identified for this species critical habitat, specifically, they do not contain the presence of, or capacity to develop, native coastal dune scrub vegetation. Intensive protocol surveys conducted from 1997 through 2001 confirmed both the presence and absence of snails within various residential properties and collector streets throughout the community of Los Osos that occur within the collection system for all Proposed Projects 1 through 4 (LOCSO 2005, pers. comm. Bob Sloan). Limited portions of these areas occur within Critical Habitat Unit 3 for this species, including the eastern portions of the collector streets Santa Ysabel Avenue and El Morro Avenue. Although these and other portions of the collection system for all Proposed Projects 1 through 4 occur within portions of Critical Habitat Unit 3, they do not contain all of the primary constituent elements that have been identified for this species' critical habitat. Specifically, they do not contain the presence of, or capacity to develop, native coastal dune scrub vegetation. Due to the fact that the areas in the community of Los Osos lack the primary constituent elements for this species critical habitat, they would not be considered habitat areas of high value to the long-term survival and recovery of the species. Therefore, impacts to Morro shoulderband snail habitat resulting from the collection system component of all Proposed Projects 1 through 4, including land within Critical Habitat Unit 3 for this species, would be considered less than significant.

The collection system component of Proposed Project 1 could result in significant direct impacts to this species. Despite the lack of all primary constituent elements and the absence of high quality habitat, a number of properties within the collection system are currently known to support this species, or have been known to support this species in the past prior to relocation activities (LOCSO 2005, pers. comm. Bob Sloan). Although these and other areas in the community of Los Osos may not support (or have the capacity to support) native coastal dune scrub, they are supported by underlying Baywood fine sandy soils for this species reproduction, slopes no greater than 10 percent to facilitate movement and dispersal, and marginal non-native vegetation, leaf litter, or debris for foraging and sheltering. Given the presence of these marginal conditions, there are likely a number of properties that support this species or provide potential habitat for this species that have not been surveyed in the past. Without knowing the exact number and without comprehensive presence or absence data, it can be assumed that the total number of residential properties that currently support this species or provide potential habitat for this species is neither very low nor very high, but significant enough such that a potential encounter with the species could result during construction activities. Therefore, the collection system component of Proposed Project 1 within the community of Los Osos could result in a significant direct impact on this species during construction. Mitigation Measures 5.5-A1, 5.5-A3, and 5.5-A4 will reduce potential impacts to this species to less than significant.

- ***Southern Steelhead***

The south-central California coast evolutionarily significant unit (ESU) of the southern steelhead (*Oncorhynchus mykiss irideus*) is a federally threatened species and California State species of special concern that is historically known to inhabit coastal streams in central and southern California during portions of their life stage. Southern steelhead are similar to other Pacific salmon species in their ecological requirements. Generally, they are hatched and reared in freshwater as alevins and fry, migrate to estuaries and the ocean as juvenile smolts, spend 1 to 5 years in the ocean as juveniles and subadults, and then return to freshwater to spawn as adults (NMFS 2005, Moyle 2002). Generally, coastal streams used by this species must contain spawning gravels of certain size and free of sediment, and cool, clean, and well-oxygenated water to allow egg incubation and development. Juveniles require an abundance of food sources for growth, and natural cover and refuge for predator evasion, high flows, and warm summer temperatures. Returning adult southern steelhead require adequate staging and passage areas with cool waters that are adequate in water quality and quantity during specific spawning run times (NMFS 2005). Although spawning most typically occurs during late winter and early spring, the specific timing of spawning may vary within a month or more depending on the stream (NMFS 2007). To complete their life cycle, steelhead require accessible rearing and migration corridors that contain the important habitat.

Primary constituent elements have been developed for salmon and steelhead that define the physical or biological features that are essential to one or more life stages of an ESU. Generally, these include freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, nearshore marine areas, and offshore marine areas (NMFS 2005). The primary constituent elements for this species habitat that are relevant to the Proposed Projects would include: spawning sites with adequate water quantity and quality conditions and suitable substrate; rearing sites with adequate water quantity and floodplain connectivity to support and maintain juvenile development, and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rock and boulders, side channels, and undercut banks to support juvenile mobility and survival; and freshwater migration corridors free of obstruction with adequate water quantity and quality conditions, and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rock and boulders, side channels, and undercut banks to support juvenile and adult mobility and survival.

The collection system component of all Proposed Projects 1 through 4 could result in significant impacts to southern steelhead habitat within Los Osos Creek during project construction. The collection system component of Proposed Project 1 will include two crossings of Los Osos Creek within the Los Osos Valley Road ROW, which will both be carried out through open-cut trenching methods for installation of pipelines. Open-cut trenching will be required for the crossing of the force main lines for wastewater conveyance, in addition to the crossing of the pipelines for treated effluent conveyance. These direct

impacts will be temporary disturbances to the streambed (measured from bank-to-bank at the ordinary high water mark) for the relevant reach of Los Osos Creek. Open-cut trenching could also result in indirect impacts to this species habitat through adverse water quality related impairments caused by construction activities taking place during the wet or dry season. Activities in Los Osos Creek could increase result in an increase of spills of hazardous materials as well as increased turbidity. The streambed for the relevant reach of Los Osos Creek that is proposed for open-cut trenching for pipeline installation has been designated by the National Marine Fisheries Service (NMFS) as critical habitat for the south-central California coast ESU southern steelhead (NMFS 2005). The relevant reach of Los Osos Creek is characterized by a short run section of dry gravel/cobble streambed that conveys uninhibited intermittent flows downstream to Morro Bay throughout the wet season. There are no major impairments or dam structures downstream of the onsite reach that would inhibit fish passage or act as a migration barrier from Morro Bay and the Pacific Ocean to the relevant reach of the Creek. The streambed for the reach lacks any emergent or aquatic vegetation, large rocks or boulders, large pieces of submerged wood, logjams or beaver dams, side channels, or undercutting along the adjacent banks; however, it runs beneath a relatively closed canopy of riparian forest that lines the adjacent banks on either side. Average depth of the reach is estimated at 18 inches with little contour change.

Based on the observed habitat suitability factors, the relevant reach of Los Osos Creek does not contain all of the primary constituent elements that have been identified for this species' critical habitat. The relevant reach would not likely be used as rearing habitat by this species due to the lack of floodplain connectivity and absence of important natural cover constituents. However, the reach could provide for a freshwater spawning site and a freshwater migration corridor during the winter rainy season and into spring until stream flows within the Creek subside to impassable levels. Therefore, the collection system component of Proposed Project 1 would result in a significant direct impact during construction to a functioning freshwater spawning site and freshwater migration corridor that could be used by this species in its designated critical habitat. The collection system component of Proposed Project 1 could also result in significant indirect impacts during construction to this species habitat relating to adverse water quality as well. Mitigation Measure 5.5-A1, 5.5-A3, 5.5-A6, and 5.5-A7 will reduce potential impacts to this species habitat to less than significant. Mitigation Measures 5.5-C1 through 5.5-C3 would further reduce potential impacts. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts.

The collection system component of all Proposed Projects 1 through 4 could result in potential significant impacts to individual southern steelhead inhabiting Los Osos Creek during project construction. Although little is known or has been documented regarding this species occurrence within Los Osos Creek, a single occurrence for this species has recently been documented in Los Osos Creek during efforts to determine its southern range (NMFS 2007).

Neighboring coastal streams in the Los Osos vicinity of which occurrences of this species have been more abundantly documented include Chorro Creek, which enters Morro Bay from the northeast, and Coon Creek and Islay Creeks which discharge directly into the Pacific Ocean from Montana de Oro State Park (CNDDDB 2008, LOCSO 2005). Additionally, the estuarine habitat within Morro Bay, of which Los Osos Creek is a direct tributary, is known to support this species during various life stages in staging and migration (NMFS 2005). Given that this species has been previously documented within Los Osos Creek, and given that the relevant reach of Los Osos Creek contains habitat suitability factors contributing to a potential functioning freshwater spawning site and freshwater migration corridor for this species, there is potential for this species to occur within the areas proposed for streambed disturbance during years of favorable environmental conditions (i.e. adequate water quantity). Therefore, the collection system component of Proposed Project 1 could result in potential significant direct impacts to the southern steelhead. Mitigation Measure 5.5-A1, 5.5-A3, 5.5-A6, and 5.5-A7 will reduce potential impacts to this species to less than significant. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts.

- **California Red-Legged Frog**

The California red-legged frog (*Rana aurora draytonii*) is a federally threatened species and California State species of special concern that is known to occur in lowland streams, wetlands, riparian woodlands, and livestock ponds along the coast and coastal mountain ranges of California from Humboldt County to San Diego County (CNDDDB 2008, LOCSO 2005, USFWS 2005, USFWS 2002). This species is also known within mid-elevation streams and semi-aquatic environments in the Sierra Nevada Mountains from Butte County to Fresno County (LOCSO 2005). More specifically, breeding sites include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded, and backwater portions of streams, as well as artificial impoundments such as stock ponds irrigation ponds, and siltation ponds (USFWS 2005). The California red-legged frog breeding season extends from November through April, and may vary between regions (USFWS 2002). A minimum of 11 to 20 weeks of permanent water is required at breeding sites for larval development (CNDDDB 2008, USFWS 2002). When water is not available during the dry season, California red-legged frogs disperse from their breeding habitat to forage and seek summer aestivation habitat. Summer habitat may include upland areas and small mammal burrows close to a pond, or a deep pool in a creek with emergent vegetation, undercut banks, or semi-submerged rootballs (USFWS 2005). Habitats of highest quality are deep-water ponds with dense stands of overhanging willows (*Salix* sp.) and a fringe of cattails (*Typha* sp.) between the willow roots and overhanging limbs (USFWS 2005, LOCSO 2005).

The collection system component of all Proposed Projects 1 through 4 could result in significant impacts to California red-legged frog habitat within Los Osos and Warden Creeks and their tributaries during project construction. The collection system component of Proposed

Project 1 will include two crossings of Los Osos Creek within the Los Osos Valley Road ROW, and a single crossing of Warden Creek within the Turri Road ROW, which will both be carried out through open-cut trenching methods for installation of pipelines. These direct impacts will be temporary disturbances to the streambed (measured from bank-to-bank at the ordinary high water mark) for the relevant reaches of Los Osos Creek and Warden Creek. Open-cut trenching could also result in indirect impacts to this species habitat through adverse water quality related impairments caused by construction activities taking place during the wet or dry season. Construction activities in the creeks could result in an increase of spills of hazardous materials as well as increased turbidity. No portions of Proposed Project 1 through 4 occur within any designated critical habitat for this species, however occupied habitat and suitable habitat for this species was determined to exist at a number of locations throughout the study area. Based on the result of protocol surveys for this species conducted by MBA in May 2008 (see Attachment F of Appendix G-2), 9 California red-legged frog specimens were determined to occupy an approximate 2,500-linear feet reach of the largest drainage feature on the Tonini property. Although this was the only portion of the study area that was confirmed to contain occupied habitat for this species during the survey effort, this species is known to occupy aquatic sites throughout the local area during years that are more favorable. For all Proposed Projects 1 through 4, suitable habitat for this species is restricted to the largest drainage feature on the Tonini property (overlapping occupied habitat), an isolated riparian stand on the Tonini property adjacent to Turri Road, Los Osos Creek and its tributary waters, Warden Creek and its tributaries waters, Warden Lake, and wetlands adjacent to Morro Bay and throughout the community of Los Osos. The portions of Los Osos Creek that are proposed for open-cut trenching for all Proposed Projects 1 through 4 in addition to the majority of the ephemeral tributaries to Warden Creek were determined to lack suitable conditions for this species during the 2008 surveys. However, all of these areas would likely provide suitable conditions for this species during more favorable years. Initial habitat assessment surveys for this species were conducted within the relevant reach of Los Osos Creek during early April 2008 (Appendix G-2), and during a time of year when this species is typically occupying breeding habitat in the local area. Surveys were conducted during a relatively dry year with local rainfall recorded at below normal levels at less than 14 inches. During the April 2008 habitat assessment surveys, the relevant reach of Los Osos Creek and tributaries to Warden Creek did not support any flows and were completely dry, with no isolated ponding or pooling in the streambed or the adjacent banks and shelves. Subsequent habitat assessment surveys were conducted during late April and May 2008 and confirmed continued dry conditions in the relevant reach of Los Osos Creek and tributaries to Warden Creek. As indicated above for southern steelhead, the relevant reach of Los Osos Creek includes a short run section of dry gravel/cobble streambed that lacks any emergent or aquatic vegetation, natural cover or undercutting. The reach runs beneath a relatively closed canopy of riparian forest that lines the adjacent banks on either side. Given the inadequacy of the relevant reach of Los Osos Creek to support sufficient water quantities during the habitat assessment survey, and given the lack of

suitable vegetation, natural cover, and undercutting to be used by this species for foraging and refuge, the relevant reach of Los Osos Creek was determined to provide only marginal conditions for this species.

Despite negative findings for this species during the May 2008 protocol surveys, areas within Warden Creek contain suitable habitat for this species. The relevant reach of Warden Creek at the Turri Road crossing includes a short run section of streambed that conveys perennial flows downstream to Morro Bay throughout the wet season and all or portions of the dry season. The streambed for the reach supports wetland conditions, contains emergent and aquatic vegetation such as cattails (*Typha* sp.) and coontail (*Ceratophyllum demersum*), and runs beneath an open canopy of riparian forest that intermittently lines the adjacent banks on either side with arroyo willows (*Salix lasiolepis*). Underneath the bridge, the stream banks are reinforced with riprap. Average depth is estimated at 12 inches, with deeper pool areas occurring underneath the bridge and within eddy areas around emergent vegetation. The substrate of the streambed is fine and coarse sand and silt, with no gravel, cobble, coarse rock, or boulders. Based on the observed habitat suitability factors, the relevant reach of Warden Creek contains relatively high quality breeding and refuge habitat for the California red-legged frog.

Therefore, the conveyance pipeline component of Proposed Project 1 would result in a significant direct impact during construction to habitat that could be used by this species within Los Osos and Warden Creeks, and their associated tributaries. The conveyance pipeline component of Proposed Project 1 could also result in significant indirect impacts during construction to this species habitat relating to adverse water quality as well. Mitigation Measures 5.5-A1, 5.5-A3, 5.5-A7, and 5.5-A8 will reduce potential impacts to this species habitat to less than significant. Mitigation Measures 5.5-C1 through 5.5-C3 would further reduce potential impacts. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts.

The collection system component of all Proposed Projects 1 through 4 could result in potential direct impacts to individuals of this species within Los Osos Creek and Warden Creek at the Turri Road crossing during project construction. These impacts would be considered significant. The relevant reach of Los Osos Creek receives flows from upstream reaches to the south, and from tributary waters and downstream reaches near its confluence with Morro Bay. Due to the presence of high quality habitat downstream to Morro Bay, there is a moderate probability that the relevant reach could support individuals of this species during favorable years. The relevant reach of Warden Creek recruits flows from upstream reaches to the east, and from tributary waters from the north, which include the downstream reach of the large drainage feature on the Tonini property that was determined to be occupied by the California red-legged frog. Additionally, California red-legged frog has been recently observed and documented within the relevant reach of Warden Creek at the Turri Road crossing during surveys conducted in 2006 (CNDDDB 2008). Although no California red-legged frogs were



determined to occupy the relevant reach during protocol surveys in 2008, given the fact that the relevant reach is directly connected with a drainage feature that currently supports occupied habitat, and given the fact that this species has recently been observed within the relevant reach in 2006, there is a high probability that the relevant reach could support individuals of this species during favorable years. Therefore, the collection system component of Proposed Project 1 could result in significant direct impacts to this species during construction. The collection system component of Proposed Project 1 could also result in significant indirect impacts to this species relating to adverse water quality as well. Mitigation Measures 5.5-A1, 5.5-A3, 5.5-A7, and 5.5-A8 will reduce potential impacts to this species to less than significant. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts to less than significant.

#### Long Term Operational Impacts

The STEP/STEG collection system for Proposed Project 1 could result in potential significant direct and indirect long-term operational impacts to special status species and their habitat. Wastewater facilities are a common feature of urban environments and generally are not considered to pose significant hazards. Because old septic tanks and laterals will be replaced with new high quality fixtures, the collection system represents a significant positive impact to the biological environment at individual properties. Operation and maintenance requirements of new STEP/STEG tanks will be limited and are not anticipated to result in adverse effects to special status species and their habitat.

If not properly constructed, operated, and maintained, there is the potential for breakage and leakage in the pipelines of the collection system, releasing untreated sewage into the environment. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from breakage or leakage in the pipelines of the collection system to less than significant.

#### Treatment Plant Site

The treatment plant site component of Proposed Project 1 will include a facultative pond, storage pond, and appurtenance elements within the Cemetery, Giacomazzi, and Branin properties. The treatment plant site for Proposed Project 1 would require the construction of the following: a partially-mixed facultative pond wastewater treatment system that will include headworks to screen out organics and measure flow; partially-mixed facultative ponds; a septage receiving station to screen and process septic tank septage; an approximately 19-acre wastewater treatment facility site; and a 46-acre-feet seasonal storage pond for treated effluent storage onsite.

Impacts associated with the development of the treatment plant site for Proposed Project 1 will be largely restricted to uplands that are characterized by extensive agriculture and disturbed land.

Limited impacts will also occur to upstream portions of two ephemeral drainage features that are characterized by disturbed habitat.

#### Short Term Construction Impacts

The treatment plant site for Proposed Project 1 could result in significant indirect short-term construction impacts to special status wildlife species and their habitat. The following provides a project-specific impact analysis of the short-term construction impacts on special status plant and wildlife species and their habitat for the treatment plant site component of Proposed Project 1.

- ***Special Status Plant Species***

The treatment plant site component of Proposed Project 1 is not likely to result in any significant direct or indirect impacts to special status plant species or their habitat during project construction. The treatment plant site for Proposed Project 1 is restricted to areas characterized by extensive agricultural land and disturbed habitat. These two plant communities or habitat types are not associated with any of the special status plant species that are known to occur in the area. Furthermore, the treatment plant site for Proposed Project 1 is restricted to areas that are supported by disturbed surface soils. Routine agricultural practices and disking of the land has resulted in significant disturbances to the existing soil surface horizons. These disturbances have resulted in the establishment of cultivated plant species and recruitment of non-native ruderal (weedy) herbaceous plant species that are disturbance-tolerant.

Limited portions of the Giacomazzi property are characterized by central Lucian coastal scrub habitat. The spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen are non-listed narrow endemic non-vascular species (lichens) that were determined to have a high potential to occur within the central Lucian coastal scrub on the Giacomazzi property. As stated above, the treatment plant site for Proposed Project 1 is restricted to areas characterized by extensive agricultural land and disturbed land, and no portions of this component will occur within the central Lucian coastal scrub habitat. Therefore, no impacts are anticipated to any of these sensitive lichen species or their habitat. In conclusion, the treatment plant site component of Proposed Project 1 will not occur within any land that is suitable for special status plant species that are known to the area, therefore no significant impacts to special status plant species or their habitat are anticipated.

- ***Special Status Wildlife Species***

The treatment plant site component of Proposed Project 1 could result in significant direct impacts to the California red-legged frog, as well as significant indirect impacts to Cooper's hawk, white-tailed kite, and Allen's hummingbird during project construction. Additionally, the treatment plant site component of Proposed Project 1 could result in significant indirect impacts to foraging raptors.

- **California Red-Legged Frog**

A detailed discussion of this species recovery status and biological requirements of the California red-legged frog is provided above in the collection system impact discussion of Impact 5.5-A.

The treatment plant site component of all Proposed Projects 1 through 4 could result in significant impacts to the California red-legged frog. Although none of the developments for the treatment plant sites would result in the removal of suitable breeding habitat for this species, they are proposed within areas that occur in the local vicinity of habitat that is known to be occupied by this species, including Warden Creek, Warden Lake, and unnamed tributaries on the Tonini property. Construction activities may result in the incidental mortality of individuals using areas adjacent to breeding sites during dispersal and aestivation. Direct impacts to this species during project construction would be considered significant. For all Proposed Projects, Mitigation Measures 5.5-A1, 5.5-A3, 5.5-A7, and 5.5-A8 will reduce potential impacts to this species to less than significant. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts.

- **Cooper's Hawk**

Cooper's hawk has recently been delisted from a California State species of special concern to a species whose only designation is a Global and State rank. This species has a Global rank of G5, which is considered globally secure, common, widespread, and abundant (CNDDDB 2008). This species has a State rank of S3, which is considered vulnerable in California due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to displacement from areas (CNDDDB 2008). Although this species has no legal protection under the FESA and CESA, this species is protected by the federal MBTA and CFG Code during its breeding season. This species may nest in open, uninterrupted, or marginal woodland and forest habitats near water, which include growths of deciduous riparian trees and live oaks. Dense riparian and other woodland stands with moderate crown depths are preferred for nesting (LOCSO 2005). Although variable from region-to-region, this species breeding season generally occurs between March and August, peaking between May to July (LOCSO 2005). It generally frequents areas containing patchy stands and groves of woodlands for foraging, and is often observed perching at the periphery or among snags. When compared with other *Accipiter* hawks, this species tends to nest in stands with lower densities of taller or larger trees and a greater proportion of hardwood cover than coniferous trees (LOCSO 2005). This species is tolerant of human disturbance and habitat fragmentation, and may breed within suburban and urban settings (LOCSO 2005). This species is a wide-ranging resident throughout most of California from sea level to approximately 2,700 feet above mean sea level, and is a local resident within or near deciduous riparian areas in the Los Osos area (LOCSO 2005).

The treatment plant site for Proposed Project 1 could result in significant indirect impacts to this species during its breeding activities. Although this species was not observed during any of the habitat assessment surveys conducted in April or May 2008, this species is known to be a resident of deciduous riparian habitats in the local area (CNDDDB 2008, LOCSO 2005). Suitable nesting habitat exists within the central coast arroyo willow riparian forest habitat in the northeastern portion of the Giacomazzi property and the northern portion of the Branin property. These areas are characterized by a dominance and dense arrangement of moderately tall arroyo willow trees (*Salix lasiolepis*), and occur adjacent to a perennial water source at Warden Lake. Although no direct impacts to these areas are anticipated, these areas occur within 500 feet of the proposed developments for the treatment plant site for Proposed Project 1. Due to the fact that this species is protected by the federal MBTA and CFG Code, there is a potential for these developments to result in adverse indirect impacts to this, and other species relating to construction noise, lighting, and other disturbances during its breeding season. Mitigation Measure 5.5-A12 will reduce potential impacts to this and other species during their respective breeding seasons to less than significant.

- ***White-Tailed Kite***

The white-tailed kite is a fully protected species in the State of California that occurs within deciduous riparian and oak woodland habitat, and emergent trees within and adjacent to marsh habitats. This species is fully protected under CFG Code Section 5050, and further protected during its breeding season under the federal MBTA and CFG Codes 3503 and 3511. This species breeds within lowland grasslands and agricultural areas with suitable trees, wetlands, oak woodlands, savannahs, and riparian habitats with dense broadleaf deciduous trees (LOCSO 2005). Although variable from region-to-region, this species breeding season generally occurs between February and October, peaking between May and August (LOCSO 2005). White-tailed kites forage within dry grass savannahs and undisturbed open grasslands, meadows, farmlands, and emergent wetlands with high populations of voles (*Microtus* sp.), this species preferred prey item. The white-tailed kite is a wide-ranging resident throughout coastal and valley lowlands of California, particularly in the vicinity of agricultural areas with open foraging opportunities (LOCSO 2005).

The treatment plant site of Proposed Project 1 could result in significant indirect impacts to this species during its breeding activities. Suitable nesting habitat for this species occurs within the central coast arroyo willow riparian forest habitat in the northeastern portion of the Giacomazzi property and the northern portion of the Branin property. Although no direct impacts to these areas are anticipated, these areas occur within 500 feet of the proposed developments for the treatment plant site for Proposed Project 1. Due to the fact that this species is fully protected by CFG Code, and further protected during its breeding season by the federal MBTA and CFG Code, there is a potential for development to result in adverse indirect impacts to this species relating to construction noise, lighting, and other disturbances during its breeding season. Mitigation measures are provided to reduce impacts to this and other species during their

respective breeding seasons to less than significant. Mitigation Measure 5.5-A12 will reduce potential impacts to this and other species during their respective breeding seasons to less than significant.

- ***Allen's Hummingbird***

Allen's hummingbird is not federally or State endangered or threatened, or a California State species of special concern. This species has been designated a Global rank of G5, and a State rank of SNR. Globally, this species is considered secure, however in California, this species is not specifically ranked because its conservation status has not yet been fully assessed. Due to its range throughout coastal habitats, this species could be considered rare and potentially vulnerable. This species inhabits mixed evergreen, riparian woodlands, eucalyptus and cypress groves, oak woodlands, and coastal scrub areas during its breeding season, which extends from February to August (LOCSO 2005). Males maintain territories that overlook open coastal scrub or riparian shrubs where they perch in conspicuous places. Females choose nest sites in areas where there is more tree cover. They locate the nest in shrubs and trees with dense vegetation. This species breeds within a narrow strip along the Pacific coast throughout California (LOCSO 2005).

The treatment plant site of Proposed Project 1 could result in significant indirect impacts to this species during its breeding activities. Suitable nesting habitat for this species occurs within the riparian habitat within the Giacomazzi and Branin properties. Although no direct impacts to these areas are anticipated, these areas occur within 250 feet of the proposed developments for the treatment plant site for Proposed Project 1. Due the fact that this species is protected during its breeding season by the federal MBTA and CFG Code, there is a potential for these developments to result in adverse indirect impacts to this species relating to construction noise, lighting, and other disturbances during its breeding season. Mitigation measures 5.5-A11 will reduce potential impacts to this and other species during their respective breeding seasons to less than significant.

- ***Raptor Foraging***

All Proposed Projects 1 through 4 will occur within both fragmented and open expansive foraging habitat for common and sensitive raptor species that are known to occur in the area as year-round residents or seasonal migrants. The known range and foraging requirements for many raptor species are widespread and include a wide variety of habitats, including those that occur within the project study area. The areas containing suitable foraging habitat are most likely to be used by common hawks such as red-tailed hawk and red-shouldered hawk (*Buteo lineatus*), and common owls such as barn owl (*Tyto alba*) and great-horned owl (*Bubo virginianus*). Special status raptors that have a high potential to forage within the area include Cooper's hawk and white-tailed kite. Other special status raptors that have a reduced (moderate) potential to occur and only forage within the survey area due to lack of nesting habitat and/or range restrictions include sharp-shinned hawk (*Accipiter striatus*), ferruginous

hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), and peregrine falcon (*Falco peregrinus anatum*).

The highest quality foraging habitat for most raptors occurs within the uncultivated disturbed habitat (fallow fields) and non-native grassland on the Cemetery and Branin properties. These areas are not routinely plowed and may support a higher prey base due to the availability of resources for small mammals and other prey items. The extensive agriculture on the Giacomazzi, Branin, and Tonini properties provide good quality foraging opportunities however, the land within these properties is maintained for pest control and routinely disked and plowed, and probably support lower densities of available prey items. All potential foraging areas are adjacent to larger, more expansive, undeveloped lands offsite that provide foraging habitat that is better in quality. A significant portion of the Tonini property is occupied by high quality non-native grassland that will be avoided and located outside of any areas that may be impacted by the proposed project. Additional undeveloped lands surround the Tonini property and areas further to the north of the Branin property that provide high quality foraging opportunities in the immediate vicinity of the study area.

Due to the abundance of foraging opportunities for raptors in the general vicinity of affected areas within Proposed Projects 1 through 4, project-related impacts to raptors resulting from loss of foraging habitat are considered less than significant. Potential project-related impacts to nesting raptor species are addressed above for Cooper's hawk and white-tailed kite. Mitigation Measure 5.5-A12 will reduce potential impacts to raptors and other bird species during their respective breeding seasons to less than significant.

#### Long Term Operational Impacts

The treatment plant site for Proposed Project 1 could result in potential significant indirect long-term operational impacts to special status species. Wastewater facilities are a common feature of urban environments and generally are not considered to pose significant hazards. Operation and maintenance requirements of the treatment plant site will be routine and limited, and would not extend beyond the boundaries of developments. There are special status species that could occur in the immediate vicinity of the treatment plant site that have a potential to be adversely affected or indirectly impacted by operation and maintenance activities.

If not properly constructed, operated, and maintained, there is the potential for leakage in the treatment facility elements that will handle raw waste, releasing untreated sewage into the environment. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### Disposal Sites

The disposal sites component for Proposed Projects 1 through 4 will include two separate methodologies at two separate locations. These entail the use of leachfield methodologies within 8-

acres of the Broderson property, and sprayfield methodologies within 175-acres on the Tonini property. The proposed location for leachfields on the Broderson property is unchanged for all Proposed Projects. The proposed locations for the sprayfields on the Tonini property are unchanged for Proposed Projects 1 through 3; however, sprayfields locations for Proposed Project 4 may be displaced as a result of the treatment plant site location.

For all Proposed Projects, the Broderson property is the only potential leachfield site that benefits the groundwater water balance of restoration of the upper and lower aquifers (with the added benefit of mitigating saltwater intrusion). The site would be accessed by a gravel road that extends south from the south end of Broderson Avenue. The leachfields would be surrounded by fencing to limit public access. The entire Broderson site is approximately 81-acres while the leachfields would occupy a rectangular area covering approximately 8-acres. The area would need to be excavated to an average depth of 6.5 feet during construction. It would then be re-graded and soil would be retained or carried to offsite locations. The leachfields would consist of a 4-foot depth of gravel for drainage, covered by a geotextile fabric, and then there would be at least 2.5 feet of native soil backfill. The percolation piping would consist of 4-inch perforated PVC pipe laid with the perforations facing upwards, one foot below the geotextile fabric layer. If the pores beneath the leachfield became clogged over time, the leachfield would need to be excavated and the ground beneath it ripped or disked. The estimated frequency of ripping maintenance ranges from once every 5 to every 10 years.

For all Proposed Projects, the Tonini property has been identified as the primary site under consideration for sprayfield disposal. Water from the treatment facility would be pumped to the Tonini property through a pressurized pipeline. The irrigation lines to spray heads would be buried less than two feet below grade. Spray heads would be detachable and approximately three feet tall. They would rotate and spray water out to a radius of approximately 15 feet and be placed at approximately 30-foot increments. A drain would be constructed at the bottom of the sprayfield slopes to collect the tailwater, and a pump would be required to reapply the water. The sprayfield area would be fenced off to prevent public contact with the water. Nutrient management to prevent nitrates in the groundwater may be required and would consist of harvesting the grass grown in the field a few times over the course of a year.

Impacts associated with the development of leachfields for all Proposed Projects on the Broderson property include land that is primarily characterized by coastal sage scrub that contain elements of both Coastal Dune Scrub (Holland 1986) and California sagebrush – black sage series (Sawyer and Keeler-Wolf 1995). Impacts associated with the development of sprayfields for all Proposed Projects on the Tonini property include land that is primarily characterized by extensive agriculture.

#### Short Term Construction Impacts

The disposal sites for all Proposed Projects 1 through 4 could result in significant direct and indirect short-term construction impacts to special status species and their habitat. The following provides a

project-specific impact analysis of the short-term construction impacts on special status plant and wildlife species and their habitat for the disposal sites component of Proposed Project 1.

- ***Special Status Plant Species***

The disposal sites component of Proposed Project 1 could result in significant direct and indirect impacts to special status plant and lichen species during project construction associated with the leachfields on the Broderson property, including Morro manzanita, Monterey spineflower, Blochman leafy daisy, saint's daisy, Indian Knob mountainbalm, San Luis Obispo wallflower, curly-leafed monardella, and dune almond, and the non-vascular lichens; spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen.

- ***Morro Manzanita, Monterey Spineflower, and Indian Knob Mountainbalm***

Morro manzanita and Monterey spineflower are federally threatened species protected under the FESA, and Indian knob mountainbalm is a federally endangered and state endangered species protected under the FESA and CESA. These species are also on a watch list of plant species and given a sensitivity ranking by the CNPS. Morro manzanita, Monterey spineflower, and Indian knob mountainbalm are CNPS List 1B.1, List 1B.2, and List 1B.1 plant species, respectively. In general, species listed as a federally endangered species are generally those species considered in danger of extinction throughout all or a significant portion of their entire known range. Species listed as a federally threatened species are those species considered likely to become an endangered species within the foreseeable future throughout all or a significant portion of their entire known range. State endangered species are in danger of extinction throughout all or a significant portion of their known range within the State of California.

The distribution of Morro manzanita is correlated with the presence of Baywood fine sandy soils and stabilized sand dunes in western San Luis Obispo County (CNDDDB 2008, LOCSD 2005). This species is most often associated with coastal scrub, maritime chaparral, and coast live oak woodlands within a variety of slopes. This species is narrowly distributed along the coast in western San Luis Obispo County, from Morro Bay to just south of Hazard Canyon (LOCSD 2005). Pure, dense stands of this species are known within the north-facing slopes of the Irish Hills, with scattered and isolated occurrences known within the central maritime chaparral and coast live oak habitat on the Broderson property, as well as other locations in the community of Los Osos that are supported by Baywood fine sands (CNDDDB 2008, LOCSD 2005, Holland and Keil 1985).

In the local area, Monterey spineflower is relatively uncommon and has been seldom reported within coastal dunes and open coastal scrub habitat supported by windblown sands. Specifically, this species has been previously observed and recorded at locations in the northern portions of the Broderson property (Holland and Keil 1985).



Indian knob mountainbalm is highly restricted to a limited area within and around the community of Los Osos. This species co-occurs with Morro manzanita in several locations within maritime chaparral habitat. Five of six extant stands occur within a few square miles of one another south of the community of Los Osos and north of Montana De Oro State Park (LOCSO 2005). Specifically, this species has been documented within the undeveloped north-facing slopes containing Baywood fine sands and ancient weathered dune soils in the vicinity of the Broderson property (CNDDDB 2008, LOCSO 2005, Holland and Keil 1985).

The disposal sites component of Proposed Project 1, and specifically the development of leachfields, could result in significant direct impacts to these species through direct take of individuals on the Broderson property, and indirect impacts to these species through habitat removal on the Broderson property. Mitigation measures 5.5-A1, 5.5-A2, 5.5-A3, 5.5-A13, 5.5-A15, and 5.5-A16 will reduce potential impacts to this species to less than significant.

- ***Blochman Leafy Daisy, Saint's Daisy, San Luis Obispo Wallflower, Curley-Leafed Monardella, and Dune Almond***

Blochman leafy daisy is a CNPS List 1B.2 plant, saint's daisy, San Luis Obispo wallflower, and curly-leafed monardella are CNPS List 4.2 plant species, and dune almond is a CNPS List 4.3 plant species. These plant species is not federally or state listed, however are on the watch list of plant species and given a sensitivity ranking by the CNPS.

In the local area, Blochman leafy daisy, saint's daisy, San Luis Obispo wallflower, curly-leafed monardella, and dune almond generally occur within coastal sage scrub and coastal dune scrub habitats that are supported by sandy soils (including Baywood fine sandy soils). Two recorded occurrences of Blochman leafy daisy have been documented in previous botanical survey reports prepared for the South Bay (Los Osos) Wastewater Treatment Facility at locations in the northern portions of the Broderson property (Holland and Keil 1985). Additional observations have been recorded in the local vicinity in Morro Dunes Ecological Reserve and within Montana De Oro State Park (Holland and Keil 1985, LOCSO 2005, CNDDDB 2008). Saint's daisy has been documented as occurring in low densities within the coastal sage scrub/coastal dune scrub habitat within Morro Dune Ecological Reserve adjacent to the Broderson property (Holland and Keil 1985). San Luis Obispo wallflower have been observed and recorded in low densities within the northwestern portions of the Broderson property (Holland and Keil 1985, LOCSO 2005). Curley-leafed monardella has been observed in low densities in the southern portion of the Broderson property (Holland and Keil 1985, LOCSO 2005). Dune almond has been previously observed and recorded in low densities at locations in the northern portions of the Broderson property, and to the immediate east within Morro Dune Ecological Reserve (Holland and Keil 1985).

Impacts to these species and their habitat would be limited to the removal of 8-acres of suitable habitat, and the potential removal of occupied habitat containing a limited number of individuals. Individuals potentially occurring within the proposed 8-acre impact area would

not likely represent a substantial percentage of the overall populations of these species, and their removal would not likely jeopardize or pose a substantial threat to the survival or recovery of the overall populations of these species. Therefore, impacts to these species and their habitat are considered less than significant. For all Proposed Projects 1 through 4, mitigation measures 5.5-A14, 5.5-A15, and 5.5-A16 will further reduce potential impacts to CNPS listed plant species.

- ***Spiraled Old Man’s Beard, Los Osos Black and White Lichen, Long-Fringed Parmotrema, and Splitting Yarn Lichen***

The spiraled old man’s beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen are sensitive narrow endemic non-vascular species in the local area. These species generally occur on the bark and twigs of trees and older shrubs in coast live oak woodland, chaparral, and coastal sage scrub habitats. Despite these lichens being considered locally sensitive, only a single species, splitting yarn lichen, has been given a heritage ranking. Splitting yarn lichen has been given a Global ranking of G1 (less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000-acres throughout its global range) and a State ranking of S1.1 (very threatened with less than 6 viable element occurrences or less than 1,000 individuals or less than 2,000-acres throughout its state range). There are a few lichens in California for which the wildlife agencies have adequate information to place them on the list of “special taxa.” The status of a lichen species is developed in coordination with the California Lichen Society (CALs) and relevant experts (CDFG 2008).

Because these non-listed species have no legal protection under federal and state endangered species laws, and due to the fact that potential impacts to these species would be limited to the removal of 8-acres of potential habitat on the Broderson property, potential impacts are considered less than significant. For all Proposed Projects 1 through 4, mitigation measures 5.5-A14, 5.5-A15, and 5.5-A16 will further reduce potential impacts to sensitive lichen species.

- ***Special Status Wildlife Species***

The disposal sites component of Proposed Project 1 could result in significant direct and indirect impacts to special status wildlife species during project construction associated with the leachfields on the Broderson property, including Morro shoulderband snail, Morro Bay kangaroo rat, monarch butterfly, and Morro Bay blue butterfly.

- ***Morro Shoulderband Snail***

A detailed discussion of this species recovery status and biological requirements is provided above in the collection system impact discussion of Impact 5.5-A.

The disposal site component of Proposed Project 1 could result in significant impacts to Morro shoulderband snail habitat. The area proposed for leachfields on the Broderson property as part of the disposal sites component occur within USFWS-designated Critical Habitat Unit 2 for this species. The leachfield area contains all of the primary constituent elements that have been identified for this species’ critical habitat, and are considered habitat areas of high value

to the long-term survival and recovery of the species. Therefore, impacts to Morro shoulderband snail habitat resulting from the disposal site component of all Proposed Projects, including land within Critical Habitat Unit 2 for this species, would be considered significant. For all Proposed Projects, Mitigation Measures 5.5-A1, 5.5-A3, 5.5-A4, 5.5-A15, and 5.5-A16 will reduce impacts to this species habitat to less than significant.

The disposal site component of Proposed Project 1 could result in significant direct impacts to this species. The Broderson property is currently known to support the primary constituent elements for this species habitat and individuals of this species (LOCSD 2005, Morro Group 2005, X, pers. comm. Bob Sloan). As a mitigation measure and condition for the previous wastewater project, a total of 5 days of preconstruction surveys for this species were conducted at the proposed leachfield site on the Broderson property in August 2005. Four live adult Morro shoulderband snails were found and relocated to suitable coastal scrub habitat adjacent to the Broderson leachfield area, on property owned by the Los Osos Community Services District (Morro Group 2005). Additionally, a total of 58 empty adult Morro shoulderband snail shells and 14 empty juvenile Morro shoulderband snail shells were found and removed from the site (Morro Group 2005).

Without knowing the exact number and without comprehensive presence or absence data on the Broderson property, but based on existing data from previous efforts, the Broderson leachfield site currently supports this species, and a potential encounter with the species could result during construction activities. Therefore, the disposal site component of Proposed Project 1 could result in a significant direct impact on this species during construction. Mitigation measures 5.5-A1, 5.5-A3, 5.5-A4, 5.5-A15, and 5.5-A16 will reduce potential impacts to this species to less than significant.

- ***Morro Bay Kangaroo Rat***

The Morro Bay kangaroo rat is a federally-endangered and California State-endangered species whose historical range is highly restricted to areas within the community of Los Osos and within Montana De Oro State Park (LOCSD 2005, USFWS 2005, USFWS 1999). In 2000, the USFWS released the Draft Revised Recovery Plan for this species that detailed its current status and distribution, and conservation objectives for the recovery and delisting of this species from endangered levels (USFWS 1999). USFWS has designated critical habitat for this species within areas along the coast in the northwestern portion of Montana De Oro State Park (USFWS 1999). This species optimum habitat consists of early successional coastal sage scrub habitat supported by old, stabilized dune terraces mapped with Baywood fine sandy soils. Optimum vegetation includes herbaceous annuals with scattered native woody perennial shrubs no more than 2 feet in height.

The Morro bay kangaroo rat has not been detected despite numerous survey efforts since the early 1990s (CNDDDB 2008, LOCSD 2005, USFWS 2005). In 1990, Morro Bay kangaroo rats were last documented in the wild when diagnostic sign was detected within what is known as

the Bayview property in the community of Los Osos, south of Highland Drive and between Broderson Avenue and Baywood Drive (USFWS 2005). This included property later purchased in part for preservation of this species habitat by the Los Osos Greenbelt Alliance and CDFG, and in the vicinity of the current location of the Morro Dunes Ecological Reserve (LOCSD 2005, Villablanca 2004). Other recorded occurrences are from 1985 or earlier, and many include areas outside of the community of Los Osos within Montana De Oro State Park (CNDDDB 2008, LOCSD 2005, USFWS 2005).

In 1997 and 2000, visual surveys for Morro bay kangaroo rat were conducted within a 12-acre portion of the Broderson property, including land that is currently proposed for leachfields as part of the disposal sites for all Proposed Projects 1 through 4; however, no evidence of this species was observed (USFWS 2005). Repeated surveys of the adjacent Bayview property were also conducted for this species in 2000, 2001, and 2002 that yielded negative results (USFWS 2005). This included surveys in 2002 according to USFWS and CDFG protocol. After reviewing the findings of collective survey efforts, the USFWS in their Biological Opinion for the Los Osos Wastewater Project dated April 20, 2005 stated that the project, which had included an 8-acre leachfield development on the Broderson property, is not likely to adversely affect the Morro Bay kangaroo rat or its critical habitat (USFWS 2005). As a mitigation measure and condition for the previous wastewater project, preconstruction surveys for this species were conducted on the Broderson and Mid-Town properties at the proposed leachfields and treatment facility locations. No sign of Morro Bay kangaroo rats were detected at either property during pedestrian survey efforts in April and June 2004, or June 2005, and habitat within these areas at that time were determined to be unsuitable due to lack of appropriate vegetation characteristics (Villablanca 2004, 2005).

Many previous survey efforts and determinations made by the USFWS in their Biological Opinion in 2005 indicate that this species is not likely to occur within any portions of the impact areas for all Proposed Projects 1 through 4. However, every effort should be made toward the recovery of this endangered kangaroo rat, and any potential impact to this species that could result from a proposed project would be considered significant. Marginal habitat for this species currently exists within the leachfield area on the Broderson property, therefore all proposed Projects could result in potential significant impacts to this species and its habitat if this species is detected on or in the immediate vicinity of the proposed impact areas. Mitigation measures 5.5-A1, 5.5-A2, 5.5-A3, 5.5-A5, 5.5-A15, and 5.5-A16 would reduce potential impacts to this species and its habitat to less than significant.

- ***California Red-Legged Frog***

A detailed discussion of this species recovery status and biological requirements is provided above in the collection system impact discussion of Impact 5.5-A.

The disposal site component of all Proposed Projects could result in potential impacts to California red-legged frog and its habitat during project construction of the proposed

sprayfields. Installation of the sprayfields would occur in the vicinity of occupied habitat for the California red-legged frog. Areas that are proposed for the sprayfield will be setback a minimum of 100 feet from occupied habitat and other sensitive resource areas. Mitigation measure 5.5-A8 would reduce potential construction-related impacts to this species and its habitat to less than significant. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts. Implementation of the avoidance measures and construction BMPs would further reduce potential impacts.

- ***Monarch Butterfly***

Monarch butterfly winter roosting sites are designated as a “threatened phenomenon” by the CDFG. Overwintering habitats, as opposed to autumnal habitats, are identified by monarchs using them on a continuous and regular basis as overnight roosting habitats throughout their entire wintering cycle. Both types of habitats, autumnal and overwintering, are occupied simultaneously early in the wintering cycle (October-late November). A number of sites in the Los Osos area have been documented as supporting winter roost sites including a eucalyptus grove in the Skyline Grove area near the intersection of Doris Avenue, a site at West Woodland Avenue at the terminus of Monarch Lane, and in Sweet Springs Marsh north of Ramona (CNDDDB 2008, LOCSD 2005).

As a mitigation measure and condition for the previous wastewater project, preconstruction surveys for winter roosting monarchs and overwintering habitat were conducted on the Broderson and Mid-Town properties at the proposed leachfields and treatment facility locations. No roosting clusters of monarch butterflies were found on the Broderson or Mid-Town properties during the site visits conducted in February 2004 (Morro Group 2004). Historical records from four different sources also supported this finding at the time (Morro Group 2004). It was determined that the Broderson property may be used as autumnal sites, where monarchs roost temporarily early in the season (October-late November) before selectively aggregating in large numbers at a smaller subset of wintering sites (December-February) (Morro Group 2004).

The stands of eucalyptus and cypress trees that had previously been surveyed in 2004 remain only on the Broderson property, therefore potential winter roosting habitat still remains, and all Proposed Projects 1 through 4 could result in potential significant impacts to this species and its habitat. Mitigation measures 5.5-A9 would reduce potential impacts to this species and its habitat to less than significant.

- ***Morro Bay Blue Butterfly***

The Morro Bay blue butterfly is not federally or State endangered or threatened, or listed as a California State species of special concern. However, this species is considered locally endemic and rare, and has been given a Global heritage rank of G5 and a State rank of S1S3. This species’ Global rank of G5 is considered secure. A State rank of S1S3 indicates this

species exact status is unknown, however ranges from being critically imperiled to vulnerable in California because of extreme rarity (5 or fewer occurrences or less than 1,000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor. This species occupies coastal sage and dune scrub habitats that support the larval host plant species, silver lupine (*Lupinus chamissonis*), and forages within areas that support suitable nectar sources from flowering plants. In 2004, large numbers of this species had been previously observed within the coastal scrub habitat on the Broderson and Mid-Town properties (Morro Group 2004).

As a mitigation measure and condition for the previous wastewater project, an effort was made to survey, capture, and relocate Morro Bay blue butterflies from the proposed impact area on the Mid-Town property to a mitigation site on the Broderson property. The efforts were made based on concurrence with the USFWS and attempted concurrence with the CDFG (Morro Group 2004). The total effort occurred from April to June 2004. Initial surveys were conducted in April 2004 to confirm the advent of this species' adult flight season on both the Broderson and Mid-Town properties. Following initial surveys, six weekly capture and relocation trips were made for this species on the Mid-Town and Broderson properties between May 5, and June 8, 2004 (Morro Group 2004). A total of 228 Morro Bay blue butterflies were relocated from the Mid-Town property to the Broderson property during the effort (Morro Group 2004).

Because both the Broderson and Mid-Town properties still support this species larval host plant (silver lupine) and suitable coastal sage scrub habitat, all proposed Projects 1 through 4 could result in potential significant impacts to this species and its habitat. Mitigation measure 5.5-A10, 5.5-A15, and 5.5-A16 would reduce potential impacts to this species and its habitat to less than significant.

#### Long Term Operational Impacts

The disposal sites for Proposed Project 1 could result in potential significant indirect long-term operational impacts to special status species and their habitat. The following provides a project-specific impact analysis of the long-term operational impacts on special status plant and wildlife species and their habitat for the disposal sites component of Proposed Project 1.

- ***Special Status Plant Species***

The disposal sites component of Proposed Project 1 could result in significant impacts to special status plant species during project operation and maintenance of the leachfield element on the Broderson property. The primary operations and maintenance activities for the leachfield are maintaining the pumps and monitoring the rate at which the discharged treated effluent percolates into the ground. Leachfields often become clogged overtime. About every 5 to 10 years when this happens, the effective flow rate would decrease significantly and the leachfield would need to be excavated. The subsurface ground would be ripped or disked, and then the leachfield would be reconstructed. Excavation, ripping, and disking activities could

result in potential direct impacts to individual species and indirect impacts to loss of habitat. These impacts would be considered significant.

The following includes the special status plant and lichen species that could be adversely affected during operation and maintenance activities of the leachfields on the Broderson property: Morro manzanita, Monterey spineflower, Blochman leafy daisy, saint's daisy, Indian knob mountainbalm, San Luis Obispo wallflower, curly-leafed monardella, dune almond, spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen. A detailed discussion of these species' recovery status and biological requirements is provided above in the construction-related impacts discussion of Impact 5.5-A above. Although it is difficult to predict whether any special status plant species would successfully re-establish themselves within the proposed impact area after leachfield construction, given the fact that the affected area would still support suitable Baywood sandy soils, and the immediate area could provide an adequate seed source for many of these species, there is a potential for natural recruitment to occur after the completion of construction and before subsequent maintenance. Many of the special status species listed above have a very low potential for re-establishment based on their preferred habitat, germination requirements, and poor response to competition from non-native invasive and disturbance-tolerant species.

Pending determinations made during wildlife agency consultation proposed in mitigation measure 5.5-A1 and 5.5-A2, special considerations may be conditioned in the permits for the project that allow for future long-term maintenance and operation to proceed without formal consultation. Preconstruction measures, avoidance measures, and restoration measures are proposed within mitigation measures 5.5-A13, 5.5-A14, and 5.5-A16 that would reduce potential operation and maintenance impacts to special status plant species to less than significant.

- ***Special Status Wildlife Species***

The disposal sites component of Proposed Project 1 could result in significant impacts to special status wildlife species and their habitat during project operation and maintenance of the leachfield element on the Broderson property, and the sprayfield element on the Tonini property.

As discussed above for special status plant species, about every 5 to 10 years the leachfield on the Broderson property would need to be excavated, ripped or disked, and then reconstructed. Excavation, ripping, and disking activities could result in potential direct impacts to individual species and indirect impacts to loss of habitat. These impacts would be considered significant. The following includes the special status wildlife species that could be adversely affected during operation and maintenance activities of the leachfields on the Broderson property: the Morro shoulderband snail, Morro Bay kangaroo rat, and Morro Bay blue butterfly. A detailed discussion of these species' recovery status and biological requirements is provided above in the construction-related impacts discussion of Impact 5.5-A above. At minimum, all of these

special status wildlife species would have the potential to use the leachfield area for foraging. Depending on the degree of plant species recruitment in the affected area, the Morro shoulderband snail and Morro Bay blue butterfly could potentially use the area for breeding and refuge habitat as well. Although less likely due to its current status, the Morro bay kangaroo rat could also potentially use the area for breeding and refuge particularly if individuals are found again or introduced in the vicinity of the property.

Pending determinations made during wildlife agency consultation proposed in mitigation measure 5.5-A1 and 5.5-A2, special considerations may be conditioned in the permits for the project that allow for future long-term maintenance and operation to proceed without formal consultation. Preconstruction measures, avoidance measures, and restoration measures are proposed within mitigation measures 5.5-A13, 5.5-A14, and 5.5-A16 that would reduce potential operation and maintenance impacts to special status plant species to less than significant.

Operation of the sprayfields on the Tonini property could result in potential indirect impacts relating to water quality to the California red-legged frog and its habitat. A detailed discussion of this species recovery status and biological requirements is provided above in the construction-related impacts discussion of Impact 5.5-A above. Based on the result of protocol surveys for this species conducted by MBA in May 2008 (see Appendix G-2's Attachment F, California Red-Legged Frog Protocol Survey Report for the Los Osos Wastewater Project), a total of 9 California red-legged frog specimens were determined to occupy an approximate 2,500-linear feet reach of the largest drainage feature on the Tonini property, herein referred to as T-1. Operation of the sprayfields would occur within the upland areas adjacent to occupied habitat for this species. Areas that are proposed for the sprayfield will be setback a minimum of 100 feet from occupied habitat and other sensitive resource areas. Mitigation measure 5.5-A1, 5.5-A3, 5.5-A7, and 5.5-A8 will reduce potential long-term operation impacts to this species and its habitat to less than significant. Mitigation measures 5.5-C1 through 5.5-C3 would further reduce potential impacts. Project design features and standard conditions relating to water quality discussed in Section 5.3 of the Draft EIR would further reduce potential impacts.

#### *Combined Project Effects*

The construction and operation of the proposed components for the collection system, treatment plant site, and disposal sites for Proposed Project 1 could result in a measurable combined effect on special status species and their habitat. The collection system could result in short-term construction impacts to special status plant and wildlife species through the installation of various components throughout the community of Los Osos and within the ROWs of roads that occur along the proposed alignments. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial alteration of habitat or permanent displacement of most special status species. Treatment plant components could result in short- and long-term impacts to special status



species through the permanent removal of habitat and development of permanent structures in the vicinity of suitable habitat for special status species. The leachfields component on the Broderson property could also result short- and long-term impacts to special status species and their habitat. The combined effects resulting from all components of Proposed Project 1 would be reduced to a less than significant level through the implementation of mitigation measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to special status species and their habitat are fulfilled.

## **Proposed Project 2**

### *Collection System*

The collection system for Proposed Projects 2 through 4 will be similar as Proposed Project 1, with the exception of the additional development of seven pump stations within the Urban Reserve Line, including one within the Mid-Town property, and six within various parcels in the community of Los Osos, as well as twelve pocket pump stations throughout the community of Los Osos. The development of these pump stations could result in potential impacts to special status plant and wildlife species, including the Morro manzanita, Morro shoulderband snail, Morro Bay kangaroo rat, and Morro Bay blue butterfly. Additionally, removal of trees and shrubs during the breeding season could result in impacts to common and sensitive nesting birds and raptors protected under the MBTA and CFG Code. These impacts would be considered significant. Mitigation measures 5.5-A1 through 5.5-A5, 5.5-A10 through 5.5-A13, 5.5-A15, and 5.5-A16 would reduce potential impacts to less than significant. There would also be an unknown amount of reduction in impacts to individual take of Morro shoulderband snail as the need for excavation at private residences would be reduced since STE tanks would not be necessary.

See also impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

### *Treatment Plant Site*

Similar to Proposed Project 1, the treatment plant site for Proposed Project 2 would not result in direct impacts to any special status plant or wildlife species or their habitat. All proposed developments are setback from any habitat for special status species; therefore, no direct impacts are anticipated. The treatment plant site for Proposed Project 2 will occur within 500 feet of suitable nesting habitat and could result in potential indirect impacts during the breeding season to common and sensitive birds and raptors protected under the MBTA and CFG Code. Mitigation measure 5.5-A11 and 5.5-A12 would reduce potential impacts to less than significant.

### *Disposal Sites*

The disposal sites for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1 with the addition of up to an 8-acre permanent loss of agricultural lands on the Tonini

property for the placement of a storage pond. Development of the storage pond for Proposed Project 2 could result in potential impacts to the California red-legged frog and its habitat during construction. All construction access and staging would be restricted to existing disturbed upland areas. Implementation of avoidance measures and construction BMPs would reduce potential impacts to this species to less than significant.

All permanent developments have been sited and designed with adequate setbacks from California red-legged frog habitat and other sensitive resources. The closest developments that are proposed for Proposed Project 2 disposal site include the storage pond, which is located at a minimum of 100 linear feet from portions of drainage T-1 that contain suitable and occupied habitat for this species. With the incorporation of these setbacks in the final siting and design, the disposal site for Proposed Project 2 is not anticipated to result in any adverse effects to the California red-legged frog. See impact analysis and proposed mitigation measures for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Project 1, the construction and operation of the proposed components for the collection system, treatment plant site, and disposal sites for Proposed Project 2 could result in a measurable combined effect on special status species and their habitat. The combined effects resulting from all components of Proposed Project 2 would be reduced to a less than significant level through the implementation of mitigation measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. As with Proposed Project 1, these measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to special status species and their habitat are fulfilled.

### **Proposed Project 3**

#### *Collection System*

The collection system for Proposed Project 3 would be the same as that which is proposed for Proposed Project 2. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 2 above.

#### *Treatment Plant Site*

Similar to Proposed Projects 1 and 2, the treatment plant site for Proposed Project 3 would not result in significant direct impacts to any special status plant or wildlife species or their habitat. All proposed developments are setback from any habitat for special status species; therefore, no direct impacts are anticipated. The treatment plant site for Proposed Project 3 will occur within 500 feet of suitable nesting habitat and could result in potential indirect impacts during the breeding season to common and sensitive birds and raptors protected under the MBTA and CFG Code. Mitigation measure 5.5-A11 and 5.5-A12 would reduce potential impacts to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 3 would be the same as that which is proposed for Proposed Project 1. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1, the construction and operation of the proposed components for the collection system, treatment plant site, and disposal sites for Proposed Project 3 could result in a measurable combined effect on special status species and their habitat. The combined effects resulting from all components of Proposed Project 3 would also be reduced to less than significant levels through the implementation of mitigation measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. As with Proposed Projects 1 and 2, these measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to special status species and their habitat are fulfilled.

### **Proposed Project 4**

#### *Collection System*

The collection system for Proposed Project 4 would be the same as that which is proposed for Proposed Projects 2 and 3, with the exception of an additional crossing of Warden Creek, and two additional crossings of an unnamed drainage feature (herein referred to as drainage T-1). The additional crossings are the result of the raw wastewater pipeline extending from the Mid-Town site along LOVR to the Tonini Property and removal of both the raw wastewater and treated effluent pipelines in and out of the treatment plant sites associated with Proposed Projects 1, 2 and 3. The proposed crossings within Warden Creek and drainage T-1 contain suitable habitat and occupied habitat for the California red-legged frog. Impacts associated with these crossings would be considered significant.

For Proposed Project 4, the crossings of Warden Creek include one for the wastewater conveyance pipeline influent to the treatment facilities, and another for the treated effluent conveyance pipeline out to the leachfield site. Impacts associated with these two crossings would be fundamentally the same as those discussed for conveyance pipelines in Proposed Project 1. Mitigation measure 5.5-A1, 5.5-A3, 5.5-A7, and 5.5-A8 will reduce potential impacts to this species habitat to less than significant. Mitigation measures 5.5-C1 through 5.5-C3 would further reduce potential impacts. Project design features and standard conditions relating to water quality discussed in Section 5.2 and Section 5.3 of the Draft EIR would further reduce potential impacts.

As discussed in the impact analysis for Proposed Project 1, there is the potential for leakage in the wastewater conveyance pipelines for all Proposed Projects consequently releasing untreated sewage downstream into areas supporting this species and its habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section

5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

See also impact analysis and proposed mitigation measures regarding potential collection system impacts to California red-legged frog for Proposed Project 1.

#### *Treatment Plant Site*

Development of the treatment plant site for Proposed Project 4 could result in potential impacts to the California red-legged frog and its habitat during construction. All construction access and staging would be restricted to existing disturbed upland areas. Implementation of avoidance measures and construction BMPs would reduce potential impacts to this species to less than significant.

All permanent developments have been sited and designed with adequate setbacks from California red-legged frog habitat and other sensitive resources. The closest developments that are proposed for Proposed Project 4 include the appurtenance facilities, which are located at a minimum of 100 linear feet from portions of drainage T-1 that contain suitable and occupied habitat for this species. With the incorporation of these setbacks in the final siting and design, the treatment plant site for Proposed Project 4 is not anticipated to result in any adverse affects to the California red-legged frog.

As discussed in the impact analysis for Proposed Project 1, there is the potential for leakage in the treatment facility elements for all Proposed Projects consequently releasing untreated sewage downstream into areas supporting this species habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 4 would be essentially the same as that which is proposed for Proposed Projects 1 through 3, with the exception of a minor change in the location of the sprayfields in order to accommodate the treatment plant site. The location of sprayfields would still incorporate the minimum required setbacks (100 feet) from any sensitive resources. Project 4 would have up to an 8-acre permanent loss of agricultural lands on the Tonini property for the placement of a storage pond. Development of the storage pond for Proposed Project 4 could result in potential impacts to the California red-legged frog and its habitat during construction. All construction access and staging would be restricted to existing disturbed upland areas. Implementation of avoidance measures and construction BMPs would reduce potential impacts to this species to less than significant.

All permanent developments have been sited and designed with adequate setbacks from California red-legged frog habitat and other sensitive resources. The closest developments that are proposed for Proposed Project 4 disposal site include the storage pond, which is located at a minimum of 100 linear feet from portions of drainage T-1 that contain suitable and occupied habitat for this species. With the incorporation of these setbacks in the final siting and design, the disposal site for Proposed

Project 4 is not anticipated to result in any adverse affects to the California red-legged frog. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

*Combined Project Effects*

Similar to Proposed Projects 1 through 3, the construction and operation of the proposed components for the collection system, treatment plant site, and disposal sites for Proposed Project 4 could result in a measurable combined effect on special status species and their habitat. The combined effects resulting from all components of Proposed Project 4 would also be reduced to less than significant levels through the implementation of mitigation measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. As with Proposed Projects 1 through 3, these measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to special status species and their habitat are fulfilled.

**Cumulative Impact Analysis**

Cumulative impacts consider the effects of past, present, and reasonably foreseeable projects with regard to biological resources within the cumulative study area. Since a moratorium on growth was imposed on the community of Los Osos in 1988, there has been a limitation on the number and type of projects approved within the community. As a result of the moratorium and the subsequent reduction in developments, past impacts to biological resources would have been limited, and any potential impacts resulting from current and future projects are expected to be limited until the moratorium is lifted. Section 4 of the Draft EIR provides a discussion of the cumulative setting for all Proposed Projects, and Table 4-1 provides a list of projects that were considered for the cumulative impact analysis.

Of the projects considered for the cumulative impacts analysis, the Los Osos Valley Road Palisades Storm Drain project represents the only project with a considerable effect on special status species that is relevant to the Proposed Projects. The Los Osos Valley Road Palisades Storm Drain project involves the installation of a storm drain beneath Los Osos Valley Road from Bush Street to Palisades Avenue within the community of Los Osos. This project was determined to have a potential significant effect on the Morro shoulderband snail through the removal of suitable habitat and potential take of individuals. Surveys are currently underway to confirm the presence of this species within the proposed storm drain alignment, and measures will be implemented for the avoidance and minimization of potential impacts to this species if it confirmed to occupy the area.

Similar to the Los Osos Valley Road Palisades Storm Drain project, the collection system and leachfield component of all Proposed Projects 1 through 4 were also determined to have potential significant effects on the Morro shoulderband snail through the removal of habitat and potential take of individuals. When considered with the Los Osos Valley Road Palisades Storm Drain project impacts, the potential impacts to this species as a result of the collection system and leachfields

components for all Proposed Projects are cumulatively considerable and could be significant. For all Proposed Projects, implementation of Mitigation Measures 5.5-A1, 5.5-A3, 5.5-A4, 5.5-A15, and 5.5-A16 would reduce potential cumulative impacts to the Morro shoulderband snail to less than significant.

## **Mitigation Measures**

### **Project-Specific**

#### *Proposed Project 1*

##### Wildlife Agency Consultation - USFWS

**5.5-A1** The proposed project may result in take of federally listed species and their habitat. Prior to project approval, the County shall enter into formal consultation with the USFWS and NMFS. A Biological Opinion (BO) will be prepared by the USFWS and NMFS for any proposed action which may result in potential take of a listed species and its habitat. Pending the determinations made by the USFWS and NMFS in a forthcoming BO, the proposed project will be required to fulfill all mitigation obligations and conservation measures conditioned in the BO regarding federally-listed species and their habitat. This will include preconstruction survey and avoidance measures, and compensatory mitigation for loss of occupied habitat to be incorporated and implemented prior to project development.

Specific avoidance measures, preconstruction survey requirements, and mitigation measures, if required, will be provided by the USFWS through Section 7 (or possibly Section 10) consultation with regard to federally-listed species.

##### Wildlife Agency Consultation - CDFG

**5.5-A2** The proposed project may result in take of California state listed species and their habitat. Prior to project approval, the County shall enter into formal consultation with the CDFG to obtain a Memorandum of Understanding (MOU) and Management Authorization (MA) pursuant to Section 2050 et seq. of the CFG Code. Development of an MOU/MA for the project would be based upon the formal consultation with the USFWS and NMFS, and a forthcoming BO for the proposed action. The project will be required to fulfill all responsibilities in the project MOU/MA regarding any state-listed species and their habitat. Responsibilities will include preconstruction survey and avoidance measures, and compensatory mitigation for loss of occupied habitat to be incorporated and implemented prior to project development.

Specific avoidance measures, preconstruction survey requirements, and mitigation measures, if required, will be provided by the CDFG through formal consultation with regard to state-listed and fully protected species.

##### Worker Education Program for Listed Species

**5.5-A3** A worker education program and clearly defined operations procedures shall be prepared prior to project construction. The worker education program and operations

procedures shall be implemented by the County throughout the duration of construction. A biologist approved by the USFWS shall be retained to provide construction personnel specific instruction on general detection and avoidance of sensitive resources during construction. The worker education program shall include: descriptions and pictures of listed species; the provisions of the Endangered Species Act; those specific measures being implemented to conserve listed species as they relate to the project; and the project boundaries within which the work will occur.

Morro Shoulderband Snail

**5.5-A4**

Prior to project approval, a biologist authorized by the USFWS shall conduct intensive surveys to identify and relocate all snail specimens within the proposed impact area on the Broderon and Mid-Town properties, and all suitable habitat areas within the proposed collection system. Only USFWS authorized biologists shall survey for, monitor, handle, or relocate Morro shoulderband snails.

A biologist authorized by the USFWS shall be retained to monitor all construction activities that will take place within suitable habitat for the Morro shoulderband snail. Monitoring activities shall be required daily until completion of initial disturbance at each construction area. The monitoring biologist shall be granted full authority to stop work at his or her discretion. The monitoring biologist shall be responsible for implementing avoidance and minimization measures during construction. The monitoring biologist shall stop work if project-related activities occur outside the demarcated boundaries of the construction footprint. The monitoring biologist shall stop work if any Morro shoulderband snails are detected within the proposed construction footprint, and shall implement measures to relocate them to suitable habitat out of harms way prior to construction activities resuming. If no suitable habitat opportunities are available in the immediate vicinity of the construction footprint, salvaged and relocated specimens may also be transported to an offsite location approved by the USFWS.

The County shall provide a written report to USFWS within 90 days following the completion of the proposed project. The report must document the number of Morro shoulderband snails removed and relocated from project areas, the locations of all Morro shoulderband snails' relocations, and the number of Morro shoulderband snails known to be killed or injured. The report shall contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys, observations, and any other pertinent information such as the acreages affected and restored, or undergoing restoration, of each habitat type.

Morro Bay Kangaroo Rat

**5.5-A5**

Prior to project construction and pending determinations made by the USFWS, a biologist permitted by the USFWS shall conduct protocol trapping surveys for the

Morro Bay kangaroo rat within all suitable habitat that occurs on and in the immediate vicinity of the proposed impact area. Protocol trapping efforts shall be conducted in coordination with the USFWS, CDFG, and the Endangered Species Recovery Program (ESRP), and all trapped specimens shall be retained for consideration of captive breeding by the USFWS, ESRP or other agency responsible for the recovery of extremely endangered species.

## Southern Steelhead

**5.5-A6**

Additional specific avoidance measures, preconstruction survey requirements, and mitigation measures, if required, shall be provided by the USFWS and NMFS consultation with regard to southern steelhead. Any impacts within Los Osos Creek shall be minimized to the maximum extent feasible. If the project proposes to use open-cut trenching or bridge suspension methods for installation of the conveyance pipeline system, the project shall perform all construction associated with the crossing of Los Osos Creek during the dry months when the creek bed is entirely dry and there is no sign of standing water. Project activities shall be required to occur during times when there is the least potential for southern steelhead to occur in Los Osos Creek (July - September).

If project construction is to occur within any portions of Los Osos Creek or any adjacent upland areas within 100 feet of the Creek, the project shall implement erosion, sediment, material stockpile, and dust control Best Management Practices (BMPs) at all times during construction to minimize the potential for fill or runoff to enter Los Osos Creek. Construction vehicles shall be restricted within Los Osos Creek to the maximum extent feasible required for either open-cut trenching or bridge suspension methods. All construction equipment shall be maintained to prevent leaks of fuel, lubricants, or other fluids into Los Osos Creek. Service and re-fueling procedures shall be restricted to disturbed or developed upland areas at least 50 feet from Los Osos Creek to prevent potential spills of hazardous materials. The project shall confine all heavy equipment, vehicles, and construction work to approved roads and work areas around Los Osos Creek. Stream channel work for open-cut trenching or activities associated with pipe suspension shall limit disturbance to Los Osos Creek to what is necessary for construction. If the project proposes to use HDD methods, the project shall implement a frac-out contingency plan to manage the inadvertent release of any drilling muds into Los Osos Creek.

All project work areas within and around Los Osos Creek shall be restored to pre-existing contours upon completion of work. Any impacts to riparian and wetland habitat shall be mitigated for through replacement mitigation at a set ratio as determined through consultation with the regulatory and wildlife agencies. Where



the mitigation requirements of separate policy under the CZLUO, or the requirements of the USACE, RWQCB, and CDFG or other agency with jurisdiction over an area are different, the more restrictive regulations shall apply.

**5.5-A7** Implementation of trenchless technologies shall be considered as a feasible option for the installation of conveyance pipelines within and adjacent to areas containing wetlands, streams, and riparian vegetation. Trenchless technologies that are feasible for all Proposed Projects include microtunneling and horizontal directional drilling (HDD) within all areas along the proposed conveyance routes, and pipe suspension at areas supporting existing bridge crossings along the proposed conveyance routes (at the Los Osos Creek and Warden Creek crossings).

Microtunneling and HDD entrance and exit locations shall be set back as far away from wetlands, streams, and riparian vegetation as feasible and consistent with the setback requirements of the CZLUO. Implementation of microtunneling and HDD methodologies shall incorporate a frac-out contingency plan and all relevant Best Management Practices during construction.

Maintenance activities associated with pipe suspension that may result in activity within the streambed of Los Osos Creek shall be restricted to periods when the streambed is dry and does not support any flowing water or pooling water in the proposed maintenance area.

California Red-Legged Frog

**5.5-A8** Additional specific avoidance measures, preconstruction survey requirements, and mitigation measures, if required, will be provided by the USFWS consultation with regard to California red-legged frog.

Prior to project construction, the County shall retain a qualified biologist to conduct pre-construction surveys for the California red-legged frog according to protocol approved by the USFWS. Surveys shall be conducted within all areas that are determined to contain suitable breeding habitat for this species and that occur within 100 feet of proposed construction, or at a distance determined through USFWS consultation. These areas shall include the following: wetlands within the community of Los Osos; tributaries T-1 and T-2 to Warden Creek on the Tonini property; tributaries W-3, W-4, W-5, W-5a, and W-5b to Warden Creek along the Los Osos Valley Road right-of-way; Warden Creek at the Turri Road crossing; Warden Lake on the Branin property; tributaries W-1 and W-2 to Warden Creek on the Giacomazzi property, and Los Osos Creek at the Los Osos Valley Road crossing.

All areas that are determined to be occupied by California red-legged frog shall be avoided during all phases of the proposed project unless authorized and permitted by

the USFWS. Construction avoidance and minimization measures will be required for all activities within or adjacent to suitable breeding habitat for this species, as determined through USFWS consultation.

Additional conservation measures may be determined through the USFWS consultation.

Monarch Butterfly

**5.5-A9**

The proposed project shall avoid monarch butterfly winter roost habitat where feasible. If the proposed project will impact potential winter roost habitat, a qualified biologist with expertise in positively identifying the monarch butterfly and winter roosting behavior shall conduct preconstruction surveys within all suitable habitat that occurs within the proposed impact area during the months of October through February. All potential roost sites that have a potential to be impacted as a result of construction activities shall be fenced and avoided. No construction activities shall be permitted in the vicinity (within 500 feet) of potential roost sites during the winter roosting months.

Morro Bay Blue Butterfly

**5.5-A10**

Construction activities on the Broderson and Mid-Town properties shall be conducted in conjunction with relocation efforts for the Morro Bay blue butterfly. Prior to construction activities on the Broderson and Mid-Town properties, a qualified biologist shall be retained to conduct relocation efforts for the Morro Bay blue butterfly. Relocation efforts shall include multiple capture and transport surveys of adult Morro Bay blue butterflies throughout the adult flight season (April to June), or according to other protocol recommended for similar blue butterfly species. Adult Morro Bay blue butterflies shall be relocated from the proposed impact areas within the Broderson and Mid-Town properties to offsite locations to prevent any egg-laying and subsequent development of generation larvae within the proposed impact area. Construction activities shall commence immediately following the completion of the relocation activities. Prior to construction, all potential larval host plants in the immediate vicinity of the proposed impact area shall be fenced and avoided.

Nesting Birds

**5.5-A11**

If the removal or trimming of any trees or shrubs is proposed during the general bird breeding season (February 1 through August 31), a pre-construction survey shall be conducted by a qualified biologist within 10 calendar days prior to grading activities within any project impact area to identify all active nests in areas impacted throughout project construction and implementation. If an active nest is identified during the pre-construction survey, no construction activity shall take place within a minimum of 250 feet of any active nest until the young have fledged (as determined

by a qualified biologist) and/or the nest is no longer determined to be active. Construction activity in the vicinity of any active nest shall be conducted at the discretion of a qualified monitoring biologist. For sensitive species, including Allen's hummingbird, yellow warbler, and loggerhead shrike, the distance and placement of the construction avoidance area shall be a minimum of 250 feet unless otherwise determined through consultation with the CDFG.

Nesting Raptors

**5.5-A12**

If the removal or trimming of any trees or shrubs is proposed during the general raptor breeding season (April 1 through July 31), a pre-construction survey shall be conducted by a qualified biologist within 10 calendar days prior to grading activities within any project impact area to identify all active raptor nests in areas impacted throughout project construction and implementation. If an active raptor nest is identified during the pre-construction survey, no construction activity shall take place within a minimum of 500 feet of any active raptor nest until the young have fledged (as determined by a qualified biologist) and/or the nest is no longer determined to be active. Construction activity in the vicinity of any active nest shall be conducted at the discretion of a qualified monitoring biologist.

Pursuant to Section 2050 of the CFG Code, the CDFG will not permit any impacts to the California state fully protected raptor white-tailed kite. If an active nest or breeding territory is detected during preconstruction surveys for nesting birds, no construction activities shall take place within 500 feet of the location of the active nest. The area shall be completely avoided and fenced to allow for an adequate buffer from construction activities. A qualified biologist shall be retained to monitor the activity of the nest during the breeding season until it is determined that the nest is no longer active (i.e. all young have fledged the nest and are no individual kites are dependent on the nest).

Morro Manzanita, Monterey Spineflower, and Indian Knob Mountainbalm

**5.5-A13**

Prior to project construction and within all areas on the Broderson and Mid-Town properties that contain suitable habitat for Morro manzanita, Monterey spineflower, and Indian knob mountainbalm, a qualified biologist approved by the USFWS shall conduct botanical surveys to identify all sensitive plant species within and in the immediate vicinity of the proposed impact area. Surveys shall be conducted during the local blooming periods for each species and according to recommendations and guidelines prepared by the CDFG and CNPS. All specimens shall be clearly demarcated with flagging, and avoided to the maximum extent feasible during construction. A qualified monitoring biologist shall be retained to monitor all construction activities in the immediate vicinity (within 100 feet) of any flagged specimens.

Any impacts that are proposed to the Morro manzanita, Monterey spineflower, and Indian knob mountainbalm shall proceed according to stipulations determined through wildlife agency consultation. Mitigation for Morro manzanita shall include replacement at a minimum ratio of 5:1, unless determined otherwise during wildlife agency consultation. Transplantation and relocation of salvaged specimens, if appropriate and feasible, should be considered during wildlife agency consultation. Salvaged specimens should be transported to an offsite location that is approved by the USFWS, and should be assessed against survival and reproduction success criteria according to a mitigation monitoring plan.

The County shall provide a written report to USFWS within 90 days following the completion of the proposed project. The report must document the number of Morro manzanita, Monterey spineflower, and Indian knob mountainbalm removed and relocated from project areas, the locations of all Morro manzanita, Monterey spineflower, and Indian knob mountainbalm relocations, and the number of Morro manzanita, Monterey spineflower, and Indian knob mountainbalm known to be dead or damaged. The report shall contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys, observations, and any other pertinent information such as the acreages affected and restored, or undergoing restoration, of each habitat type.

#### Non-Listed Plant and Lichen Species

##### 5.5-A14

The proposed project should minimize to the maximum extent feasible any potential impacts to non-listed plant and lichen species designated as sensitive by the CNPS, including Blochman leafy daisy, saint's daisy, San Luis Obispo wallflower, curly-leafed monardella, dune almond, spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen. A qualified biologist shall conduct botanical surveys within suitable coastal sage scrub habitat on the Broderson and Mid-Town properties to identify all sensitive plant and lichen species within and in the immediate vicinity of the proposed impact area. Surveys shall be conducted during the local blooming periods for each species, where applicable, and according to recommendations and guidelines prepared by the CDFG and CNPS. All specimens shall be clearly demarcated with flagging and avoided to the maximum extent feasible during construction.

#### Compensatory Mitigation

##### 5.5-A15

Prior to project construction, land containing coastal sage scrub habitat and/or other habitat shall be acquired on the Broderson property that is sufficient to compensate the loss of habitat for the Morro shoulderband snail, the Morro Bay kangaroo rat, and other sensitive species on the Broderson and Mid-Town properties, and areas in the community of Los Osos that will be served by the collection system. Mitigation

lands for the proposed project shall be acquired within the remaining acres of land on the Broderson property that will not be impacted by the proposed leachfields.

Mitigation lands within the Broderson property shall include land that is designated as Critical Habitat for the Morro shoulderband snail; contiguous with existing preservation lands within the Morro Dunes Ecological Reserve and areas studied for the Greenbelt Program by the Land Conservancy; currently supports appropriate soils to accept native plantings for restoration; is capable of being cleared of unfavorable debris and structures; supports primarily windblown sand deposits that are in a stabilized condition (i.e. not mobile dune habitat); is characterized by habitat types with an open canopy; contains appropriate slopes to accommodate snail mobility to and from adjacent lands; and is of appropriate aspect and meteorological conditions.

Within two years of project operation all mitigation land shall be preserved in perpetuity and granted to an appropriate agency or conservation organization with the responsibility of management and monitoring the preserve, as determined during agreements between the USFWS, CDFG, and the County. A long-term management and monitoring program shall be prepared. The County shall be responsible for the allocation of appropriate funding for the long-term management and monitoring of the mitigation land, as determined through agreements between the USFWS, CDFG, and the County.

Habitat Restoration Mitigation

**5.5-A16**

The existing coastal sage scrub within the Broderson property shall be restored and maintained to promote the land's function and value as suitable habitat for sensitive plants and wildlife that are local or endemic to the area. Restoration activities shall be conducted on the Broderson property by qualified personnel with expertise in restoration ecology and knowledge of sensitive plant and wildlife species in the area. Restoration activities shall be conducted according to a Restoration Plan or similar plan specifically prepared for the effort and approved by USFWS, CDFG, and/or the CNPS. Similarly, restorative measures and maintenance shall be implemented according to a Habitat Mitigation and Monitoring Plan or similar implementation plan that shall require a schedule and program for monitoring and reporting the progress of the restoration effort.

The Restoration Plan shall include measures for the removal and eradication of invasive exotic plant species known to occur in the local area, including veldt grass and pampas grass. Activities that involve the removal of invasive species should not result in unnecessary trampling or removal of native species, and techniques for invasive removal shall be least damaging to native species. Any disturbed portion of acquired mitigation lands should be appropriate for restoration into coastal sage scrub

habitat and have the potential to support the functions and values necessary for the Morro shoulderband snail, the Morro Bay kangaroo rat, and other sensitive species.

The restoration effort shall include the implementation of a seed collection program to gather seeds to be used during restoration from native sources. The seed collection program shall be prepared for approval by the County prior to project construction activities. The seed collection program shall include the use of native plants that will be removed as a result of the project. Collection shall take place by qualified personnel with expertise in botanical resources during the appropriate time of year for seed production and harvesting.

The County shall provide annual reports to the USFWS documenting the results of all restoration and monitoring activities. Annual reports shall be provided to the USFWS for a minimum of five years or until it is determined by the USFWS that requisite performance criteria have been met. These reports should include any noted changes in the plant community structure or composition or surface hydrology down-slope of the Broderson leachfields, in addition to other requirements as determined through USFWS consultation and stipulated within permit conditions.

In addition to the above mitigation measures; measure 5.5-C1 through 5.5-C3 discussed below will also be required.

*Proposed Project 2*

See Mitigation Measures 5.5-A1 through 5.5-A16 above and 5.5-C1-5.5-C3.

*Proposed Project 3*

See Mitigation Measures 5.5-A1 through 5.5-A16 above and 5.5-C1-5.5-C3.

*Proposed Project 4*

See Mitigation Measures 5.5-A1 through 5.5-A16 above and 5.5-C1-5.5-C3.

**Cumulative**

No additional mitigation is required. See Mitigation Measures 5.5-A1 through 5.5-A16 above.

***Level of Significance After Mitigation***

**Project-Specific**

*Proposed Project 1*

Less than significant.

*Proposed Project 2*

Less than significant.

*Proposed Project 3*

Less than significant.

*Proposed Project 4*

Less than significant.

**Cumulative**

Less than significant.

**Riparian Habitat**

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**5.5-B:**                    **The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.**

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***Project-Specific Impact Analysis***

**Proposed Project 1**

*Collection System*

Riparian Habitat

For all Proposed Projects, installation of the pipelines for the wastewater and treated effluent system would result in temporary impacts to riparian habitat associated with Los Osos Creek, Warden Creek, and unnamed drainages and seasonal wetlands within the Los Osos Valley Road ROW, herein referred to as drainages W-3, W-4, W-5, and W-5b, and an unnamed drainage within the Turri Road ROW, herein referred to as drainage T-2. As a result, the installation of pipelines for the wastewater and treated effluent systems for all Proposed Projects would result in significant impacts to riparian habitat.

Impacts associated with the laying of pipelines across all drainages and riparian habitat will be temporary in nature, and will incorporate setbacks at or exceeding minimum requirements. All areas containing riparian habitat within the Proposed Projects are associated with jurisdictional areas, including streambed areas subject to the jurisdiction of the CDFG pursuant to CFG Code 1602. Jurisdictional areas within the study area are depicted within Exhibit 5.5-2. All development within or adjacent to riparian habitat subject to regulatory agency jurisdiction will be preceded by obtaining appropriate permits from the CDFG, as discussed in Impact 5.5-C. Impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian habitats. Mitigation measure 5.5-C3 will reduce impacts to riparian habitat to a less than significant level.

The collection system for all Proposed Projects could result in potential significant impacts to riparian habitat during operation. Wastewater facilities are a common feature of urban environments and generally are not considered to pose significant hazards. Operation and maintenance requirements of the collection system will be routine and limited, and would not extend beyond the boundaries of developments. Riparian habitat within and downstream of the wastewater pipelines has a potential to be adversely affected or indirectly impacted by operation and maintenance activities, or leakage in the system.

If not properly constructed, operated, and maintained, there is the potential for leakage in the wastewater conveyance pipelines for all Proposed Projects, consequently releasing untreated sewage into areas supporting riparian habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

*Sensitive Resource Area*

A discussion of portions of the collection system for all Proposed Projects that are within an existing Sensitive Resource Area (SRA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-3.

*Environmentally Sensitive Habitat Area*

A discussion of portions of the collection system for all Proposed Projects that are within an existing Environmentally Sensitive Habitat Area (ESHA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-2. Impact 5.5-F and Table 5.5-3 also provide a discussion of lands that could be considered a potential ESHA based on the findings of this Draft EIR and its technical studies.

*Treatment Plant Site*

*Riparian Habitat*

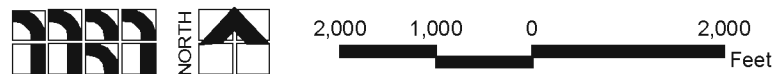
Proposed Project 1 would include the development of facultative ponds, storage, and appurtenance facilities in the vicinity of riparian habitat on the Giacomazzi and Branin properties, including that which is contained within Warden Lake (Warden Creek wetlands) and two unnamed tributaries to Warden Lake (herein referred to as W-1 and W-2).

No direct impacts to any existing riparian habitat will result from the treatment plant site developments for Proposed Project 1. The closest developments to existing riparian habitat include the proposed facultative ponds on the Giacomazzi property and the appurtenances facilities on the Branin property. These developments have been sited with adequate setbacks from riparian habitat and other sensitive resources. The eastern edge of the facultative ponds proposed within the Giacomazzi property is located approximately 220 linear feet from riparian habitat within W-2, and the northeastern corner of appurtenances facilities proposed within the Branin site is located approximately 275 linear feet from riparian habitat that lines the margins of Warden Lake. Therefore, developments associated with the treatment plant site for Proposed Project 1 would not result in any direct impacts to riparian habitat.





Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates  
02240002 • 09/2008 | 5.5-2\_jurisdictional\_waters\_wetlands.mxd

### Exhibit 5.5-2 Jurisdictional Waters and Wetlands

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES EXPANDED ANALYSIS SECTION



However, treatment plant site developments for Proposed Project 1 could result in indirect impacts to riparian (central coast arroyo willow riparian forest) habitat through the filling of a reach of W-2 that occurs upstream of riparian resources. The permanent filling of this reach of W-2 would result from the construction and development of facultative ponds on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream stands of riparian habitat contained within W-1 and Warden Lake. Similarly, the filling of the relevant reach of W-2 may result in an adverse affect in the local hydrology that supports the stands. This riparian habitat provides suitable nesting and foraging habitat for special status wildlife species, including the Cooper's hawk and white-tailed kite, and could be considered an extension to larger stands that occur further to the north within Warden Lake. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to this riparian habitat to less than significant. Mitigation measure 5.5-C3 would further reduce potential indirect impacts pertaining to riparian habitat contained within drainage W-1 to less than significant.

If not properly constructed, operated, and maintained, there is the potential for leakage in the treatment plant facilities for all Proposed Projects, consequently releasing untreated sewage into areas supporting riparian habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure 5.7.B.1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### Sensitive Resource Area

A discussion of portions of the treatment plant sites for all Proposed Projects that are within an existing Sensitive Resource Area (SRA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-2.

#### Environmentally Sensitive Habitat Area

A discussion of portions of the treatment plant sites for all Proposed Projects that are within an existing Environmentally Sensitive Habitat Area (ESHA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-2. Impact 5.5-F and Table 5.5-2 also provide a discussion of lands that could be considered a potential ESHA based on the findings of this Draft EIR and its technical studies.

#### Disposal Sites

##### Riparian Habitat

For all Proposed Projects, the disposal sites would not result in any significant impacts, direct or indirect, to any riparian habitat. No areas supporting riparian habitat occur on or in the immediate vicinity of the Broderson property, which is proposed for leachfield disposal, or the Tonini property, which is proposed for sprayfield disposal. There is riparian habitat that occurs on the Tonini property; however, this habitat is limited to a small isolated stand along the eastern boundary of the property adjacent to Turri Road, and is not in the immediate vicinity of the areas proposed for

sprayfields. Therefore, developments associated with the disposal sites for all Proposed Projects would not result in any impacts to riparian habitat.

#### *Sensitive Resource Area*

A discussion of portions of the disposal sites for all Proposed Projects that are within an existing Sensitive Resource Area (SRA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-2.

#### *Environmentally Sensitive Habitat Area*

A discussion of portions of the disposal sites for all Proposed Projects that are within an existing Environmentally Sensitive Habitat Area (ESHA) as defined in Title 23 - Coastal Zone Land Use Ordinance of the County of San Luis Obispo County Code is provided in Impact 5.5-F and Table 5.5-2. Impact 5.5-F and Table 5.5-2 also provide a discussion of lands that could be considered a potential ESHA based on the findings of this Draft EIR and its technical studies.

#### *Combined Project Effects*

The construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 1 could result in a measurable combined effect on riparian habitat. The collection system could result in temporary construction impacts to riparian habitat through the installation of various components within Los Osos Creek, Warden Lake, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of riparian habitat. Treatment plant components could result in potential indirect impacts to riparian habitat located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 1 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and 5.7.B.1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to riparian habitat are fulfilled.

### **Proposed Project 2**

#### *Collection System*

The collection system for Proposed Project 2 would be similar as that which is proposed for Proposed Project 1 for riparian habitat, but could differ substantially with potential impacts to sensitive natural communities associated with the ESHA within the community of Los Osos. These differences are focused on the differences in disturbance associated with the lack of excavation and habitat disturbance associated with the STE tank installation. See riparian habitat impact analysis and proposed mitigation measures for collection system for Proposed Project 1 above.

#### *Treatment Plant Site*

Proposed Project 2 would include the development of oxidation ditch/biolac facilities and appurtenance facilities in the vicinity of riparian habitat on the Giacomazzi property, including that which occurs within an unnamed tributary to Warden Lake (herein referred to as W-1).

No direct impacts to any areas containing riparian habitat will result from the treatment plant site developments for Proposed Project 2. The closest developments to canopy areas supporting riparian habitat include the proposed facultative ponds on the Giacomazzi property. These developments have been sited with adequate setbacks from riparian habitat and other sensitive resources. The eastern edge of the oxidation ditch/biolac facilities proposed within the Giacomazzi property is located approximately 110 linear feet from the canopy of riparian habitat contained within W-1. Therefore, within incorporation of these setbacks in the proposed design, developments associated with the treatment plant site for Proposed Project 2 would not result in any direct impacts to riparian habitat.

However, similar to Proposed Project 1, treatment plant site developments for Proposed Project 2 could result in indirect impacts to riparian habitat through the filling of a reach of W-2 that occurs upstream of stands of riparian habitat contained within W-1 and Warden Lake. The permanent filling of this reach of W-2 would result from the construction and development of facultative ponds on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream riparian areas. Construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality in Section 5-3 of the Draft EIR that would reduce potential indirect impacts to riparian habitat to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1. The placement of the up to 8-acre storage pond would not be within any riparian areas. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Project 1, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 2 could result in a measurable combined effect on riparian habitat. The collection system could result in temporary construction impacts to riparian habitat through the installation of various components within and adjacent to Los Osos Creek, Warden Lake, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of riparian habitat. Treatment plant components could result in potential indirect impacts to riparian habitat located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 2 would be reduced to a less than significant level through the

implementation of Mitigation Measures 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and 5.7.B.1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to riparian habitat are fulfilled.

### **Proposed Project 3**

#### *Collection System*

The collection system for Proposed Project 3 would be the same as that which is proposed for Proposed Project 2. See riparian habitat impact analysis and proposed mitigation measures for collection system for Proposed Project 2 above.

#### *Treatment Plant Site*

Proposed Project 3 would include the development of oxidation ditch/biolac facilities, biosolids storage, storage ponds, and appurtenance facilities in the vicinity of riparian habitat on the Giacomazzi and Branin properties, including that which occurs along the margins of Warden Lake (Warden Creek wetlands) and within an unnamed tributary to Warden Lake (herein referred to as W-1).

No direct impacts to any areas containing riparian habitat will result from the treatment plant site developments for Proposed Project 3. The closest developments to canopy areas supporting riparian habitat include the proposed facultative ponds on the Giacomazzi property and the oxidation ditch/biolac facilities on the Branin property. These developments have been sited with adequate setbacks from riparian habitat and other sensitive resources. The eastern edge of the oxidation ditch/biolac facilities proposed within the Giacomazzi property is located approximately 110 linear feet from the canopy of riparian habitat contained within W-1, and the northern edge and northeastern corner of storage ponds proposed within the Branin site are located approximately 340 linear feet from the canopy of riparian habitat that lines the margins of Warden Lake. Therefore, within incorporation of these setbacks in the proposed design, developments associated with the treatment plant site for Proposed Project 3 would not result in any direct impacts to riparian habitat.

However, similar to Proposed Projects 1 and 2, treatment plant site developments for Proposed Project 3 could result in indirect impacts to riparian habitat through the filling of a reach of W-2 that occurs upstream of stands of riparian habitat contained within W-1 and Warden Lake. The permanent filling of this reach of W-2 would result from the construction and development of facultative ponds on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream riparian areas. As proposed within PDF 5.3A-1, through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to downstream riparian habitat to less than significant. Mitigation measure 5.5-C3 would further reduce potential indirect impacts pertaining to riparian habitat contained within W-1 and Warden Lake to less than significant.

*Disposal Sites*

The disposal sites for Proposed Project 3 would be the same as that which is proposed for Proposed Project 1. See impact analysis for disposal sites for Proposed Project 1 above.

*Combined Project Effects*

Similar to Proposed Projects 1 and 2, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 3 could result in a measurable combined effect on riparian habitat. The collection system could result in temporary construction impacts to riparian habitat through the installation of various components within and adjacent to Los Osos Creek, Warden Lake, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of riparian habitat. Treatment plant components could result in potential indirect impacts to riparian habitat located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 3 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to riparian habitat are fulfilled.

**Proposed Project 4**

*Collection System*

The collection system for Proposed Project 4 would be similar to that which is proposed for Proposed Project 2 and 3. The raw wastewater pipeline would parallel the treated effluent pipeline along LOVR to Turri Road where an additional crossing of Warden Creek, and two additional crossings of an unnamed drainage feature (herein referred to as drainage T-1) would occur. The proposed crossings within Warden Creek contain additional riparian habitat, of which impacts would be considered significant. No riparian habitat occurs at the crossing location for drainage T-1; therefore, no impacts to riparian habitat would result in that area.

The two crossings of Warden Creek include one for the wastewater pipeline influent to the treatment facilities, and another for the treated effluent pipeline out to the leachfield site. Impacts associated with these two crossings would be fundamentally the same as those discussed for conveyance pipelines in Proposed Project 1.

As discussed in the impact analysis for Proposed Project 1, there is the potential for leakage in the wastewater conveyance pipelines for all Proposed Projects consequently releasing untreated sewage downstream into areas supporting riparian habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would

reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

See impact analysis for the collection system for Proposed Project 1 above. Mitigation measures 5.5-A7, and 5.5-C1 through 5.5-C3, will reduce impacts to less than significant.

#### *Treatment Plant Site*

No direct or indirect impacts to any riparian habitat will result from the treatment plant site developments for Proposed Project 4. The closest developments to riparian habitat within the Tonini property include the proposed appurtenances. These developments have been sited with adequate setbacks from riparian habitat and other sensitive resources. The appurtenance facilities are located at a minimum of 100 linear feet from a small isolated stand of riparian habitat that occurs within the upstream reach of drainage T-2. Therefore, developments associated with the treatment plant site for Proposed Project 4 would not result in any direct impacts to riparian habitat.

As discussed in the impact analysis for Proposed Project 1, there is the potential for leakage in the treatment facility elements for all Proposed Projects consequently releasing untreated sewage downstream into areas supporting riparian habitat. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 4 would be the same as that which is proposed for Proposed Project 2, with the exception of minor changes in the location of the sprayfield area in order to accommodate the treatment plant site facilities. Despite the change in location, impacts associated with the sprayfields would be fundamentally the same as those discussed for disposal sites in Proposed Project 1 and 2. Sprayfield influence would remain setback from existing wetlands, streams, and riparian habitat at or greater than the minimum required distance. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1 through 3, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 4 could result in a measurable combined effect on riparian habitat. The collection system could result in temporary construction impacts to riparian habitat through the installation of components within and adjacent to Los Osos Creek, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Tonini property. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of riparian habitat. Treatment plant components could result in potential indirect impacts to riparian habitat located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of



Proposed Project 4 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to riparian habitat are fulfilled.

### **Cumulative Impact Analysis**

Section 4 of the Draft EIR provides a discussion of the cumulative setting for all Proposed Projects, and Table 4-1 provides a list of projects that were considered for the cumulative impact analysis. Of the projects considered for the cumulative impacts analysis, none were determined to have considerable effect on riparian habitat that is relevant to the Proposed Projects. When considered against the cumulative setting, potential cumulative impacts to riparian habitat would be limited to that which may result from the Proposed Projects. Implementation of Mitigation Measures 5.5-C3, PDF 5.3A-1 through PDF 5.3A-6, and PS-1 would reduce potential cumulative impacts to riparian habitat to less than significant.

### **Mitigation Measures**

#### **Project-Specific**

##### *Proposed Project 1*

See Mitigation Measures 5.5-C1 through 5.5-C3 below. See also Mitigation Measures 5.5-A7 and PS-1.

##### *Proposed Project 2*

See Mitigation Measures 5.5-C1 through 5.5-C3 below. See also Mitigation Measures 5.5-A7 and PS-1.

##### *Proposed Project 3*

See Mitigation Measures 5.5-C1 through 5.5-C3 below. See also Mitigation Measures 5.5-A7 and PS-1.

##### *Proposed Project 4*

See Mitigation Measures 5.5-C1 through 5.5-C3 below. See also Mitigation Measures 5.5-A7 and PS-1.

#### **Cumulative**

No additional mitigation is required. See Mitigation Measures 5.5-C1 through 5.5-C3, 5.5-A7, PDF 5.3A-1 through PDF 5.3A-6, and PS-1.

### **Level of Significance After Mitigation**

#### **Project-Specific**

##### *Proposed Project 1*

Less than significant.

*Proposed Project 2*

Less than significant.

*Proposed Project 3*

Less than significant.

*Proposed Project 4*

Less than significant.

**Cumulative**

Less than significant.

**Federally Protected Wetlands**


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**5.5-C:**            **The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

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***Project-Specific Impact Analysis*****Proposed Project 1***Collection System*

For all Proposed Projects, pipeline developments are proposed as part of the wastewater and treated effluent systems within wetland and non-wetland waters of the U.S. associated with Los Osos Creek, Warden Creek, and unnamed drainages and seasonal wetlands within the Los Osos Valley Road ROW (Drainages W-3, W-4, W-5, W-5a, W-5b, and Los Osos Valley Road seasonal wetlands) and Turri Road (T-2). As a result, the installation of pipelines for the wastewater and treated effluent conveyance systems for all Proposed Projects would result in significant impacts to wetland and non-wetland waters of the U.S. as defined by Section 404 of the Clean Water Act.

Impacts associated with the laying of pipelines across all drainages and wetlands will be temporary in nature, and will incorporate minimum required setbacks from wetlands to the maximum extent feasible. All development within or adjacent to wetland and non-wetland waters of the U.S. or any other areas subject to regulatory agency jurisdiction will be preceded by obtaining permits from USACE, RWQCB, and CDFG. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. Mitigation Measure 5.5-C1 will reduce impacts to wetland waters of the U.S. to a less than significant level.

The installation of pipelines for the wastewater and treated effluent systems for all Proposed Projects would also result in significant impacts to the following: non-wetland waters of the U.S. under the jurisdiction of the USACE pursuant to Section 404 of the CWA; waters of the State under the jurisdiction of the CCRWQCB pursuant to Section 401 of the CWA, and streambed under the jurisdiction of the CDFG pursuant to CFG Code 1602. These impacts would be considered significant. Such impacts would be mitigated to a less than significant level pursuant to general and

specific permit conditions, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. Mitigation measures 5.5-C1, 5.5-C2, 5.5-C3, and 5.5-A7 will reduce impacts to non-wetland waters of the U.S., waters of the State, and jurisdictional streambed to less than significant.

The collection system for all Proposed Projects could result in potential significant impacts to jurisdictional areas, including wetland waters of the U.S., during operation. Wastewater facilities are a common feature of urban environments and generally are not considered to pose significant hazards. Operation and maintenance requirements of the collection system will be routine and limited, and would not extend beyond the boundaries of developments. There are wetlands that occur within and downstream of the wastewater pipelines that have a potential to be adversely affected or indirectly impacted by operation and maintenance activities, or leakage in the system.

If not properly constructed, operated, and maintained, there is the potential for leakage in the wastewater pipelines for all Proposed Project, consequently releasing untreated sewage into jurisdictional areas. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure 5.7.B.1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### *Treatment Plant Site*

Proposed Project 1 would include the development of facultative ponds, storage, and appurtenance facilities in the vicinity of wetlands on the Giacomazzi and Branin properties, including Warden Lake (Warden Creek wetlands) and two unnamed tributaries to Warden Lake (herein referred to as W-1 and W-2).

No direct impacts to any existing wetland waters of the U.S. will result from the treatment plant site developments for Proposed Project 1. The closest developments to existing wetland waters of the U.S. include the proposed facultative ponds on the Giacomazzi property and the appurtenances facilities on the Branin property. These developments have been sited with adequate setbacks from wetlands and other sensitive resources. The eastern edge of the facultative ponds proposed within the Giacomazzi property is located approximately 220 linear feet from wetland waters of the U.S. within W-2, and the northeastern corner of appurtenances facilities proposed within the Branin site is located approximately 275 linear feet from wetland waters of the U.S. within Warden Lake. Therefore, developments associated with the treatment plant site for Proposed Project 1 would not result in any direct impacts to wetland waters of the U.S.

The proposed treatment plant site developments would result in the permanent filling of an upstream portion of W-2. Despite not containing any wetland waters of the U.S., the affected reach of W-2 was determined to contain the following: non-wetland waters of the U.S. under the jurisdiction of the USACE pursuant to Section 404 of the CWA; waters of the State under the jurisdiction of the CCRWQCB pursuant to Section 401 of the CWA, and streambed under the jurisdiction of the CDFG

pursuant to CFG Code 1602. These impacts would be considered significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will reduce impacts to non-wetland waters of the U.S., waters of the State, and jurisdictional streambed to less than significant.

The proposed treatment plant site developments for Proposed Project 1 could result in indirect impacts to wetlands through the filling of a reach of W-2 that occurs upstream of wetlands waters of the U.S. The permanent filling of this reach of W-2 could result in increased sedimentation and other adverse water quality impacts to downstream wetlands. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant.

If not properly constructed, operated, and maintained, there is the potential for leakage in the treatment facility elements for all Proposed Projects that will handle raw wastewater, releasing untreated sewage into the environment. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### *Disposal Sites*

For all proposed projects, the disposal sites would not result in any significant impacts, direct or indirect, to any wetland waters of the U.S. No jurisdictional areas, including any wetland waters of the U.S., occur on or in the immediate vicinity of the Broderson property, which is proposed for leachfield disposal. However, there are jurisdictional areas, including wetland waters of the U.S., that occur on and in the immediate vicinity of the Tonini property, which is proposed for sprayfield disposal. These jurisdictional areas include drainages T-1, T-1a, T-1b, and T-2. Sprayfield installation and operation will be restricted to upland areas that are setback from these jurisdictional areas, including any wetland waters of the U.S. that are contained therein. Potential adverse indirect impacts to these jurisdictional areas resulting from runoff and groundwater contamination associated with sprayfield operation are not anticipated, and are discussed in further detail in Section 5.2 Ground Water Quality and Water Supply and Section 5.3 Surface Water Quality and Drainage of the Draft EIR. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to wetlands and other water resources to less than significant. Therefore, developments associated with the treatment plant site for Proposed Project 1 would not result in any impacts to wetland waters of the U.S.

#### *Combined Project Effects*

The construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 1 could result in a measurable combined effect on wetlands. The collection system could result in temporary construction impacts to wetlands through the installation of various components within and adjacent to Los Osos Creek, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of any wetlands. Treatment plant components could result in potential indirect impacts to wetlands located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 1 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C1, 5.5-C2, 5.5-C3, 5.5-A7, PDF 5.3A-1 through PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wetlands are fulfilled.

#### **Proposed Project 2**

##### *Collection System*

The impacts from the collection system for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1. See impact analysis and proposed mitigation measures for collection system for Proposed Project 1 above.

##### *Treatment Plant Site*

Proposed Project 2 would include the development of oxidation ditch/biolac and appurtenance facilities in the vicinity of wetlands on the Giacomazzi property, including an unnamed tributary to Warden Lake (herein referred to as W-1).

No direct impacts to any existing wetland waters of the U.S. will result from the treatment plant site developments for Proposed Project 2. The closest developments to existing wetland waters of the U.S. include the proposed treatment facilities on the Giacomazzi property. These developments have been sited with adequate setbacks from wetlands and other sensitive resources. The eastern edge of the oxidation ditch/biolac facilities proposed within the Giacomazzi property is located approximately 110 linear feet from wetland waters of the U.S. within W-1. Therefore, developments associated with the treatment plant site for Proposed Project 2 would not result in any direct impacts to wetland waters of the U.S.

However, similar to Proposed Project 1, the treatment plant site developments for Proposed Project 2 could result in indirect impacts to wetlands through the filling of a reach of W-2 that occurs upstream of wetlands waters of the U.S. The permanent filling of this reach of W-2 would result from the construction and development of oxidation ditch/biolac facilities on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream

wetlands. As proposed within PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, and PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to wetlands and other water resources to less than significant.

Despite not containing any wetland waters of the U.S., the affected reach of W-2 was determined to contain the following: non-wetland waters of the U.S. under the jurisdiction of the USACE pursuant to Section 404 of the CWA; waters of the State under the jurisdiction of the CCRWQCB pursuant to Section 401 of the CWA, and streambed under the jurisdiction of the CDFG pursuant to CFG Code 1602. As with Proposed Project 1, impacts to these features resulting from Proposed Project 2 would be considered significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will reduce impacts to non-wetland waters of the U.S., waters of the State, and jurisdictional streambed to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1 with the addition of an up to 8-acre storage pond on the Tonini site. No direct impacts to wetlands would occur as a result of the storage pond placement. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Project 1, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 2 could result in a measurable combined effect on wetlands. The collection system could result in temporary construction impacts to wetlands through the installation of various components within and adjacent to Los Osos Creek, Warden Lake, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of wetlands. Treatment plant components could result in potential indirect impacts to wetlands located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 2 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C1, 5.5-C2, 5.5-C3, 5.5-A7, PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wetlands are fulfilled.

### **Proposed Project 3**

#### *Collection System*

The impacts from the collection system for Proposed Project 3 would be the same as that which is proposed for Proposed Project 1 and 2. See impact analysis and proposed mitigation measures for collection system for Proposed Project 1 and 2 above.

#### *Treatment Plant Site*

Proposed Project 3 would include the development of oxidation ditch/biolac facilities, biosolids storage, storage ponds, and appurtenance facilities in the vicinity of wetlands on the Giacomazzi and Branin properties, including Warden Lake (Warden Creek wetlands) and two unnamed tributaries to Warden Lake (herein referred to as W-1 and W-2).

No direct impacts to any existing wetland waters of the U.S. will result from the treatment plant site developments for Proposed Project 3. The closest developments to existing wetland waters of the U.S. include the proposed treatment facilities on the Giacomazzi property and the storage pond on the Branin property. These developments have been sited with adequate setbacks from wetlands and other sensitive resources. The eastern edge of the treatment facilities proposed within the Giacomazzi property is located approximately 110 linear feet from wetland waters of the U.S. within W-2, and the northern edge and northeastern corner of storage pond proposed within the Branin site are located approximately 340 linear feet from wetland waters of the U.S. within Warden Lake. Therefore, developments associated with the treatment plant site for Proposed Project 3 would not result in any direct impacts to wetland waters of the U.S.

However, similar to Proposed Projects 1 and 2, treatment plant site developments for Proposed Project 3 could result in indirect impacts to wetlands through the filling of a reach of W-2 that occurs upstream of wetlands waters of the U.S. The permanent filling of this reach of W-2 would result from the construction and development of treatment facility on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream wetlands. As proposed within PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, and PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would reduce potential indirect impacts to wetlands and other water resources to less than significant.

Despite not containing any wetland waters of the U.S., the affected reach of W-2 was determined to contain the following: non-wetland waters of the U.S. under the jurisdiction of the USACE pursuant to Section 404 of the CWA; waters of the State under the jurisdiction of the CCRWQCB pursuant to Section 401 of the CWA, and streambed under the jurisdiction of the CDFG pursuant to CFG Code 1602. As with Proposed Projects 1 and 2, impacts to these features resulting from Proposed Project 3 would be considered significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will reduce

impacts to non-wetland waters of the U.S., waters of the State, and jurisdictional streambed to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 3 would be the same as that which is proposed for Proposed Project 1. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1 and 2, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 3 could result in a measurable combined effect on wetlands. The collection system could result in temporary construction impacts to wetlands through the installation of various components within and adjacent to Los Osos Creek, Warden Lake, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Giacomazzi and Tonini properties. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of wetlands. Treatment plant components could result in potential indirect impacts to wetlands located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 3 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-C1, 5.5-C2, 5.5-C3, 5.5-A7, PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wetlands are fulfilled.

### **Proposed Project 4**

#### *Collection System*

The collection system for Proposed Project 4 would be similar to that which is proposed for Proposed Project 2 and 3. The raw wastewater pipeline would parallel the treated effluent pipeline along LOVR to Turri Road where an additional crossing of Warden Creek, and two additional crossings of an unnamed drainage feature (herein referred to as drainage T-1) would occur.

The two crossings of Warden Creek include one for the raw wastewater pipeline to the treatment facilities, and another for the treated effluent pipeline out to the leachfield site. Impacts associated with these two additional crossings would be fundamentally the same as those discussed for conveyance pipelines in Proposed Project 1.

The two additional crossings of drainage T-1 include local crossings within the Tonini property in the immediate vicinity of the treatment plant site. These additional crossings also include one for the raw wastewater pipeline to the treatment facilities, and another for the treated effluent pipeline out to the leachfield site. Impacts associated with these two additional crossings would be fundamentally the same as those discussed for conveyance pipelines in Proposed Project 1.



See impact analysis for the collection system for Proposed Project 1 above. Mitigation measures 5.5-C1, 5.5-C2, 5.5-C3, and 5.5-A7 will reduce impacts to less than significant.

#### *Treatment Plant Site*

Proposed Project 4 would include the development of facultative ponds, storage ponds, and appurtenance facilities in the vicinity of wetlands on the Tonini property, including two unnamed tributaries to Warden Creek (herein referred to as T-1 and T-2).

No direct impacts to any existing jurisdictional areas, including wetland waters of the U.S., will result from the treatment plant site developments for Proposed Project 4. The closest developments to jurisdictional areas within the Tonini property include the proposed facultative ponds and appurtenances. These developments have been sited and designed with adequate setbacks from wetlands and other sensitive resources. The facultative ponds proposed within the Tonini property are located at a minimum of 100 linear feet from jurisdictional areas within T-2, and the appurtenances facilities are located at a minimum of 100 linear feet from jurisdictional areas within T-2. Therefore, developments associated with the treatment plant site for Proposed Project 4 would not result in any direct impacts to wetland waters of the U.S.

As discussed in the impact analysis for Proposed Project 1, there is the potential for leakage in the treatment facility elements for all Proposed Projects that will handle raw waste, releasing untreated sewage into the environment. This potential impact is addressed in Section 5.7 of the Draft EIR, specifically within Impact 5.7-A. Mitigation Measure PS-1 in Section 5.7 would reduce potential impacts resulting from leakage in the treatment facility elements to less than significant.

#### *Disposal Sites*

The disposal sites for Proposed Project 4 would be the same as that which is proposed for Proposed Project 1, with the exception of minor changes in the location of the sprayfield area in order to accommodate the treatment plant site facilities. Despite the change in location, impacts associated with the sprayfields would be fundamentally the same as those discussed for disposal sites in Proposed Project 1. Sprayfield influence would remain setback from existing wetlands, streams, and riparian habitat at or greater than the minimum required distance. The placement of the up to 8-acre storage pond would not be within any riparian areas and setbacks would be more than 100 feet from any wetlands on the Tonini site as were discussed for the Treatment Plant Site for Project 4. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1 through 3, the construction and operation of the proposed components for the collection system and treatment plant site for Proposed Project 4 could result in a measurable combined effect on wetlands. The collection system could result in temporary construction impacts to wetlands through the installation of components within and adjacent to Los Osos Creek, Warden Creek, and tributaries to Warden Creek located along Los Osos Valley Road and within the Tonini property. Potential impacts associated with the collection system would be primarily temporary in

nature and would not result in a substantial removal, alteration, or degradation of wetlands areas. Treatment plant components could result in potential indirect impacts to wetlands located downstream and downslope of areas proposed for the filling of waters and development of permanent structures. The combined effects resulting from all components of Proposed Project 4 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-1, 5.5-2, 5.5-C3, 5.5-A7, PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, PDF 5.3A-6, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wetlands are fulfilled.

### **Cumulative Impact Analysis**

Section 4 of the Draft EIR provides a discussion of the cumulative setting for all Proposed Projects, and Table 4-1 provides a list of projects that were considered for the cumulative impact analysis. Of the projects considered for the cumulative impacts analysis, none were determined to have considerable effect on federally protected wetlands relevant to the Proposed Projects. When considered against the cumulative setting, potential cumulative impacts to federally protected wetlands would be limited to that which may result from the Proposed Projects. Implementation of Mitigation Measures Mitigation Measures 5.5-C1, 5.5-C2, 5.5-C3, 5.5-A7, PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, PDF 5.3A-6, and PS-1 would reduce potential cumulative impacts to federally protected wetlands to less than significant.

### **Mitigation Measures**

#### **Project-Specific**

##### *Proposed Project 1*

- 5.5-C1** Prior to project approval, the County shall provide an application of a Nationwide or Individual Permit, depending upon the extent of impacts, to the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA). If required, the County shall obtain a Nationwide or Individual Permit from the USACE for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as jurisdictional waters and wetlands of the U.S. The County shall implement all required conditions and special considerations stipulated within the Nationwide or Individual Permit during all relevant phases of development.
- 5.5-C2** Prior to project approval, an application for a Water Quality Certification shall be submitted by the County to the Central Coast RWQCB pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Act. If required, a Water Quality Certification shall be obtained from the Central Coast RWQCB for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as jurisdictional waters of the State. The County shall

implement all required conditions and special considerations stipulated within the Water Quality Certification during all relevant phases of development.

**5.5-C3** Prior to project approval, a Notification of Lake or Streambed Alteration shall be submitted by the County to the CDFG pursuant to CFG Code Section 1602. If required, a Streambed Alteration Agreement shall be obtained from the CDFG for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as jurisdictional streambed or riparian habitat. The County shall implement all required conditions and special considerations stipulated within the Streambed Alteration Agreement during all relevant phases of development.

See also mitigation measures 5.5-A7 and PS-1.

*Proposed Project 2*

See mitigation measures 5.5-C1 through 5.5-C3 above. See also mitigation measures 5.5-A7 and PS-1.

*Proposed Project 3*

See mitigation measures 5.5-C1 through 5.5-C3 above. See also mitigation measures 5.5-A7 and PS-1.

*Proposed Project 4*

See mitigation measures 5.5-C1 through 5.5-C3 above. See also mitigation measures 5.5-A7 and PS-1.

**Cumulative**

No additional mitigation is required. See Mitigation Measures 5.5-C1, 5.5-C2, 5.5-C3, 5.5-A7, PDF 5.3A-1, PDF 5.3A-2, PDF 5.3A-3, PDF 5.3A-4, PDF 5.3A-5, PDF 5.3A-6, and PS-1

***Level of Significance After Mitigation***

**Project-Specific**

*Proposed Project 1*

Less than significant impact.

*Proposed Project 2*

Less than significant impact.

*Proposed Project 3*

Less than significant impact.

*Proposed Project 4*

Less than significant impact.

**Cumulative**

Less than significant impact.

**Wildlife Corridors and Nursery Sites**

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**5.5-D:** The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

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***Project-Specific Impact Analysis*****Proposed Project 1***Collection System*

For all Proposed Projects, the raw wastewater and treated effluent pipelines would include the crossing of a short reach of Los Osos Creek, a short reach of Warden Creek, and a short reach of an unnamed drainage feature on the Tonini property (herein referred to as drainage T-1). Los Osos Creek, Warden Creek, and drainage T-1 may function as local and regional migratory and dispersal corridors to and from nursery sites for special status wildlife species, including the southern steelhead (south-central California coast ESU) and California red-legged frog.

*Southern Steelhead Wildlife Corridors and Nursery Sites*

Impact 5.5-A defines the primary constituent elements for steelhead and its habitat. These elements include habitat characteristics that collectively provide the functions and values necessary for steelhead to use a specific area as a nursery site, or as a migration corridor to or from a nursery site.

Based on the primary constituent elements supported by the affected reach of Los Osos Creek, and based on the fact that this species was determined to have previously occupied portions of this drainage feature, the affected reach and upstream and downstream areas could function as an important nursery site and/or dispersal corridor for this species during the winter rainy season and into spring until stream flows within the Creek subside to impassable levels. Furthermore, any potential nursery site and migration corridor that occurs within Los Osos Creek would also occur within critical habitat for this species. The extent to which this species could use the relevant reach of Los Osos Creek is discussed in more detail in Impact 5.5-A.

Therefore, the wastewater and treated effluent pipelines for all Proposed Projects would result in significant direct impacts during construction to a potential nursery site and migration corridor that occurs within critical habitat for this species. The wastewater and treated effluent pipelines for all Proposed Projects could also result in significant indirect construction-related impacts relating to adverse water quality to downstream portions of Los Osos Creek that would also function as a migration corridor and/or a potential nursery site. Project-impacts to this species and its habitat are discussed in more detail in Impact 5.5-A. Mitigation measure 5.5-A6 and 5.5-A7 will reduce potential impacts to southern steelhead wildlife corridors and nursery sites within Los Osos Creek to less than significant. Restoration mitigation resulting from the implementation of regulatory agency

permits for impacts to jurisdictional areas, as proposed within mitigation measures 5.5-C1 through 5.5-C3, would further reduce potential impacts to southern steelhead wildlife corridors and nursery sites within Los Osos Creek.

*California Red-Legged Frog Wildlife Corridors and Nursery Sites*

Impact 5.5-A discusses the habitat requirements for California red-legged frog. These include habitat characteristics that collectively provide the functions and values necessary for California red-legged frog to use a specific area as a nursery site, or as a migration corridor to or from a nursery site.

Based on the habitat supported by the affected reach of Warden Creek, and based on the fact that this species was determined to have previously occupied portions of this drainage feature, the affected reach and upstream and downstream areas could function as important nursery site and/or dispersal corridor for this species. The extent to which this species could use the relevant reach of Warden Creek is discussed in more detail in Impact 5.5-A.

Therefore, the wastewater and treated effluent pipelines for all Proposed Projects would result in significant direct impacts during construction to a potential nursery site and migration corridor for this species. The wastewater and treated effluent pipelines for all Proposed Projects could also result in significant indirect construction-related impacts relating to adverse water quality to downstream portions of Warden Creek that would also function as a migration corridor and/or a potential nursery site. Project-impacts to this species and its habitat are discussed in more detail in Impact 5.5-A. Mitigation measure 5.5-A7 and 5.5-A8 will reduce potential impacts to California red-legged frog wildlife corridors and nursery sites within Warden Creek to less than significant. Restoration mitigation resulting from the implementation of regulatory agency permits for impacts to jurisdictional areas, as proposed within mitigation measures 5.5-C1 through 5.5-C3, would further reduce potential impacts to California red-legged frog wildlife corridors and nursery sites within Warden Creek.

*Treatment Plant Site*

For all Proposed Projects, no portions of the proposed treatment plant sites occur within any habitat that functions as a potential wildlife corridor or nursery site. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of treatment plant sites proposed for all Proposed Projects.

*Disposal Sites*

For all Proposed Projects, no portions of the proposed disposal sites occur within any habitat that functions as a potential wildlife corridor or nursery site. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of disposal sites proposed for all Proposed Projects.

*Combined Project Effects*

The construction and operation of the proposed components for the collection system of Proposed Project 1 could result in a measurable combined effect on wildlife corridors and nursery sites. The collection system could result in temporary construction impacts to corridor habitat through the installation of various components within Los Osos Creek and Warden Creek. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of corridor habitat. The combined effects resulting from all components of Proposed Project 1 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wildlife corridors and nursery sites are fulfilled.

**Proposed Project 2***Collection System*

The impacts on wildlife corridors and nursery sites from the collection system for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

*Treatment Plant Site*

The treatment plant site for Proposed Project 2 does not occur within any within any habitat that functions as a potential wildlife corridor or nursery site. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of treatment plant site for Proposed Project 2.

*Disposal Sites*

The disposal sites for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of disposal sites for Proposed Project 2. See impact analysis for disposal sites for Proposed Project 1 above.

*Combined Project Effects*

Similar to Proposed Project 1, the construction and operation of the proposed components for the collection system of Proposed Project 2 could result in a measurable combined effect on wildlife corridors and nursery sites. The collection system could result in temporary construction impacts to corridor habitat through the installation of various components within Los Osos Creek and Warden Creek. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of corridor habitat. The combined effects resulting from all components of Proposed Project 2 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wildlife corridors and nursery sites are fulfilled.

### **Proposed Project 3**

#### *Collection System*

The impacts on wildlife corridors and nursery sites from the collection system for Proposed Project 3 would be the same as that which is proposed for Proposed Projects 1 and 2. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

#### *Treatment Plant Site*

The treatment plant site for Proposed Project 3 does not occur within any within any habitat that functions as a potential wildlife corridor or nursery site. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of treatment plant site for Proposed Project 3.

#### *Disposal Sites*

The disposal sites for Proposed Project 3 would be the same as that which is proposed for Proposed Projects 1 and 2. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of disposal sites for Proposed Project 3. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1 and 2, the construction and operation of the proposed components for the collection system of Proposed Project 3 could result in a measurable combined effect on wildlife corridors and nursery sites. The collection system could result in temporary construction impacts to corridor habitat through the installation of various components within Los Osos Creek and Warden Creek. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of corridor habitat. The combined effects resulting from all components of Proposed Project 3 would be reduced to a less than significant level through the implementation of Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wildlife corridors and nursery sites are fulfilled.

### **Proposed Project 4**

#### *Collection System*

The collection system for Proposed Project 4 would be the same as that which is proposed for Proposed Projects 1, 2, and 3, with the exception of two crossings of Warden Creek, and two additional crossings of drainage T-1.

The two crossings of Warden Creek include one for the raw wastewater pipeline to the treatment facilities, and another for the treated effluent pipeline out to the leachfield site. Impacts associated with these two additional crossings would be fundamentally the same as those discussed for conveyance pipelines in Proposed Project 1. See impact analysis for conveyance pipeline crossing of Warden Creek for Proposed Project 1 above.

The two additional crossings of drainage T-1 include local crossings within the Tonini property in the immediate vicinity of the treatment plant site. These additional crossings also include one for the raw wastewater pipeline to the treatment facilities, and another for the treated effluent pipeline out to the leachfield site. Impacts associated with these two additional crossings would be fundamentally the same as those discussed for pipelines in Proposed Project 1. However, based on the habitat supported by the affected reach of drainage T-1, and based on the fact that this species was determined to currently occupy portions of this drainage feature, the affected reach and upstream and downstream areas could function as important nursery site and/or dispersal corridor for this species. The extent to which this species could use the relevant reach of drainage T-1 is discussed in more detail in Impact 5.5-A. Impacts associated with the installation of wastewater and treated effluent conveyance pipelines within drainage T-1 would be considered significant.

Mitigation measure 5.5-A7 and 5.5-A8 will reduce potential impacts to California red-legged frog wildlife corridors and nursery sites within drainage T-1 to less than significant. Restoration mitigation resulting from the implementation of regulatory agency permits for impacts to jurisdictional areas, as proposed within mitigation measures 5.5-C1 through 5.5-C3, would further reduce potential impacts to California red-legged frog wildlife corridors and nursery sites within drainage T-1.

#### *Treatment Plant Site*

The treatment plant site for Proposed Project 4 does not occur within any within any habitat that functions as a potential wildlife corridor or nursery site. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of treatment plant site for Proposed Project 4.

#### *Disposal Sites*

The disposal sites for Proposed Project 4 would be the same as that which is proposed for Proposed Projects 1 through 3, with the exception of minor changes in the location of the sprayfield area in order to accommodate the treatment plant site facilities. Despite the change in location, impacts associated with the sprayfields would be fundamentally the same as those discussed for disposal sites in Proposed Projects 1 through 4. Therefore, no impacts to wildlife corridors and nursery sites would result from the development of disposal sites for Proposed Project 4. See impact analysis for disposal sites for Proposed Project 1 above.

#### *Combined Project Effects*

Similar to Proposed Projects 1 through 3, the construction and operation of the proposed components for the collection system of Proposed Project 4 could result in a measurable combined effect on wildlife corridors and nursery sites. The collection system could result in temporary construction impacts to corridor habitat through the installation of various components within Los Osos Creek and Warden Creek. Potential impacts associated with the collection system would be primarily temporary in nature and would not result in a substantial removal, alteration, or degradation of corridor habitat. The combined effects resulting from all components of Proposed Project 4 would be reduced to a less



than significant level through the implementation of Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1. These measures will ensure that appropriate avoidance and minimization actions are employed during project construction, and that all permitting obligations and compensation for potential impacts to wildlife corridors and nursery sites are fulfilled.

### **Cumulative Impact Analysis**

Section 4 of the Draft EIR provides a discussion of the cumulative setting for all Proposed Projects, and Table 4-1 provides a list of projects that were considered for the cumulative impact analysis. Of the projects considered for the cumulative impacts analysis, none were determined to have considerable effect on wildlife corridors and nursery sites relevant to the Proposed Projects. When considered against the cumulative setting, potential cumulative impacts to wildlife corridors and nursery sites would be limited to that which may result from the Proposed Projects. Implementation of Mitigation Measures Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1 would reduce potential cumulative impacts to wildlife corridors and nursery sites to less than significant.

### **Mitigation Measures**

#### **Project-Specific**

##### *Proposed Project 1*

See mitigation measures 5.5-A6, 5.5-A7, and 5.5-A8. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

##### *Proposed Project 2*

See mitigation measures 5.5-A6, 5.5-A7, and 5.5-A8. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

##### *Proposed Project 3*

See mitigation measures 5.5-A6, 5.5-A7, and 5.5-A8. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

##### *Proposed Project 4*

See mitigation measures 5.5-A6, 5.5-A7, and 5.5-A8. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

#### **Cumulative**

No additional mitigation is required. See Mitigation Measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-C1, 5.5-C2, 5.5-C3, and PS-1.

### **Level of Significance After Mitigation**

#### **Project-Specific**

##### *Proposed Project 1*

Less than significant impact.

*Proposed Project 2*

Less than significant impact.

*Proposed Project 3*

Less than significant impact.

*Proposed Project 4*

Less than significant impact.

**Cumulative**

Less than significant impact.

**Local Policies or Ordinances Protecting Biological Resources**


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**5.5-E:** The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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***Project-Specific Impact Analysis*****Proposed Project 1***Collection System*

Please also refer to Table 5.5-3 for consistency analysis of local policies or ordinances protecting biological resources.

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)

*CZLUO Sections 23.07.160 – Section 23.07.166: Sensitive Resource Area (SRA)*

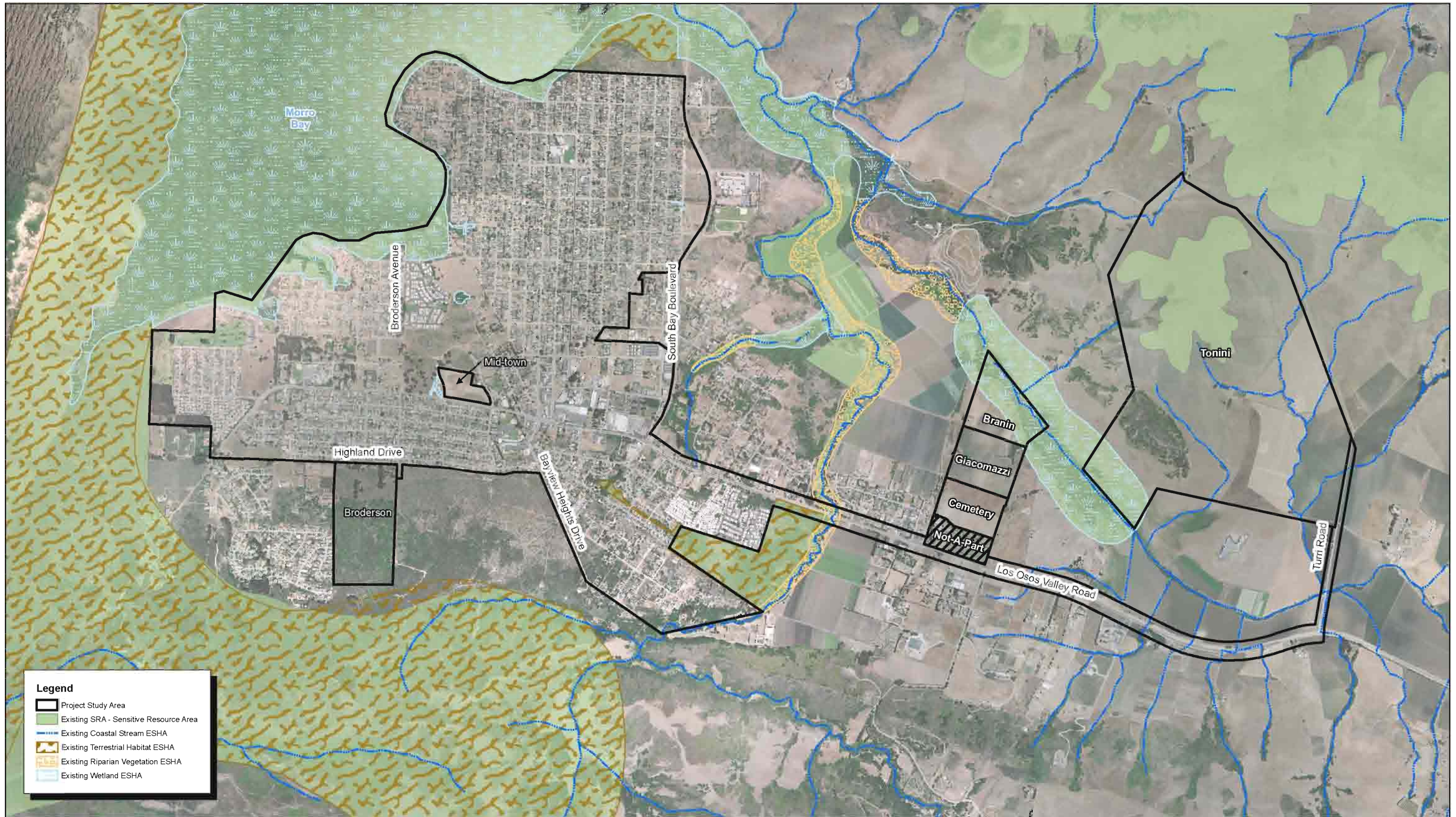
SRA lands are subject to the provisions of Sections 23.07.160 – Section 23.07.166 of the CZLUO.

The CZLUE and CZLUO Combining Designations for SRAs are applied by the official maps of the Land Use Element of the Estero Area Plan Update to identify areas “with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources.”

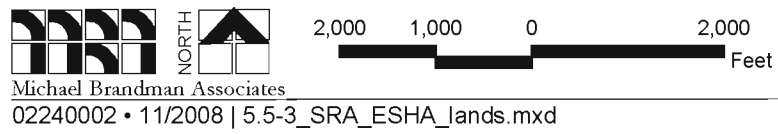
For all Proposed Projects, the collection system would occur in lands located within the Los Osos Urban Reserve Line (URL) and within rural areas of the Coastal Zone and Estero Area Plan. Four areas supporting existing SRA lands occur on or in the vicinity of the collection system (and pipelines therein). These include the Morro Bay SRA, Morro Bay Shoreline SRA, Los Osos Oak Forest SRA, and Los Osos Creek SRA. Exhibit 5.5-3 depicts all existing SRA lands that occur in the vicinity of the study area. A discussion of the collection system for all Proposed Projects in relation to these SRA lands is provided below.

*Existing SRA Lands:*

For all Proposed Projects, areas to be served by the collection system that occur within the northern and western portions community of Los Osos will occur in the vicinity of Morro Bay, and specifically, the Morro Bay SRA and Morro Bay Shoreline SRA. All proposed developments associated with the collection system within the northern and western portions community of Los Osos will incorporate the minimum required setbacks from the mean high tide line or other set line from Morro Bay to ensure that no impacts to the Morro Bay SRA and Morro Bay Shoreline SRA occur. Therefore, no impacts are anticipated to these SRA lands.



Source: AirPhoto USA and San Luis Obispo County GIS.



**Exhibit 5.5-3**  
**SRA and ESHA Lands**



For all Proposed Projects, the wastewater and treated pipelines within the Los Osos Valley Road ROW will occur in the vicinity of Los Osos Oaks State Park, which has been designated as the Los Osos Oak Forest SRA. All proposed developments associated with the raw wastewater and treated effluent pipelines within the Los Osos Valley Road ROW adjacent to the Los Osos Forest SRA will incorporate the minimum setbacks from and oak trees or other sensitive habitat that occurs within this SRA. Therefore, no impacts are anticipated to this SRA.

For all Proposed Projects, the raw wastewater and treated effluent pipelines will occur within Los Osos Creek and the Los Osos Creek SRA. According to the Estero Area Plan Combining Designations set forth within the Land Use Element and Local Coastal Plan of the County of San Luis Obispo General Plan, the Los Osos Creek SRA is valued as a local resource supporting an anadromous fish stream for southern steelhead, and an important riparian corridor. Environmental concerns of the Los Osos Creek SRA include contamination and excessive siltation of both the creek and the bay by development or other adverse uses occurring too close to the creek and its tributaries. For all Proposed Projects, the collection system would include crossing of Los Osos Creek for the installation of raw wastewater and treated effluent pipelines. The proposed methodology for the installation of these pipelines includes open-cut trenching along straight linear sections. Open-cut trenching would result in the removal of riparian vegetation along the trench route and the temporary excavation of linear sections of the streambed of Los Osos Creek. These impacts would be considered significant within the Los Osos Creek SRA. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 would ensure project consistency and reduce impacts to the Los Osos Creek SRA associated with the installation of wastewater and treated effluent conveyance pipelines for all Proposed Projects to less than significant.

CZLUO Section 23.07.170: Environmentally Sensitive Habitat Area (ESHA)

ESHA lands are subject to the provisions of Section 23.07.170 of the CZLUO. According to the CZLUO, an ESHA is a “type of SRA where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development. ESHA lands include wetlands, coastal streams, riparian vegetation, terrestrial habitat, and marine habitat and are mapped as Land Use Element combining designations.”

Areas supporting existing ESHA lands that occur on or in the vicinity of the collection system (and pipelines therein) include the following: wetlands within Morro Bay (shoreline); wetlands within the community of Los Osos; coastal streams within Los Osos Creek; Warden Creek; five unnamed drainage features along the Los Osos Valley Road ROW; one unnamed drainage feature along the Turri Road ROW; one unnamed drainage feature within the Tonini property; riparian vegetation within Los Osos Creek; and terrestrial habitat within Los Osos Oaks State Park. Exhibit 5.5-3 depicts all existing ESHA lands that occur in the vicinity of the study area. Discussions of the collection system for all Proposed Projects in relation to these existing ESHA lands are provided below.

*Existing Wetland ESHA:*

For all Proposed Projects, areas supporting existing wetland ESHA that occur on or in the vicinity of the collection system (and pipelines therein) include wetland areas mapped along the eastern shoreline of Morro Bay. As discussed above for the Morro Bay SRA and Morro Bay Shoreline SRA, all proposed developments associated with the collection system within the northern and western portions community of Los Osos will incorporate the minimum required setbacks from the mean high tide line or other set line from Morro Bay. These setbacks will ensure that no impacts to these existing wetland ESHAs occur.

A number of wetlands have also been identified throughout the community of Los Osos in the vicinity of areas proposed for the collection system for all Proposed Project. These are mapped on Exhibit 5.5-2 and are referred to herein as Wetland MB-1 through Wetland MB-6. All proposed developments associated with the collection system within the community of Los Osos will incorporate the minimum required setbacks from these wetland features. These setbacks will ensure that no impacts to these existing wetland ESHAs occur. Therefore, no direct impacts to existing wetland ESHAs are anticipated.

The collection system for all Proposed Projects could result in indirect impacts to wetland ESHAs that occur in the immediate vicinity of proposed developments. Construction activities associated with the development and installation of collection system components could result in increased sedimentation and other adverse water quality impacts to adjacent wetlands. These impacts would be considered significant. Impacts associated with the laying of collection system in the vicinity of these wetlands will be temporary and consistent with the biological continuance of the habitat. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and reduce potential indirect impacts to wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant.

*Existing Coastal Stream ESHA:*

For all Proposed Projects, areas supporting existing coastal stream ESHAs that occur on or in the vicinity of the collection system (and pipelines therein) include the coastal streams of Los Osos Creek and Warden Creek, and drainages W-3, W-4, W-5, W-5a, W-5b, T-1, and T-2. Development within these existing ESHA lands would result from the installation of pipelines using open-cut trenching methodologies. These impacts would be considered significant. Impacts associated with the laying of pipelines across all drainages will be temporary and consistent with the biological continuance of the habitat. All development within or adjacent to these coastal streams and other jurisdictional areas will be preceded by obtaining appropriate permits from regulatory agencies and implementing all preconstruction requirements and avoidance measures for special status species. These and other mitigation measures would be required as conditions of project approval. Mitigation measures 5.5-

A6, 5.5-A7, 5.5-A8, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 will ensure project consistency and reduce impacts to less than significant.

*Existing Riparian Vegetation ESHA:*

For all Proposed Projects, areas supporting existing riparian vegetation ESHA that occur on or in the vicinity of the collection system (and pipelines therein) including Los Osos Creek. As discussed above for the Los Osos Creek SRA, for all Proposed Projects, the collection system would include crossing of Los Osos Creek for the installation of raw wastewater and treated effluent pipelines. The proposed methodology for the installation of these pipelines includes open-cut trenching along straight linear sections. Open-cut trenching would result in the removal of riparian vegetation along the trench route and the temporary excavation of linear sections of the streambed of Los Osos Creek. These impacts would be considered significant within existing riparian vegetation ESHA. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 would ensure project consistency and reduce impacts to existing riparian vegetation ESHA associated with the installation of wastewater and treated effluent conveyance pipelines for all Proposed Projects to less than significant.

*Existing Terrestrial Habitat ESHA:*

For all Proposed Projects, areas supporting existing terrestrial habitat ESHAs that occur on or in the vicinity of the collection system (and pipelines therein) include terrestrial habitat within Los Osos Oaks State Park. As discussed above for the Los Osos Oak Forest SRA, all proposed developments associated with the raw wastewater and treated pipelines adjacent to the Los Osos Oaks State Park will incorporate the minimum setbacks from oak trees or other terrestrial habitat that occurs within this existing terrestrial habitat ESHA. Therefore, no impacts are anticipated to this existing terrestrial habitat ESHA.

CZLUO Section 23.07.172 – Section 23.07.174: Wetlands, Streams, and Riparian Vegetation

Wetlands, streams, and riparian vegetation are subject to the provisions of Section 23.07.172 – Section 23.07.174 of the CZLUO. Provisions protecting wetlands are intended “to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands.” Provisions protecting streams and riparian vegetation are intended “to preserve and protect the natural hydrological system and ecological functions of coastal streams.” Areas that contain wetlands, streams, and riparian vegetation could also be considered ESHA lands if they have not been designated as such in the CZLUE and CZLUO Combining Designations. Therefore, they are also referred herein as potential ESHA lands. Areas that contain wetlands, streams, and riparian vegetation within existing ESHA lands are discussed above.

For all Proposed Projects, areas determined to contain wetlands, streams, and riparian vegetation that occur on or in the vicinity of the collection system (and pipelines therein) include Wetland MB-1 through Wetland MB-6 within the community of Los Osos, Los Osos Creek and Warden Creek, and drainages W-3, W-4, W-5, W-5a, W-5b, T-1, and T-2. All of these areas occur as existing ESHA lands and are discussed above. Further discussion of wetlands, streams, and riparian vegetation is

also provided in Impact 5.5-C. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 would ensure project consistency and reduce potential direct and indirect impacts to wetlands, streams, and riparian vegetation associated with the installation of wastewater and treated effluent conveyance pipelines for all Proposed Projects to less than significant. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would further reduce potential indirect impacts to wetlands and other water resources to less than significant.

In addition to being designated as existing wetland, coastal stream, and riparian vegetation ESHA lands, areas containing occupied habitat and suitable breeding habitat for California red-legged frog, including Los Osos and Warden Creeks, and their associated tributaries, would also qualify as potential ESHA lands within their wetland influence and suitable habitat areas. Further discussion regarding California red-legged frog and its habitat is provided in Impact 5.5-A. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 would ensure project consistency and reduce impacts to potential ESHA lands associated with the installation of wastewater and treated effluent conveyance pipelines for all Proposed Projects to less than significant.

*CZLUO Section 23.07.176: Terrestrial Habitat Protection*

Terrestrial habitat containing sensitive resources is subject to the provisions of Section 23.07.176 of the CZLUO. Provisions protecting terrestrial habitats are intended “to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitats. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal.” Areas that contain terrestrial habitat could also be considered ESHA lands if they have not been designated as such in the CZLUE and CZLUO Combining Designations. Therefore, they are also referred herein as potential ESHA lands. Terrestrial habitat within existing ESHA lands are discussed above.

As part of the collection systems for Proposed Projects 2 through 4, pump station developments are proposed within potential ESHA lands containing terrestrial habitat associated with the Mid-Town property and other parcels located within developed portions of the community of Los Osos. Impacts resulting from pump station developments would be permanent. Terrestrial habitat within these areas contain suitable habitat for the Morro manzanita, Morro Bay blue butterfly, and Morro shoulderband snail. All developments within or adjacent to terrestrial habitat within these areas will be preceded by formal consultation with the USFWS and CDFG. Impacts would be mitigated to a less than significant level pursuant to mitigation measures 5.5-A1, 5.5-A3, 5.5-A4, 5.5-A10, 5.5-A11, 5.5-A13, and 5.5-A15 provided in this section of the EIR, and through determinations resulting from wildlife agency consultation. Implementation of these measures would ensure project consistency with this ordinance.



*Treatment Plant Site*

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)  
CZLUO Sections 23.07.160 – Section 23.07.166: Sensitive Resource Area (SRA)

The treatment plant site for Proposed Project 1 will occur within rural areas of the Coastal Zone and Estero Area Plan. A single area supporting existing SRA lands occurs in the vicinity of the treatment plant site for Proposed Project 1. This existing SRA is known as the Warden Lakes SRA. A discussion of the treatment plant site for Proposed Project 1 in relation to the Warden Lakes SRA is provided below.

*Existing SRA Lands:*

Proposed Project 1 would include the development of appurtenance facilities on the Branin property in the vicinity of the Warden Lakes SRA. No direct impacts to any stream, wetland, or riparian vegetation associated with the Warden Lakes SRA will result from the treatment plant site developments for Proposed Project 1. All developments have been sited with adequate setbacks from wetlands and other sensitive resources. The northeastern corner of appurtenances facilities proposed within the Branin site is located approximately 275 linear feet from stream, wetland, or riparian vegetation associated with the Warden Lakes SRA. Therefore, developments associated with the treatment plant site for Proposed Project 1 are adequately set back from the Warden Lakes SRA, and would not result in any impacts to this existing SRA.

CZLUO Section 23.07.170: Environmentally Sensitive Habitat Area (ESHA)

Areas supporting existing ESHA lands that occur on or in the vicinity of the treatment plant site include the following: wetlands within Warden Lake; coastal streams within two unnamed drainage features within the Tonini property; and riparian vegetation within Warden Lake. A discussion of the treatment plant site for Proposed Project 1 in relation to these existing ESHA lands are provided below.

*Existing Wetland ESHA:*

Areas supporting existing wetland ESHAs that occur on or in the vicinity of the treatment plant site for Proposed Project 1 include wetland areas mapped for Warden Lake. As discussed above for the Warden Lake SRA, all proposed developments associated with the treatment plant site for Proposed Project 1 incorporate adequate setbacks from wetlands associated with Warden Lake. These setbacks will ensure that no impacts to existing wetland ESHAs occur. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and reduce potential indirect impacts to wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant. Therefore, no impacts to existing wetland ESHAs are anticipated.

*Existing Coastal Stream ESHA:*

For all Proposed Projects, no portions of the treatment plant sites occur within areas supporting existing coastal stream ESHA. Therefore, no impacts are anticipated to areas containing an existing coastal stream ESHA.

*Existing Riparian Vegetation ESHA:*

Areas supporting existing riparian vegetation ESHAs that occur on or in the vicinity of the treatment plant site for Proposed Project 1 include areas containing riparian vegetation that are mapped within Warden Lake. As discussed above for the Warden Lake SRA, all proposed developments associated with the treatment plant site for Proposed Project 1 incorporate adequate setbacks from the canopy of riparian vegetation associated with Warden Lake. These setbacks will ensure that no impacts to existing riparian vegetation ESHA occur. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and reduce potential indirect impacts to riparian habitat to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts to less than significant. Therefore, no impacts to existing riparian vegetation ESHAs are anticipated.

*Existing Terrestrial Habitat ESHA:*

For all Proposed Projects, no portions of the treatment plant site occur within areas supporting existing terrestrial habitat ESHAs. Therefore, no impacts are anticipated to areas containing an existing terrestrial habitat ESHAs.

*CZLUO Section 23.07.172 – Section 23.07.174: Wetlands, Streams, and Riparian Vegetation*

For all Proposed Projects, no portions of the treatment plant site will occur within any areas supporting wetlands or riparian vegetation defined in this ordinance. No portions of the treatment plant sites occur within areas that would be considered potential wetlands or riparian vegetation ESHA. The closest developments to wetlands or riparian vegetation defined in this ordinance or potential wetlands or riparian vegetation ESHA include the proposed facultative ponds on the Giacomazzi property and the appurtenances facilities on the Branin property. These developments have been sited with adequate setbacks. The eastern edge of the facultative ponds proposed within the Giacomazzi property is located approximately 220 linear feet from wetlands or riparian vegetation within W-2, and the northeastern corner of appurtenances facilities proposed within the Branin site is located approximately 275 linear feet from wetlands and riparian vegetation within Warden Lake. Therefore, developments associated with the treatment plant site for Proposed Project 1 would not result in any direct impacts to wetlands or riparian vegetation defined in this ordinance or potential wetlands or riparian vegetation ESHA.

Treatment plant site developments for Proposed Project 1 could result in indirect impacts to wetlands or riparian vegetation through the filling of a reach of W-2 that occurs upstream of wetlands waters of the U.S. The permanent filling of this reach of W-2 would result from the construction and development of facultative ponds on the Giacomazzi property, and could result in increased sedimentation and other adverse water quality impacts to downstream wetlands and riparian vegetation. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and

reduce potential indirect impacts to wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant.

Drainage W-2 is not mapped as an existing coastal stream ESHA, however it would qualify as a potential coastal stream ESHA. Further discussion of streams is also provided in Impact 5.5-C. Mitigation measures 5.5-C1 through 5.5-C3 would ensure project consistency and reduce direct impacts to streams and potential coastal stream ESHA associated with the treatment plant site for Proposed Projects 1 through 3 to less than significant.

CZLUO Section 23.07.176: Terrestrial Habitat Protection

For all Proposed Projects, no portions of the treatment plant site occur within areas supporting terrestrial habitat defined in this ordinance. No portions of the treatment plant site occur within areas be considered a potential terrestrial habitat ESHA. Therefore, no impacts will occur to terrestrial habitat defined in this ordinance or potential terrestrial habitat ESHA.

#### *Disposal Sites*

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)

CZLUO Sections 23.07.160 – Section 23.07.166: Sensitive Resource Area (SRA)

The disposal sites for Proposed Project 1 will occur within both the URL and rural areas of the Coastal Zone and Estero Area Plan. A single area mapped as an existing SRA land occurs in the vicinity of the sprayfields for Proposed Project 1. This existing SRA is known as the Peaks Area SRA. A discussion of the treatment plant site for Proposed Project 1 in relation to the Peaks Area SRA is provided below.

#### *Existing SRA Lands:*

Proposed Project 1 would include the development and operation of sprayfields on the Tonini property in the vicinity of the Peaks Area SRA. The Peaks Area SRA is defined by volcanic peaks that separate the Chorro Valley and Los Osos Valley. These peaks are connecting ridges that are natural landmarks designated scenic restrictive lands. The area proposed for sprayfields will be restricted to lower slopes and shallow topography on the Tonini property. No developments are proposed within any of the upper slopes or peaks that could be considered parts of the Peaks Area SRA. All developments have been sited and designed with adequate setbacks from upper slopes, peaks, and other sensitive resources. Therefore, developments associated with the sprayfield component of the disposal sites for Proposed Project 1 would not result in any impacts to this existing SRA and the project would be consistent with this ordinance.

CZLUO Section 23.07.170: Environmentally Sensitive Habitat Area (ESHA)

Areas supporting existing ESHA lands that occur on or in the vicinity of the disposal site include the following: coastal streams within two unnamed drainage features within the Tonini property. A discussion of the disposal sites for Proposed Project 1 in relation to these existing ESHA lands are provided below.

*Existing Wetland ESHA:*

For all Proposed Projects, no portions of the disposal sites occur within areas supporting existing wetland ESHA. Therefore, no impacts are anticipated to areas containing an existing wetland ESHA.

*Existing Coastal Stream ESHA:*

For all Proposed Projects, the sprayfields component of the disposal sites will occur in the vicinity of drainage T-1 and T-2, both of which are mapped within an existing coastal stream ESHA. No direct impacts will occur to any coastal stream areas as a result of sprayfield development and operation. The sprayfields have been designed with adequate setbacks from these existing coastal streams. No indirect impacts resulting from water quality would occur as well. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and reduce potential indirect impacts to wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant. Therefore, no impacts are anticipated to areas containing an existing coastal stream ESHA.

*Existing Riparian Vegetation ESHA:*

For all Proposed Projects, no portions of the disposal sites occur within areas supporting existing riparian vegetation ESHA. Therefore, no impacts are anticipated to areas containing an existing riparian vegetation ESHA.

*Existing Terrestrial Habitat ESHA:*

For all Proposed Projects, no portions of the disposal sites occur within areas supporting existing terrestrial habitat ESHA. Therefore, no impacts are anticipated to areas containing an existing terrestrial habitat ESHA.

*CZLUO Section 23.07.172 – Section 23.07.174: Wetlands, Streams, and Riparian Vegetation*

For all Proposed Projects, no portions of the disposal sites will occur within any areas supporting wetlands, streams, or riparian vegetation defined in this ordinance. No portions of the treatment plant site occur within areas that would be considered potential wetlands, streams, or riparian vegetation ESHA. Therefore, developments associated with the disposal sites for Proposed Project 1 would not result in any direct impacts to wetlands, streams, or riparian vegetation defined in this ordinance or wetlands, streams, or riparian vegetation ESHA.

Sprayfield developments for Proposed Project 1 could result in potential indirect impacts to wetlands and streams through the spraying of secondary treated water within adjacent upland areas. All spraying will be restricted within upland areas that are provided adequate setbacks from wetlands, streams, or riparian vegetation that occur within the Tonini property. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would ensure project consistency and reduce potential indirect impacts to

wetlands and other water resources to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts pertaining to water quality to less than significant. Developments associated with the disposal sites for Proposed Project 1 would not result in any indirect impacts to wetlands, streams, or riparian vegetation defined in this ordinance or wetlands, streams, or riparian vegetation ESHA.

CZLUO Section 23.07.176: Terrestrial Habitat Protection

For all Proposed Projects, the leachfields component of the disposal sites will occur within terrestrial habitat on the Broderson property that supports, or has the potential to support, special status plant and wildlife species. As such, the area would be considered terrestrial habitat pursuant to this ordinance and could be considered a potential terrestrial habitat ESHA as well.

The 8-acre Broderson leachfield site is characterized by coastal sage scrub and eucalyptus woodland habitat supported by Baywood fine sands. The site provides suitable habitat for the following special status plant and lichen species: Morro manzanita, Monterey spineflower, Blochman leafy daisy, saint's daisy, Indian knob mountainbalm, San Luis Obispo wallflower, curly-leafed monardella, dune almond, spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen. The site also provides suitable habitat for the following special status wildlife species: Monarch butterfly, Morro Bay kangaroo rat, Morro shoulderband snail, Morro blue butterfly, and Allen's hummingbird. Impacts to terrestrial habitat that is determined to be occupied and/or suitable for these species would be significant. A detailed discussing of impacts associated with the leachfields to these species and their habitat is provided in Impact 5.5-A. Mitigation measures 5.5-A1 through 5.5-A5, 5.5-A9, and 5.5-A10 through 5.5-A16 would ensure project consistency and reduce impacts to terrestrial habitat pursuant to this ordinance and potential terrestrial habitat ESHA to less than significant.

#### *Combined Project Effects*

The construction and operation of the proposed components for the collection system, treatment plant, and leachfields of Proposed Project 1 could result in a measurable combined effect on resources protected under local policies and ordinances. Implementation of Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1 would ensure that Proposed Project 1 is consistent with local policies and ordinances.

## **Proposed Project 2**

### *Collection System*

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)

CZLUO Sections 23.07.160 – Section 23.07.166: Sensitive Resource Area (SRA)

The collection system for Proposed Projects 2 through 4 will be the same as Proposed Project 1, with the exception of the additional development of seven pump stations within the Mid-Town property and parcels within the community of Los Osos and 12 pocket pumps on parcels within the community of Los Osos. The collection system would not require excavation to place STE tanks on all of properties connecting to the system. All proposed developments associated with the collection system will incorporate the minimum required setbacks from the mean high tide line or other set line

from Morro Bay to ensure that no impacts to the Morro Bay SRA and Morro Bay Shoreline SRA occur. Therefore, no impacts are anticipated to these SRA lands and the project would be consistent with this ordinance.

See also impact analysis and proposed mitigation measures for the collection system for Proposed Project 1 above.

CZLUO Section 23.07.170: Environmentally Sensitive Habitat Area (ESHA)

The collection system for Proposed Projects 2 through 4 will be the same as Proposed Project 1, with the exception of the additional development of seven pump stations within the Mid-Town property and parcels within the community of Los Osos and 12 pocket pumps on parcels within the community of Los Osos. The collection system would not require excavation to place STE tanks on all of properties connecting to the system and thus would have a reduced impact. All proposed developments associated with the collection system will incorporate the minimum required setbacks from areas containing existing wetland and terrestrial habitat ESHA. No impacts are anticipated to these existing ESHA lands. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-A11, 5.5-A12 and 5.5-C1 through 5.5-C3 will ensure project consistency and reduce impacts to land containing existing coastal stream and riparian vegetation ESHA less than significant. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to drainage and surface water quality that would also ensure project consistency and further reduce potential indirect impacts to wetland, coastal stream, and riparian vegetation ESHA to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts to less than significant.

CZLUO Section 23.07.172 – Section 23.07.174: Wetlands, Streams, and Riparian Vegetation

The collection system for Proposed Projects 2 through 4 will be the same as Proposed Project 1, with the exception of the additional development of seven pump stations within the Mid-Town property and parcels within the community of Los Osos and 12 pocket pumps on parcels within the community of Los Osos. The collection system would not require excavation to place STE tanks on all of properties connecting to the system. All additional pump station developments associated with the collection system of Proposed Projects 2 through 4 will incorporate the minimum required setbacks from all wetland, streams, and riparian vegetation. Potential impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions provided by the appropriate regulatory agencies, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. Further discussion of wetlands, streams, and riparian vegetation is also provided in Impact 5.5-C. Mitigation measures 5.5-A6, 5.5-A7, 5.5-A8, 5.5-A11, 5.5-A12, and 5.5-C1 through 5.5-C3 would ensure project consistency and reduce impacts to wetlands, streams, and riparian vegetation to less than significant. As proposed within PDF 5.3A-1 through PDF 5.3A-6 in Section 5-3 of the Draft EIR, construction activities and proposed developments would implement Best Management Practices and measures relating to

drainage and surface water quality that would also ensure project consistency and further reduce potential indirect impacts to wetlands, streams, and riparian vegetation to less than significant. Mitigation measures 5.5-C1, 5.5-C2, and 5.5-C3 will further reduce potential indirect impacts to less than significant.

*CZLUO Section 23.07.176: Terrestrial Habitat Protection*

As part of the collection systems for Proposed Projects 2 through 4, pump station developments are proposed within potential ESHA lands containing terrestrial habitat associated with the Mid-Town property and other parcels located within the community of Los Osos and 12 pocket pumps on parcels within the community of Los Osos. The collection system would not require excavation to place STE tanks on all of properties connecting to the system. Impacts resulting from pump station developments would be permanent. Terrestrial habitat within these areas contain suitable habitat for the Morro manzanita, Morro Bay blue butterfly, and Morro shoulderband snail. All developments within or adjacent to terrestrial habitat within these areas will be preceded by formal consultation with the USFWS and CDFG. Impacts would be mitigated to a less than significant level pursuant to mitigation measures 5.5-A1, 5.5-A3, 5.5-A4, 5.5-A10, 5.5-A11, 5.5-A13, and 5.5-A15 provided in this section of the EIR, and through determinations resulting from wildlife agency consultation. Implementation of these measures would ensure project consistency with this ordinance.

*Treatment Plant Site*

The treatment plant site for Proposed Project 2 incorporates 450-linear foot setbacks of foxidation ditch/biolac facilities from wetlands and riparian vegetation within the existing Warden Lake SRA. Similar to Proposed Project 1, the treatment plant site for Proposed Project 2 would result in impacts to a stream and potential coastal stream ESHA (W-2), and potential indirect impacts to wetlands and riparian vegetation within W-1 and areas containing potential wetlands and riparian vegetation ESHA. See impact analysis and proposed mitigation for treatment plant site for Proposed Project 1 above for consistency determination.

*Disposal Sites*

The disposal sites for Proposed Project 2 would be the same as that which is proposed for Proposed Project 1 with the addition of an up to 8-acre storage pond on the Tonini site. Adequate setbacks are incorporated in the siting and design and no indirect water quality impacts would occur. See impact analysis and proposed mitigation for disposal sites for Proposed Project 1 above for consistency determination.

*Combined Project Effects*

The construction and operation of the proposed components for the collection system, treatment plant, and leachfields of Proposed Project 2 could result in a measurable combined effect on resources protected under local policies and ordinances. Implementation of Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1 would ensure that Proposed Project 2 is consistent with local policies and ordinances.

**Proposed Project 3***Collection System*

The collection system for Proposed Project 3 would be the same as that which is proposed for Proposed Project 2. See impact analysis and proposed mitigation measures for the collection system for Proposed Project 2 above for consistency determination.

*Treatment Plant Site*

The treatment plant site for Proposed Project 3 incorporates 350-linear foot setbacks of appurtenance facilities from wetlands and riparian vegetation within the existing Warden Lake SRA. Similar to Proposed Projects 1 and 2, the treatment plant site for Proposed Project 3 would result in impacts to a stream and potential coastal stream ESHA (W-2), and potential indirect impacts to wetlands and riparian vegetation within W-1 and areas containing potential wetlands and riparian vegetation ESHA. See impact analysis and proposed mitigation for treatment plant site for Proposed Project 1 above for consistency determination.

*Disposal Sites*

The disposal sites for Proposed Project 3 would be the same as that which is proposed for Proposed Project 1. See impact analysis and proposed mitigation for disposal sites for Proposed Project 1 above for consistency determination.

*Combined Project Effects*

The construction and operation of the proposed components for the collection system, treatment plant, and leachfields of Proposed Project 3 could result in a measurable combined effect on resources protected under local policies and ordinances. Implementation of Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1 would ensure that Proposed Project 3 is consistent with local policies and ordinances.

**Proposed Project 4***Collection System*

The collection system for Proposed Project 4 would be similar to that which is proposed for Proposed Project 2 and 3. The raw wastewater pipeline would parallel the treated effluent pipeline along LOVR to Turri Road where an additional crossing of Warden Creek and two crossings of an unnamed drainage feature on Tonini property (herein referred to as T-1). See impact analysis and proposed mitigation measures for the collection system for Proposed Project 2 above for consistency determination.

*Treatment Plant Site*

Adequate setbacks are incorporated in the siting and design of the treatment plant for Proposed Project 4, and no indirect water quality impacts would occur. Therefore, no impacts are anticipated to result from the treatment plant site for Proposed Project 4, and the project would be consistent with this ordinance.



#### *Disposal Sites*

The disposal sites for Proposed Project 4 would be the same as that which is proposed for Proposed Projects 1 through 3, with the exception of minor changes in the location of the proposed sprayfields to accommodate the treatment plant site and the placement of a storage pond in a location similar to that discussed for Project 2. Adequate setbacks are incorporated in the siting and design and no indirect water quality impacts would occur. These impacts would not change from Proposed Projects 1 through 3. See impact analysis and proposed mitigation for disposal sites for Proposed Project 1 above for consistency determination.

#### *Combined Project Effects*

The construction and operation of the proposed components for the collection system and leachfields of Proposed Project 4 could result in a measurable combined effect on resources protected under local policies and ordinances. Implementation of Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1 would ensure that Proposed Project 4 is consistent with local policies and ordinances.

### ***Cumulative Impact Analysis***

Section 4 of the Draft EIR provides a discussion of the cumulative setting for all Proposed Projects, and Table 4-1 provides a list of projects that were considered for the cumulative impact analysis. Of the projects considered for the cumulative impacts analysis, none were determined to have considerable effect on local policies and ordinances relevant to the Proposed Projects. When considered against the cumulative setting, potential cumulative impacts to local policies and ordinances would be limited to that which may result from the Proposed Projects. Implementation of Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1 would ensure that Proposed Project 4 is consistent with local policies and ordinances.

### ***Mitigation Measures***

#### **Project-Specific**

##### *Proposed Project 1*

See mitigation measures 5.5-A1 through 5.5-A16. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

##### *Proposed Project 2*

See mitigation measures 5.5-A1 through 5.5-A16. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

##### *Proposed Project 3*

See mitigation measures 5.5-A1 through 5.5-A16. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

*Proposed Project 4*

See mitigation measures 5.5-A1 through 5.5-A16. See also mitigation measures 5.5-C1 through 5.5-C3, and PS-1.

**Cumulative**

No additional mitigation is required. Mitigation Measures 5.5-A1 through 5.5-A16, 5.5-C1 through 5.5-C3, PDF 5.3A-1, through PDF 5.3A-6, and PS-1.

**Level of Significance After Mitigation**

**Project-Specific**

*Proposed Project 1*

Less than significant. Project is consistent with applicable local policies and ordinances.

*Proposed Project 2*

Less than significant. Project is consistent with applicable local policies and ordinances.

*Proposed Project 3*

Less than significant. Project is consistent with applicable local policies and ordinances.

*Proposed Project 4*

Less than significant. Project is consistent with applicable local policies and ordinances.

**Cumulative**

Less than significant.

**Conservation Plans**

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<b>5.5-F:</b>	<b>The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</b>
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***Project-Specific Impact Analysis***

No impact.

None of the Proposed Projects 1 through 4 not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other approved local, regional, or state habitat conservation plan. Proposed Projects 1 through 4 occur within the boundaries of the Draft Los Osos Habitat Conservation Plan. This plan has not been approved or implemented to date. The Draft LOHCP was prepared with the intention of including a wastewater facility project as a covered activity. Implementation the wastewater facility project would assist in the acquisition of preserve lands to benefit special status species and their habitat. All Proposed Projects 1 through 4 would be consistent with the provisions that are proposed within the Draft LOHCP. Implementation of any of the Proposed Projects 1 though 4 would result in the acquisition of mitigation lands on the Broderson property. These mitigation lands would contribute to the future assembly of a preserve system for a forthcoming adopted HCP for the local area.

**Cumulative Impact Analysis**

No impact.

**Mitigation Measures**

No mitigation is required.

**Level of Significance After Mitigation**

No impact.

**Table 5.5-3: Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<b>Coastal Land Use Goals and Policies</b>				
23.06.102(a)(4) Regional Water Quality Control Board Review – Any application filed as set forth in Chapter 23.02 (Permit Applications), Section 23.05.020 (Grading)...is to be transmitted by the Planning Department to the RWB for review where on site wastewater treatment and disposal systems other than conventional individual septic tank absorption fields are proposed.	Copies of relevant applications will be forwarded to the RWQCB. Therefore, the projects are consistent with this ordinance.			
CZLUO Section 23.07.166(b) Sensitive Resource Areas (SRA): Minimum Site Design and Development Standards: Shorelines areas shall not be altered by grading, paving, or other development of impervious surfaces for a distance of 100 feet from the mean high tide line, 75 feet from any lakeshore, or 50 feet from any stream bank, except where authorized through Development Plan approval. There the requirements of the CDFG or other public agency having jurisdiction are different, the more restrictive regulations shall apply.	<p>For all proposed projects, the collection system will include excavation and potential paving (re-paving) of street right-of-ways within developed portions of the community of Los Osos that occur adjacent to SRA lands within Morro Bay. For all proposed projects, potential paving of impervious surfaces will be located as far as is feasible from the shoreline of Morro Bay. All potential paving of impervious surfaces will occur at distances greater than 100 feet from the mean high tide line of Morro Bay.</p> <p>For Proposed Projects 1 through 3, treatment plant facilities on the Cemetery, Giacomazzi, and/or Branin properties would include grading, paving, and/or the development of impervious surfaces adjacent to SRA lands within Warden Lake (Warden Creek wetland). For Proposed Projects 1 through 3, treatment plant facilities are located as far as is feasible from the shoreline of Warden Lake, at an excess of 75 feet. The distances from Warden Lake are identified for Proposed Projects 1 through 3 below.</p> <p>For all proposed projects, development within or adjacent to SRA lands within the Los Osos Creek streambank would result from the conveyance pipelines. The laying of pipelines across drainages would cause temporary impacts to the drainages and associated riparian vegetation. All development within or adjacent to this and all other streambanks will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated for as specifically outlined in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats.</p> <p>Adherence to the general and specific permit conditions provided by the USACE, RWQCB, and CDFG, and to CZLUO requirements for setbacks to wetlands, streams, and riparian vegetation, would satisfy the requirement that the</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
	development is sited and designed to protect habitat within SRA lands and be compatible with the continuance of such habitat. Therefore, the proposed projects are consistent with this ordinance.			
	<p>The appurtenances facility within the Branin site is located approximately 300 linear feet from Warden Lake.</p> <p>The edge of the facultative ponds on the Giacomazzi property is located approximately 220 linear feet from a wetland tributary of Warden Lake.</p>	<p>The oxidation ditch/biolac within the Giacomazzi site is located approximately 110 feet from a wetland tributary of Warden Lake.</p>	<p>The storage area on the Branin property is located approximately 350 linear feet from Warden Lake.</p> <p>The oxidation ditch/biolac is located approximately 200 linear feet from the Warden Lake.</p>	
<p>CZLUO Section 23.07.166(c) Sensitive Resource Areas (SRA): Minimum Site Design and Development Standards: Construction and landscaping activities shall be conducted to not degrade lakes, ponds, wetlands, or perennial watercourses within an SRA through filling, sedimentation, erosion, increased turbidity, or other contamination.</p>	<p>For all proposed projects, no development is proposed within any lakes or ponds within an SRA that is mapped according to the Land Use Element Combining Designations.</p> <p>For all proposed projects, development within or adjacent to SRA lands within the Los Osos Creek streambank would result from the conveyance pipelines. The laying of pipelines across drainages would cause temporary impacts to the drainages and associated riparian vegetation. All development within or adjacent to this and all other streambanks will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated for as specifically outlined in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats.</p> <p>Adherence to the general and specific permit conditions provided by the USACE, RWQCB, and CDFG, and to CZLUO requirements for setbacks to wetlands, streams, and riparian vegetation, would satisfy the requirement that the development is sited and designed to protect habitat within SRA lands and be compatible with the continuance of such habitat. Therefore, the proposed projects are consistent with this ordinance.</p>			
<p>CZLUO Section 23.07.166(e) Sensitive Resource Areas (SRA): Minimum Site Design and Development</p>	<p>For all proposed projects, no construction activities would occur within SRA lands specifically protecting species of trees, plants, or other vegetation according to mapping for the Land Use Element Combining Designations. Therefore, the proposed projects are consistent with this ordinance.</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
Standards: Where an SRA is applied because of specified species of trees, plants, or other vegetation, such species shall not be disturbed by construction activities or subsequent operation of the use, except where authorized by Development Plan approval.	Implementation of the proposed mitigation measures pertaining to Morro manzanita and other sensitive plant species, as well as compensatory mitigation and restoration of native vegetation communities provide further protection of species of trees, plants, or other vegetation outside of existing SRA lands.			
CZLUO Section 23.07.170(e) Environmental Sensitive Habitats (ESHA): Development standards for environmentally sensitive habitats: (1) New development within or adjacent to the habitat shall not significantly disrupt the resource. (2) New development within the habitat shall be limited to those uses that are dependent upon the resource. (3) Where feasible, damaged habitats shall be restored as a condition of development approval. (4) Development shall be consistent with the biological continuance of the habitat. (5) Grading adjacent to Environmentally Sensitive Habitats shall conform with the provisions of Section 23.05.034c (Grading Standards).	Existing ESHA Lands: As part of the wastewater and treated effluent conveyance systems for all proposed projects, pipeline developments are proposed within existing ESHA lands containing coastal stream, wetland, and/or riparian habitat associated with Los Osos Creek, Warden Creek, and unnamed drainages within the Los Osos Valley ROW (Drainages W-3, W-4, W-5, W-5a, and W-5b), according to the Land Use Element Combining Designations. For all proposed projects, development within or adjacent to these existing ESHA lands would result from the installation of conveyance pipeline s. Impacts associated with the laying of pipelines across all drainages will be temporary and will be consistent with the biological continuance of the habitat. All development within or adjacent to this and all other coastal streams and riparian habitat will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. These and other mitigation measures would be required as conditions of project approval.  Potential ESHA Lands: As part of the wastewater and treated effluent conveyance systems for all proposed projects, pipeline developments are proposed within potential ESHA lands containing coastal stream, wetland, and/or riparian habitat associated with seasonal wetlands within the Los Osos Valley Road ROW (Los Osos Valley Road seasonal wetlands). These seasonal wetlands are directly connected with relatively permanent waters that have downstream connectivity to Warden Creek. Impacts associated with the laying of pipelines across these features will be temporary and will be consistent with the biological continuance of the habitat. All development within or adjacent to this and all other coastal streams and riparian habitat will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, improvements and revegetation of downstream riparian and wetland habitats, or offsite areas as determined through permitting requirements. These and other mitigation measures would be required as conditions of project approval.			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
	<p>As part of the treatment plant facilities for Proposed Projects 1 through 3, the development of facultative ponds is proposed within potential ESHA lands containing coastal stream habitat associated with an unnamed drainage feature on the Giacomazzi property (Drainage W-2) and an unnamed drainage feature on the Tonini property (Drainage T-2). The affected reach of these drainage features do not support riparian habitat or wetland conditions; however, they do have downstream connectivity to riparian habitat and wetlands, and to Warden Creek and Warden Lake. Impacts to these reaches will be permanent. All development within or adjacent to this and all other coastal streams and riparian habitat will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, improvements and revegetation of downstream riparian and wetland habitats, or offsite areas as determined through permitting requirements. These and other mitigation measures would be required as conditions of project approval.</p> <p>As part of the collection systems for Proposed Projects 2 through 4, pump station developments are proposed within potential ESHA lands containing terrestrial habitat associated with the Mid-Town property and other parcels located within developed portions of the community of Los Osos. Impacts resulting from pump station developments would be permanent. Terrestrial habitat within these areas contain suitable habitat for special status plant species including the Morro manzanita, and special status wildlife species including the Morro shoulderband snail. All developments within or adjacent to terrestrial habitat within these areas will be preceded by formal consultation with the USFWS and CDFG. Impacts would be mitigated to a less than significant level pursuant to measures provided in this section of the EIR, and through determinations resulting from wildlife agency consultation.</p> <p>As part of the disposal site for all proposed projects, leachfield developments are proposed within potential ESHA lands containing terrestrial habitat associated with the Broderson property. Impacts resulting from leachfield developments would be permanent. Terrestrial habitat within these areas contain suitable habitat for special status plant species including the Morro manzanita, Monterey spineflower, and Indian knob mountainbalm, and special status wildlife species including the Morro shoulderband snail and Morro Bay kangaroo rat. All developments within or adjacent to terrestrial habitat within these areas will be preceded by formal consultation with the USFWS and CDFG. Impacts would be mitigated to a less than significant level pursuant to measures provided in this section of the EIR, and through determinations resulting from wildlife agency consultation.</p> <p>For all Proposed Projects 1 through 4, all potential grading adjacent to existing and potential ESHA lands shall conform to the Grading Standard provisions of Section 23.05.034c.</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
	With the implementation of mitigation measures during regulatory agency and wildlife agency consultation and permitting, in addition to those proposed in this section of the EIR, the project would be consistent with this ordinance.			
CZLUO Section 23.07.172(a) Wetlands: Location of Development: The development should be located as far away from the wetland as feasible, if other habitat values on the site are not thereby more adversely affected.	As part of the wastewater and treated effluent conveyance systems for all proposed projects, pipeline developments are proposed within wetlands associated with Warden Creek, unnamed drainages and seasonal wetlands within the Los Osos Valley Road ROW (Drainages W-3, W-4, W-5, W-5a, W-5b, and Los Osos Valley Road seasonal wetlands). For all proposed projects, development within or adjacent to these wetlands would result from the installation of conveyance pipelines. Impacts associated with the laying of pipelines across all drainages will be temporary and will be consistent with the biological continuance of the habitat. All development within or adjacent to these and all other wetlands will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. These and other mitigation measures would be required as conditions of project approval.			
	For all proposed projects, treatment plant facilities are located as far as is feasible from the nearest wetlands. The distances from these wetlands are identified for each proposed project below. The proposed projects are consistent with this ordinance.			
	The appurtenances facility within the Branin site is located approximately 300 linear feet from wetlands within Warden Lake (Warden Creek wetland).  The edge of the facultative ponds on the Giacomazzi property is located approximately 220 linear feet from a wetland tributary of Warden Lake (Warden Creek wetland).	The oxidation ditch/biolac within the Giacomazzi site is located approximately 110 feet from a wetland tributary of Warden Lake (Warden Creek wetland).	The storage area on the Branin property is located approximately 350 linear feet from Warden Lake (Warden Creek wetland).  The oxidation ditch/biolac is located approximately 200 linear feet from Warden Lake (Warden Creek wetland).	The edge of the facultative ponds at the Tonini site is located more than 100 linear feet from the Drainage T-1 and Drainage T-2 wetlands.  The storage area at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 wetlands.



**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
				The appurtenances facility at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 wetlands.
<p>CZLUO Section 23.07.172(c) Wetlands: Department of Fish and Game Review: The State Department of Fish and Game shall review all applications for development in or adjacent to coastal wetlands and recommend appropriate mitigation measures where needed which should be incorporated in the project design.</p>	<p>For the project that is implemented, an application would be submitted to the CDFG to obtain a 1602 Streambed Alteration Agreement for temporary and/or permanent impacts to Los Osos Creek, Warden Creek, Drainages W-4, W-5, W-5a, W-5b, T-2, and seasonal wetlands within the Los Osos Valley Road ROW, and their associated riparian vegetation. These impacts would occur at locations where the raw wastewater treatment conveyance and the effluent disposal pipelines cross these drainages. As part of the application review process, CDFG would review the jurisdictional delineation of waters and wetlands. Mitigation measures that need to be incorporated into the project design would be suggested to the CDFG for review.</p> <p>By notifying CDFG of the project (and impacts to jurisdictional waters) and by complying with mitigation measures that the agency recommends or approves, the implementation of any of the proposed projects would be consistent with this ordinance.</p>			
<p>CZLUO Section 23.07.172(d) Wetland setbacks New development must be located a minimum of 100 feet from the upland extent of all wetlands, unless alternative routes are either infeasible or more environmentally damaging, or unless adverse environmental effects are mitigated to the maximum extent feasible. If a biological report addressing Environmentally Sensitive Habitats determines that additional buffer is required, than a greater setback may be established. The uses that take place within that setback will include those listed in CZLUO</p>	<p>For the project that is implemented, an application would be submitted to the CDFG to obtain a 1602 Streambed Alteration Agreement for temporary and/or permanent impacts to Los Osos Creek, Warden Creek, Drainages W-4, W-5, W-5a, W-5b, T-2, and seasonal wetlands within the Los Osos Valley Road ROW, and their associated riparian vegetation. These impacts would occur at locations where the raw wastewater treatment conveyance and the effluent disposal pipelines cross these drainages. Impacts associated with the laying of pipelines across all drainages will be temporary and will be consistent with the biological continuance of the habitat. All development within or adjacent to these and all other wetlands will be preceded by obtaining appropriate permits from regulatory agencies. Such impacts would be mitigated to a less than significant level pursuant to general and specific permit conditions in the regulatory permits obtained from USACE, RWQCB, and CDFG, which would include, at minimum, recontouring and restoration of an affected streambed and revegetation of riparian and wetland habitats. These and other mitigation measures would be required as conditions of project approval.</p> <p>For all proposed projects, development would take place at least 100 linear feet from the upland extent of all wetlands. The only exceptions to this would include the placement of pipelines across Los Osos Creek, Warden Creek, Drainages W-4, W-5, W-5a, W-5b, T-2, and seasonal wetlands within the Los Osos Valley Road ROW, as discussed above, and the</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
23.07.182(d)(1) (Permitted uses within wetland setbacks). These are limited to passive recreation, educational uses, existing non-structural agricultural development in accordance with BMPs, utility lines, pipelines, drainage and flood control facilities, bridges and road approaches to bridges (under certain specified conditions) According to CZLUO 23.07.172(d)(2) (Wetland setback adjustment), setbacks can be adjusted, but in no case shall be less than 25 feet, providing that the site would be physically unusable for the principal permitted use unless the setback is reduced and the reduction is the minimum to enable the use to be established after all practical design modifications have been considered. If the setback is less than 100 feet, than mitigation will be required as identified in CZLUO 23.07.172(d)(3) (Requirements for wetland setback adjustment).	possible construction of a small, localized storm drain system leading from the detention/retention basin toward the jurisdictional drainages on site (which are allowed according to CZLUO Section 23.07.182(d)(1)). The distances of the treatment plant sites from these wetlands is identified for each proposed project below and are adequate; the projects would therefore be consistent with this ordinance.			
	The appurtenances facility within the Branin site is located approximately 300 linear feet from Warden Lake (Warden Creek wetland).  The edge of the facultative ponds on the Giacomazzi property is located approximately 220 linear feet from a wetland tributary of Warden Lake (Warden Creek wetland).	The oxidation ditch/biolac within the Giacomazzi site is located approximately 110 feet from a wetland tributary of Warden Lake (Warden Creek wetland).	The storage area on the Branin property is located approximately 350 linear feet from Warden Lake (Warden Creek wetland).  The oxidation ditch/biolac is located approximately 200 linear feet from the Warden Lake (Warden Creek wetland).	The edge of the facultative ponds at the Tonini site is located more than 100 linear feet from the Drainage T-1 and Drainage T-2 wetlands.  The storage area at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 wetlands.  The appurtenances facility at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 wetlands.
CZLUO Section 23.07.172(e) (1 through 3) Wetlands: Site development standards: Development affecting wetlands must adhere to these site development standards.	Diking, dredging or filling activities in wetland areas would be allowed to the extent that they are consistent with Environmentally Sensitive Habitats Policy 11 of the Local Coastal Plan and shall not be conducted without the property owner first securing approval of all permits required by this title.  Vehicles from public roads would be prevented from entering wetlands by the use of vehicular barriers.  Because the proposed projects include structures larger than 1,000 feet in floor area on parcels larger than one-acre that contains wetlands, the property owner would grant the County or an approved land trust an open space easement or fee title dedication of all portions of the site not proposed for development, as well as the entire wetland.  By adhering to these standards, all proposed projects are consistent with this ordinance.			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
CZLUO Section 23.07.174(a): Streams and Riparian Vegetation: Development adjacent to a coastal stream shall be sited and designed to protect the habitat and shall be compatible with the continuance of such habitat.	For all proposed projects, development adjacent to a coastal stream (Los Osos Creek and Warden Creek) would be preceded by obtaining appropriate permits from regulatory agencies. The laying of pipelines across these drainages would cause temporary impacts to the drainages and associated riparian vegetation. Such impacts would be mitigated for as specifically outlined in the regulatory permits obtained from USACE, RWQCB, and CDFG. Adherence to the general and specific permit conditions, and to CZLUO requirements for setbacks to wetlands and drainages, would satisfy the requirement that the development is sited and designed to protect habitat and be compatible with the continuance of such habitat. Impacts to riparian vegetation are discussed in Section 5.5, Biological Resources Analysis, of the EIR; therefore, the proposed projects are consistent with this ordinance.			
CZLUO Section 23.07.174(b): Channelization, dams or other substantial alteration of stream channels are limited to: (1): Necessary water supply projects (2): Flood control projects (3) Construction of improvements to fish and wildlife habitat In addition, every streambed alteration conducted pursuant to this title shall employ the best mitigation measures where feasible, including but not limited to: Avoiding the construction of hard bottoms; Using box culverts with natural beds rather than closed culverts to provide for better wildlife movement, and Pursuing directional drilling for pipes, cable, and conduits to avoid surface streambed disturbance.	For all proposed projects, the primary objective is to alleviate groundwater contamination - primarily nitrates - that has occurred at least partially because of the use of septic systems throughout the community of Los Osos.  Implementation of this project would result in reducing saline intrusion into coastal aquifers, which would result in a long term improvement to freshwater wetland systems, and their associated biological habitat. The project would also result in the elimination of grazing at the Tonini site, reducing pathogen loading on Warden Creek and Los Osos Creek and thereby improving the biological functions and values of these waters and having a direct and beneficial impact on fish and wildlife habitat. Therefore, all proposed projects would be consistent with this policy.			
CZLUO Section 23.07.174(d): Streams and Riparian Vegetation: Riparian Setbacks: New development shall be setback from the upland edge of riparian vegetation the	For all proposed projects, development would take place at least 100 linear feet from the upland edge of riparian areas. The distances of the treatment plant sites from these wetlands is identified for each proposed project below. The only exceptions to this would include the placement of conveyance pipelines within the Los Osos Valley Road ROW and Turri Road ROW. Conveyance pipelines would be required across Los Osos Creek, Warden Creek, and unnamed drainages			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<p>maximum amount feasible. In the urban areas, inside the URL, this setback shall be a minimum of 50 feet. In rural areas (outside the URL) this setback shall be a minimum of 100 feet. A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope, vegetation types, habitat quality, water quality, and any other environmental considerations.</p>	<p>containing riparian vegetation within the ROWs (W-3, W-4, W-5, W-5b, and T-2). Developments also include the possible construction of a small, localized storm drain system leading from the detention/retention basin toward jurisdictional drainages on a treatment plant site (which are allowed according to CZLUO Section 23.07.182(d)(1)). Therefore, the proposed projects would be consistent with this ordinance.</p>			
	<p>The appurtenances facility within the Branin site is located approximately 300 linear feet from the riparian areas associated with Warden Creek.</p> <p>The edge of the facultative ponds on the Giacomazzi property is located approximately 220 linear feet from a region containing riparian vegetation along a tributary of Warden Creek wetland.</p>	<p>The oxidation ditch/biolac within the Giacomazzi site is located approximately 110 feet from a tributary of Warden Creek wetland that includes riparian vegetation.</p>	<p>The storage area on the Branin property is located approximately 350 linear feet from Warden Creek wetland and associated riparian areas.</p> <p>The oxidation ditch/biolac is located approximately 200 linear feet from the Warden Creek wetland and associated riparian areas</p>	<p>The edge of the facultative ponds at the Tonini site is located more than 100 linear feet from the Drainage T-1 and Drainage T-2 riparian areas.</p> <p>The storage area at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 riparian areas.</p> <p>The appurtenances facility at the Tonini site is located more than 100 linear feet from Drainage T-1 and Drainage T-2 riparian areas.</p>
<p>CZLUO 23.07.174(d)(1): Streams and Riparian Vegetation: Permitted Uses within the setback: Permitted uses within the setback are limited to the same as those for wetland setbacks (23.07.172(d)(1) provided the same findings for that section can be made. However, pedestrian and equestrian trails and non-structural uses are permitted without those</p>	<p>For all proposed projects, facilities would be setback at least 100 feet from streams and riparian vegetation. The exception would be a storm drain to convey stormwater from the appurtenance facility of the treatment plant site to the nearest drainage (for Proposed Projects 1, 2, and 3, this is Warden Creek or Warden Creek wetland; for Proposed Project 4, this is Drainage 1 or Drainage 2 on the Tonini Site). Additionally, pipelines would cross Los Osos Creek (and associated wetlands) and Warden Creek. According to CZLUO 23.07.182(d)(1) (Permitted uses within wetland setbacks), uses which are allowed within this setback region include utility lines, pipelines, drainage facilities or flood control facilities). Therefore, the proposed projects are consistent with this ordinance.</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
findings being made. All permitted development in or adjacent to streams, wetlands, and other aquatic habitats shall be designed and/or conditioned to prevent the loss or disruption of the habitat, to protect water quality and to maintain or enhance (when feasible) biological productivity. Design measures are outlined in 23.07.174(d)(1)(i-ii) with respect to drainage controls.				
CZLUO 23.07.174(e): Streams and Riparian Vegetation: Alteration of riparian vegetation: Cutting or alteration of natural riparian vegetation that functions as a portion of, or protects, a riparian habitat shall not be permitted except for streambed alterations allowed by 23.07.174(a&b), or for minor public works projects, including utility lines, pipelines, driveways and roads, where the Planning Director determines no feasible alternative exists.		For all projects, cutting or alteration of riparian vegetation associated with Los Osos Creek and Warden Creek shall be for the purpose of placing pipelines or storm drains. Concurrence would be obtained from the Planning Director as to what constitutes the most feasible alternative for placing pipeline crossing and a possible minor storm drain leading from the detention/retention basin into the nearest drainage. Therefore, the proposed projects would be consistent with this ordinance.		
CZLUO 23.08.286(c)(1)(i) Where an existing or proposed pipeline is to be used for conveyance of toxic substances or highly volatile liquids other than crude oil...development plan approval is required;  CZLUO 23.08.286(c)(1)(ii) Development Plan approval is required for all surface facilities, pumping or booster stations		For the project that is implemented, development plan approval would be obtained from the County for the pipelines and pump stations associated with the project. Therefore, the proposed project that is implemented would be consistent with these ordinances.		

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<p>for pipelines, except that such facilities included by Section d, Chapter 7, Part I of the Land Use Element under the definition of “Public Utility Facilities” are subject to the applicable permit requirements for that use.</p> <p>CZLUO 23.08.286(c)(2) Application contents are listed and include the need for a detailed geologic hazard investigation, an engineering design component, a geohazards investigation, a trench inspection program, stream crossing information including utilization of low-flow periods, a restoration, erosion control and revegetation plan, and a biological survey within any Sensitive Resource Areas.</p>				
<p><b>County of San Luis Obispo Coastal Plan Policies - Chapter 6 - Environmentally Sensitive Habitats (Local Coastal Program Policy Document)</b></p>				
<p>Policy 19 of the Environmentally Sensitive Habitats section in the San Luis Obispo Coastal Plan Policies)</p> <p>Open space easements or offers to dedicate the wetland shall be a condition of major structural development for all property larger than one-acre, which contain wetlands habitat.</p>	<p>Impacts to riparian vegetation are discussed in the Biological Resources Impact Analysis of this EIR. See the associated discussion above, under CZLUO Section 23.07.172(e) (1 through 3) Wetlands: Site development standards. By establishing an easement on the project site, the project that is implemented would be consistent with this ordinance.</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<p>Policy 23 of the Environmentally Sensitive Habitats section in the San Luis Obispo Coastal Plan Policies</p> <p>For projects which do not fall under the review of the State Water Resources Control Board, the county (in its review of public works and stream alterations) shall ensure that the quantity and quality surface water discharge from streams and rivers shall be maintained at levels necessary to sustain the functional capacity of streams, estuaries and lakes.</p>	<p>All proposed projects would fall under the review of the SWRCB because each would disturb more than 1-acre of soil. Additionally, all proposed projects would impact waters considered jurisdictional by the Central Coastal RWQCB and would require CWA Section 401 water quality certification applications to be prepared and submitted before project construction begins. The inclusion of a water quality detention/retention basin at all proposed treatment plant sites, as well as the implementation of BMPs outlined in the SWPPP and the Sedimentation and Erosion Control Plan, would ensure that the quality of surface water discharge from streams and rivers shall be maintained at levels necessary to sustain the functional capacity of streams, estuaries, and lakes.</p> <p>Impacts to riparian vegetation are discussed in the Biological Resources Impact Analysis of this EIR, See also the associated discussion above, under Impact 5.3-E.</p> <p>After the project is constructed, some site facilities would capture precipitation and incorporate it into the treatment process, rather than allowing this to exit the site as stormwater runoff. Because this quantity of water would then be directed away from the site via the effluent conveyance pipeline to the Tonini sprayfield site and the Broderson leach fields, the total quantity of stormwater runoff exiting the site would diminish after the project is constructed. The results of calculation of such flow quantities for the 50-year, 1-hour storm are provided below. The overall diminishment of the quantity of stormwater that flows into Warden Creek would be partially offset by the augmentation of flows into the creek resulting from additional infiltration to the groundwater from the Tonini sprayfields (part of this infiltration would eventually contribute to the base flow of Warden Creek). The overall diminishment of the stormwater quantity that flows into Warden Creek is relatively minor, and is not expected to significantly impact the functional capacity of Warden Creek.</p>			
	<p>Post-Project 50-year, 1-hour event reduction of stormwater peak flows into Warden Creek:</p>			
	16.4 cfs	6.7 cfs	14 cfs	16.4 cfs
<p>Section 30231 “The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations or marine organisms and for the protection of human health shall</p>	<p>For all proposed projects: Controlling runoff: See the associated discussion above, under Impact 5.3-A, 5.3-B, 5.3-C, and 5.3-D. Interference with surface waterflow:</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
be maintained, and where feasible, restored through...controlling runoff, preventing depletion of groundwater supplies and substantial interference with surface waterflow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.”	<p>See the associated discussion above, under Consistency of Proposed Project with Policy 23 of the Environmentally Sensitive Habitats section in the San Luis Obispo Coastal Plan Policies.</p> <p>Encouraging wastewater reclamation:</p> <p>A primary objective of the project is to increase wastewater reclamation through the operation of Tonini sprayfields and the Broderson leach fields.</p> <p>Maintaining natural vegetation and buffer areas that protect riparian habitats:</p> <p>See the associated discussion above, under Impact 5.3-A, and 5.3-C.</p> <p>Minimizing alteration of natural streams:</p> <p>See the associated discussion above, under Impact 5.3-A, and under Consistency of Proposed Project with CZLUO Section 23.07.172(d) and CZLUO Section 23.07.174(d).</p> <p>By implementing these measures, the proposed project that is implemented would be consistent with this policy.</p>			
Section 30233(a) “The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects...”	<p>For all proposed projects:</p> <p>See the associated discussion above, under Impact 5.3-A.</p> <p>The project that is implemented would be consistent with this policy.</p>			
Section 30233(c) “...diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.”	<p>For all proposed projects, the temporary and permanent impacts to jurisdictional wetlands shall take place in accordance with general and specific conditions outlined in USACE, RWQCB, and CDFG permits to be obtained. These permits generally require that compensatory mitigation be established, either by payment of an in-lieu fee to a regulatory agency approved mitigation bank, or by the establishment and operation of a mitigation site in accordance with a methodology outlined in an HMMP prepared according to USACE standards. The establishment of mitigation, often at a greater ratio than 1:1 for impacts to mitigation, would result in the filling of existing wetlands maintaining or enhancing the functional capacity of that wetland. Therefore, all proposed projects would be consistent with this policy.</p>			



**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<p>Section 30236 “Channelization, dams, or other substantial alteration of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.</p>	<p>Implementation of this project would result in reducing saline intrusion into coastal aquifers, which would result in a long-term improvement to freshwater wetland systems, and their associated biological habitat. The project would also result in the elimination of grazing at the Tonini site, reducing pathogen loading on Warden Creek and Los Osos Creek and thereby improving the biological functions and values of these waters and having a direct and beneficial impact on fish and wildlife habitat. Therefore, all proposed projects would be consistent with this policy.</p>			
<p>Policy 13:Diking, Dredging or Filling of Wetlands: (b) Diking, dredging and filling shall be limited to the smallest areas feasible that is necessary to accomplish the project (c) Designs for diking, dredging and filling and excavation projects shall include protective measures such as silt curtains, and weirs to protect water quality in adjacent areas during construction by preventing the discharge of refuse, petroleum spills and unnecessary dispersal of silt materials</p>	<p>For all proposed projects, any filling of wetlands shall be limited to the smallest areas feasible (the wetlands are identified in the Delineation of Jurisdictional Waters and Wetlands report, Michael Brandman Associates, July 2008). Protective measures to prevent the discharge of refuse, petroleum spills and unnecessary dispersal of silt materials would be outlined in both the project specific SWPPP and the Sedimentation and Erosion Control Plan. Therefore, all proposed projects would be consistent with this policy.</p>			

**Table 5.5-3 (Cont.): Consistency of the Proposed Projects with Goals, Policies, and Ordinances Regarding Biological Resources**

Drainage and Surface Water Quality Goals, Policies, and Ordinances	Consistency of Proposed Projects			
	Proposed Project 1	Proposed Project 2	Proposed Project 3	Proposed Project 4
<p>Policy 16: Adjacent Development                      “Development adjacent to coastal wetlands shall be sited and designed to prevent significant impacts to wetlands through noise, sediment, or other disturbances” and that development “shall be located as far away from the wetland as feasible, consistent with other habitat values on the site.”</p>	<p>Construction noise abatement for all proposed projects is addressed in another section of the EIR.</p> <p>For all projects, disturbance to wetland through sediment accumulation is addressed in the associated discussion above, under Impact 5.3-A.</p> <p>For all projects, development would be located as far as is feasible from the wetlands on site. Distances from the proposed project facilities to the wetlands are discussed above, under Consistency of Proposed Project with CZLUO Section 23.07.172(d) and CZLUO Section 23.07.174(d).</p> <p>Adherence to these measures would result in all proposed projects being consistent with this policy.</p>			

## **G-2: Biological Resources Assessment**



**Biological Resources Assessment**  
**Los Osos Wastewater Project**  
**Los Osos, San Luis Obispo County, California**

Morro Bay South and San Luis Obispo, California  
USGS 7.5-minute Topographic Quadrangle Maps  
Township 30 South, Range 11 East, Unsectioned

Prepared for:

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Michael Brandman Associates

Survey Dates: April and May 2008  
Report Date: July 27, 2008

## TABLE OF CONTENTS

<b>Summary of Findings .....</b>	<b>1</b>
<b>Section 1: Introduction .....</b>	<b>3</b>
1.1 - Purpose of the Report .....	3
1.2 - Project Location and Description .....	3
1.2.1 - Project Location .....	3
1.2.2 - Project Description .....	7
1.3 - Survey Methods .....	9
1.3.1 - Literature Review .....	9
1.3.2 - Field Survey Methods .....	10
1.3.3 - Survey Limitations .....	11
1.4 - Applicable Regulations .....	12
<b>Section 2: Environmental Setting .....</b>	<b>13</b>
2.1 - Regional Context .....	13
2.1.1 - General Land Use .....	13
2.1.2 - Topography and Soils .....	15
2.1.3 - Habitat Types/Vegetation Communities .....	16
2.1.4 - Flora .....	29
2.1.5 - Fauna .....	29
<b>Section 3: Sensitive Biological Resources .....</b>	<b>31</b>
3.1 - Special Status Species .....	31
3.1.1 - Special Status Plant Species .....	31
3.1.2 - Special Status Wildlife Species .....	34
3.1.3 - Raptor Foraging Habitat .....	40
3.2 - Jurisdictional Waters and Wetlands .....	41
3.3 - Habitat Connectivity and Wildlife Corridors .....	41
3.4 - Urban Wildlands Interface / Adjacency Management Issues .....	42
3.5 - Resources Protected Under Local Policies, Ordinances, and Plans .....	42
3.5.1 - San Luis Obispo Coastal Zone Land Use Ordinance .....	42
3.5.2 - Draft Los Osos Habitat Conservation Plan / Natural Community Conservation Plan .....	46
<b>Section 4: Conclusions and Recommendations .....</b>	<b>48</b>
4.1 - Special Status Species .....	48
4.1.1 - Threatened and Endangered Plant and Wildlife Species .....	48
4.1.2 - California State Species of Special Concern .....	53
4.1.3 - Nesting Birds .....	53
4.2 - Jurisdictional Waters and Wetlands .....	54
4.3 - Resources Protected Under Local Policies, Ordinances, Plans .....	54
4.3.1 - San Luis Obispo Coastal Zone Land Use Ordinance .....	54
<b>Section 5: References .....</b>	<b>59</b>
<b>Attachment A: Floral and Faunal Compendia</b>	
<b>Attachment B: Special Status Species Tables</b>	
B1: Special-Status Plant Species Table	
B2: Special-Status Wildlife Species Table	
<b>Attachment C: Site Photographs</b>	

**Attachment D: California Natural Diversity Database Results**

**Attachment E: Regulatory Framework**

**Attachment F: California Red-Legged Frog Protocol Survey Report**

**Attachment G: Delineation of Jurisdictional Waters and Wetlands for the Los Osos  
Wastewater Project**

**LIST OF TABLES**

Table 1: Summary of USDA / NRCS Soil Descriptions..... 16  
Table 2: Summary of Habitat Type / Vegetation Communities ..... 19

**LIST OF EXHIBITS**

Exhibit 1: Regional Location Map..... 4  
Exhibit 2: Local Vicinity Map Topographic Base ..... 5  
Exhibit 3: Local Vicinity Map Aerial Base ..... 6  
Exhibit 4: USDA Soils Map..... 17  
Exhibit 5: Plant Communities Map ..... 18  
Exhibit 6: Sensitive Biological Resources ..... 44

## SUMMARY OF FINDINGS

This report has been prepared by Michael Brandman Associates (MBA) for the County of San Luis Obispo (County) in the development of the proposed Los Osos Wastewater Facility Project (LOWWP) located in an unincorporated area in western San Luis Obispo County that includes the community of Los Osos, California. The study area for the proposed LOWWP encompasses six properties and portions of three public rights-of-way (ROW) that will support treatment facilities, conveyance pipelines, and waste disposal elements of a wastewater facility for the community of Los Osos. These areas generally occur on either side of Los Osos Valley Road, west from Broderson Avenue, and east from Turri Road. In addition to these areas, the proposed LOWWP would include a waste collection system that would serve a large urban area within the community. The entire study area falls within the Coastal Zone as defined by the California Coastal Commission.

The study area supports a total of 12 vegetation communities and habitat types, portions of which provide habitat for a wide range of plant and wildlife species that are known to occur in the area. Of the 12 vegetation communities within the study area, seven are natural communities that are native to the area, including coastal sage scrub, oak forest, riparian forest, and marsh habitats. These areas support occupied habitat and suitable habitat for a number of special status plant and wildlife species. Special status species that were determined to occupy or have a high potential to occur within the study area include, but are not limited to, the federally endangered and State endangered Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*) and Indian Knob mountainbalm (*Eriodictyon altissimum*), the federally endangered Morro shoulderband snail (*Helminthoglypta walkeriana*), the federally threatened Morro manzanita (*Arctostaphylos morroensis*), Monterey spineflower (*Chorizanthe pungens* ssp. *pungens*), South-Central California Coast steelhead (*Oncorhynchus mykiss irideus*), and California red-legged frog (*Rana aurora draytonii*), the California State fully protected white-tailed kite (*Elanus leucurus*), and the California State threatened phenomenon monarch butterfly (*Danaus plexippus*). The study area also contains land that provides suitable foraging opportunities for raptor species, and suitable nesting habitat for resident and migratory birds and raptors that are protected under the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game (CFG) Code.

Portions of the study area also occur within United States Fish and Wildlife Service (USFWS)-designated critical habitat for the Morro shoulderband snail and the South-Central California Coast steelhead, in addition to County of San Luis Obispo Coastal Zone Land Use Ordinance-designated Sensitive Resource Areas and Environmentally Sensitive Habitat Areas that support sensitive species and their habitats. Formal consultation with the USFWS, the National Marine Fisheries Service, the California Department of Fish and Game, and the California Coastal Commission will be required to address potential impacts to special status species and their habitats. Additional recommendations are provided herein to address potential impacts to special status species and their habitat.



The study area also supports portions of two major coastal creeks, including Los Osos Creek and Warden Creek and its wetlands at Warden Lake. The eastern half of the study area also supports 11 tributary reaches to Warden Creek and its wetlands. All drainages and associated wetlands are subject to the jurisdiction of the United States Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (Central Coast RWQCB), and the California Department of Fish and Game (CDFG). Consultation and permitting with these agencies will be required for any impacts to jurisdictional areas. Drainages and associated wetlands are also subject to the combining designation standards and policies of the County of San Luis Obispo Coastal Zone Land Use Ordinance.

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## SECTION 1: INTRODUCTION

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### 1.1 - Purpose of the Report

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This report contains the findings of a collective biological resources impact analysis conducted by MBA for the proposed LOWWP located in the unincorporated community of Los Osos, San Luis Obispo County, California. The purpose of this report is to document the biological resources identified as present or potentially present within the study area; identify potential biological resources impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate impacts consistent with relevant federal, State and local policies and regulations pursuant to the California Environmental Quality Act (CEQA).

The collective analysis specifically includes the findings of a literature review and habitat assessment of the study area and immediate vicinity in order to document existing conditions on the site, identify the extent of vegetation communities within the study area, analyze the potential for special status species to occur within the study area, and identify potential project constraints. The analysis also documents the findings of a formal delineation of jurisdictional waters and wetlands for the proposed LOWWP to identify any waters, wetlands, and riparian habitats as defined by the USACE, RWQCB, and CDFG, as well as the findings of 2008 protocol surveys for the California red-legged frog.

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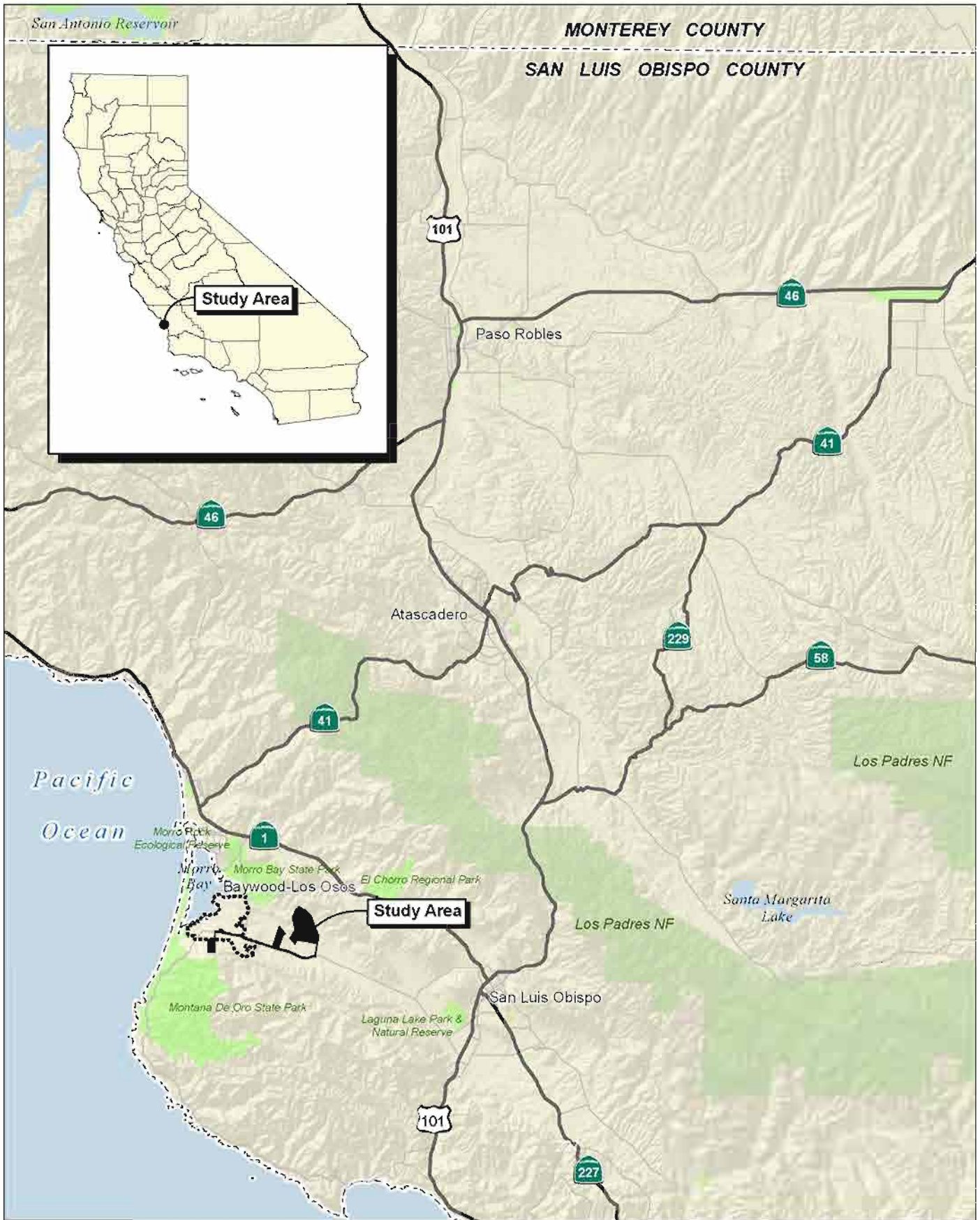
### 1.2 - Project Location and Description

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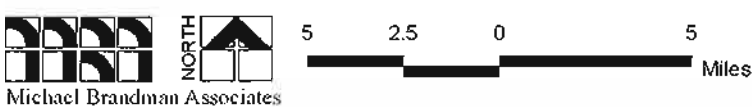
#### 1.2.1 - Project Location

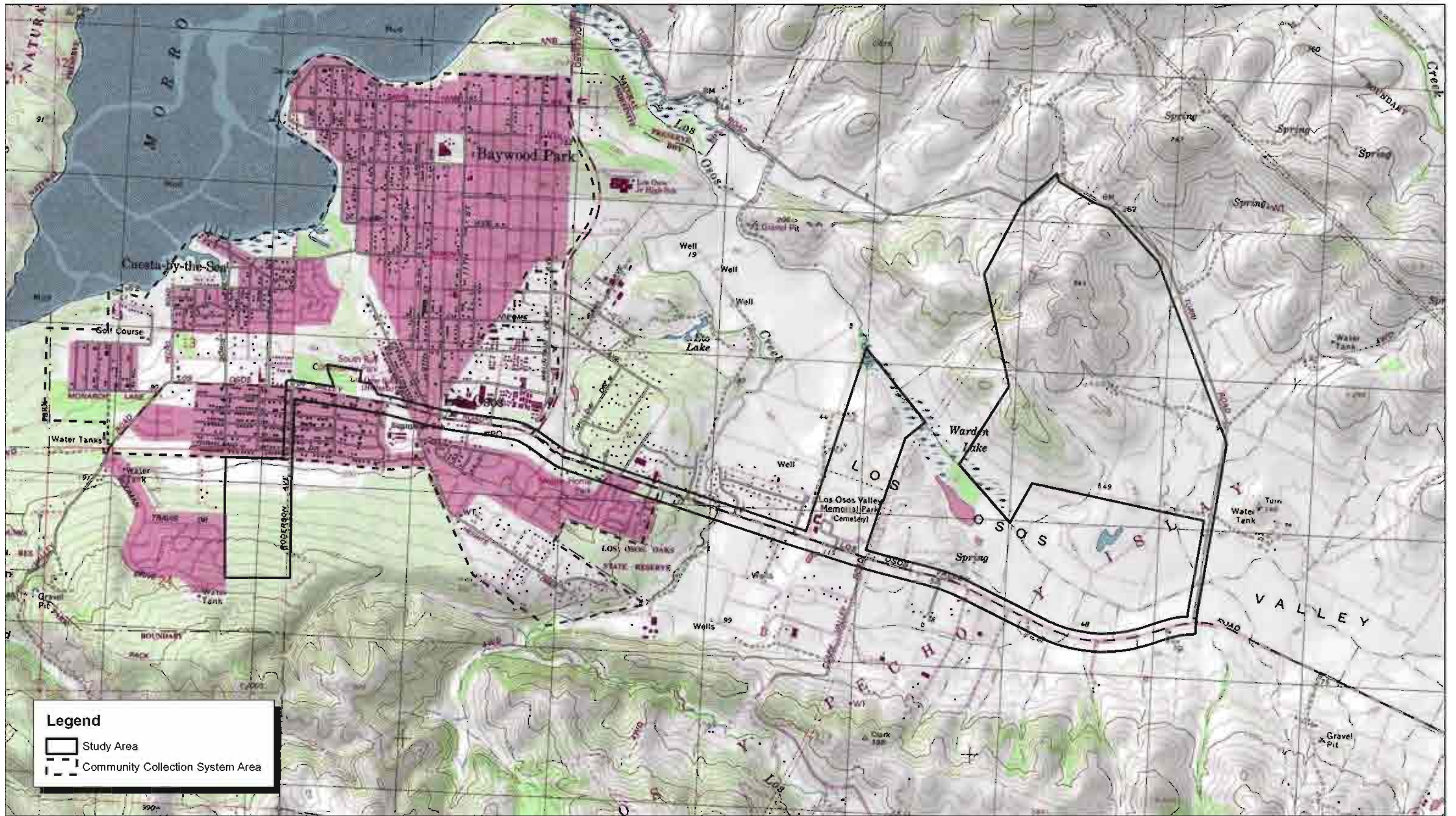
The study area for the LOWWP generally includes portions of the community of Los Osos, Los Osos Valley Road, and properties located east of the community of Los Osos within unincorporated San Luis Obispo County, California (Exhibit 1). The proposed project consists of a series of components which linked together provide a complete wastewater treatment facility with a pipeline collection system for sewage, a treatment plant, an effluent disposal pipeline system, and effluent disposal sites. The area that will encompass the proposed project is depicted in unsectioned portions of Township 30 South, Range 11 East on the Morro Bay South and San Luis Obispo, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Exhibit 2).

The study area includes all or portions of six parcels that are herein referred to as the Broderson, Mid-town, Cemetery, Giacomazzi, Branin, and Tonini properties (Exhibit 3). The Broderson site is located in the southwestern portion of the community of Los Osos at the southern extent of Broderson Avenue; the Mid-town site is located in the western-central portions of the community immediately west of Palisades Avenue and north of Los Osos Valley Road; the adjacent Giacomazzi, Branin, and Cemetery properties are generally located east of the community of Los Osos and Los Osos Creek,

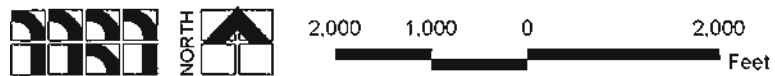


Source: Census 2000 Data, The CaSIL, MBA GIS 2008.





Source: TOPO! USGS Morro Bay South (2002) 7.5' DRG.



Michael Brandman Associates  
02240002 • 07/2008 | 2\_local\_topo.mxd

Exhibit 2

Local Vicinity Map  
Topographic Base

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



north of Los Osos Valley Road and immediately east of Sombrero Road; the Tonini property is generally located east of the community of Los Osos, north of Los Osos Valley Road and immediately west of Turri Road. The study area also includes portions of the Los Osos Valley Road ROW from Broderson Avenue east to Turri Road, and Turri Road ROW from Los Osos Valley Road north to the entrance of the Tonini property. The study area crosses two large drainage features that include Los Osos Creek along the Los Osos Valley Road ROW immediately east of Eto Lane, and Warden Creek along the Turri Road ROW approximately 800 feet north of Los Osos Valley Road.

The study area also includes the northern portion of Los Osos Oaks State Reserve to the immediate west of Los Osos Creek. Additionally, the entire study area is located within the Coastal Zone, as defined by the California Coastal Act, and areas west of Los Osos Creek occur within the study area for the Draft Los Osos Habitat Conservation Plan (Draft LOHCP).

Although not depicted as occurring within the study area, developed residential properties, roads, and undeveloped parcels generally from Morro Bay State Park to the north, Montaña de Oro State Park to the south, Los Osos Creek to the east, and Morro Bay to the west will be included into the project's collection system. This area is depicted on Exhibit 3 as the "Community Collection System Area." Surveys within these areas were limited to vehicle surveys within public roads and brief visual inspections to confirm aerial imagery of the area.

### **1.2.2 - Project Description**

The project consists of a series of components, which linked together provide a complete wastewater treatment facility with a pipeline collection system for sewerage, a treatment plant, an effluent disposal pipeline system, and effluent disposal sites. There are four proposed projects that are currently being considered that include combinations of two collection system strategies, four treatment and storage facility options, two disposal methods, and three pipeline conveyance systems.

Generally, the collection systems that are proposed utilize either a solids handling (SH) collection system that is comprised of conventional gravity sewers and low pressure grinder pumps, or a septic tank effluent (STE) collection system that is comprised of both septic tank effluent pumps (STEP) and septic tank effluent gravity (STEG) collection lines. With the STE collection system or "STEP/STEG" system, existing septic tanks are decommissioned, and new septic tanks are installed on individual properties to store and handle waste. For each septic tank, the STEP/STEG system incorporates effluent pumps and controls, and electrical service connection upgrades at each property. Sewer lateral lines provide conveyance from each property to the street collection system, from which wastewater is directed through an "in-town" conveyance system of force main lines, a pressure sewer collector system, isolation valves, and flushing ports. Wastewater is then directed into an "out-of-town" conveyance system to treatment facilities.

With the SH collection system, existing tanks are decommissioned at each property; however, no new septic tanks are installed. The large majority of the SH collection system incorporates gravity sewer

later lines that connect directly to the plumbing for individual properties, and convey waste at a downward gradient to the street collection system. A small percentage of properties served by the SH collection system do not have appropriate gradients for the gravity sewer later lines to function properly. These properties will also require individual low pressure grinder pumps along the lateral line to assist in conveying waste to the street collection system. From the street collection system, wastewater is directed through an “in-town” conveyance system of gravity sewer lines, force main lines, and pump stations to an “in-town” collection point and pump station. Wastewater is then directed into an “out-of-town” conveyance system to treatment facilities.

The larger area of influence identified for the collection system includes developed residential properties, roads, and undeveloped parcels within the Los Osos community that generally occur north of developed areas around Bayview Heights Drive and Highland Drive, south of developed areas around Santa Ysabel Avenue, east of developed areas along the Morro Bay shores, and west of developed areas around South Bay Boulevard. This area is herein referred to as the Community Collection System Area (Exhibit 3). The area will encompass all of the “in-town” project elements described above for both the SH collection system and STEP/STEG system, including individual property improvements and developments, gravity sewer lines, conventional sewer lateral lines, force main lines and sewer collector lines for the street collection system, and pump stations. The area would also include portions of the Mid-town property would be used as a raw wastewater collection point and pump station with the SH collection system only.

Four alternatives on four separate properties are being considered for the location and siting design of the treatment facilities. These include combinations of facultative ponds, storage facilities, and appurtenances on the Cemetery, Giacomazzi, Branin, and Tonini properties. Seasonal storage will be required at treatment facility locations to store treated effluent during the wet season when groundwater levels are high in the area. Additionally, the LOWWP proposes two methods of effluent disposal which would be used in combination, including spray fields on the Tonini property, and leachfields on the Broderon property.

Three main pipeline conveyance systems are currently considered to convey raw waste and treated effluent to and from collection sites, treatment facilities, and disposal sites. These include the SH Raw Wastewater Conveyance System, the STEP/STEG Raw Wastewater Conveyance System, and the Treated Effluent Conveyance System. Areas proposed for the majority of the pipeline conveyance systems generally include the Broderon Avenue ROW, Los Osos Valley Road ROW, and Turri Road ROW. Smaller lateral lines stemming from these areas would allow conveyance from the collection system within the Community Collection System Area, as well as the treatment facilities on the Cemetery, Giacomazzi, Branin, and Tonini properties, and the disposal sites at the Broderon and Tonini properties.

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## **1.3 - Survey Methods**

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This section includes a discussion of the methodology practiced as part of a literature review and collective biological resources study for the proposed project. Potential project-related effects to biological resources were analyzed in accordance with CEQA, the federal Endangered Species Act (ESA), the California State Endangered Species Act (CESA), and all other relevant environmental policies and regulations that are provided in Attachment E.

### **1.3.1 - Literature Review**

Prior to habitat assessment surveys, a literature review was conducted of the environmental and regulatory setting for the proposed project. The literature review provides a baseline from which to evaluate the biological resources potentially occurring within the study area, and local and regional vicinity.

The literature review began with a thorough review of aerial imagery of the study area and vicinity, as well as the topographic electronic and hard copies of the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. The County of San Luis Obispo's Interactive Geographical Information Systems (GIS) Mapping website was used to verify the locations of developed and undeveloped land, in addition to previously mapped resources. Extensive information was obtained from previous environmental documents prepared for past wastewater facility project efforts in the community of Los Osos. These and other references are listed in Section 5 of this report. Also thoroughly reviewed for the subject analysis include local programs and plans such as the San Luis Obispo County General Plan, the Estero Area Plan Update, the San Luis Obispo Coastal Plan Policies, the San Luis Obispo Coastal Zone Land Use Ordinance (which forms part of the Elements of the San Luis Obispo County Plan), and the Draft LOHCP (LOCSO 2005), among others. The Draft LOHCP was thoroughly reviewed for its technical content, which includes a high level of analysis for a wide range of biological resources related issues that are relevant to the local area and the proposed project. Although this regional habitat conservation plan is still in draft form and has not been approved and implemented to date, the subject technical study provides supportive information in demonstrating consistency with the conservation goals and objectives of the draft plan.

A list of special status plant and wildlife species and their habitats that have been recorded in the vicinity of the study area was compiled from the Draft LOHCP and previous environmental documents, as well as the CDFG's California Natural Diversity Database (CNDDDB), a sensitive species and plant community account database. MBA conducted a query of the CNDDDB records based on a 5-mile radius surrounding the study area that included the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. The CNDDDB GIS database was also utilized, together with ArcGIS software, to confirm the locations of CNDDDB records. The California Native Plant Society (CNPS) online inventory database and Consortium of California Herbaria were also queried for the study area and vicinity. The CNPS online inventory provided additional sensitive species information for many species that have not been reported to the CNDDDB



database. The locations of previously documented observations for sensitive plant and wildlife species were identified and plotted onto aerial and topographic maps to determine connectivity of suitable habitat and/or likely dispersing routes between the locations of observations and the project site.

Primary references used for the definitions of vegetation communities and habitat types include the “Preliminary Descriptions of the Terrestrial Natural Communities of California” (Holland 1986), and the CNPS’ “A Manual of California Vegetation” (Sawyer and Keeler-Wolf 1995). An attempt was made to reach consistency in plant community nomenclature between the subject effort and previous environmental documents.

### **1.3.2 - Field Survey Methods**

The following describes the specific survey methodology for the habitat assessment survey effort conducted for the proposed project.

#### **Habitat Assessment**

The habitat assessment survey was performed on foot by qualified MBA Biologists Kelly Rios, Steve Norton, and Karl Osmundson on April 8, 9, 23, and 24, 2008, and May 20, 2008. Weather conditions during the habitat assessment surveys ranged from foggy to sunny, with temperatures ranging from 58 to 80 degrees Fahrenheit and winds from 0 to 10 miles per hour.

Transects resulting in 100 percent coverage of the entire approximate 1,000-acre study area and approximate 100-foot buffer beyond the sites were conducted on foot in order to determine the extent of plant communities and to assess the presence of suitable habitat for sensitive plant and wildlife species.

Although not intensively surveyed and not depicted as occurring within the study area, vehicle surveys and visual inspections were conducted throughout the community of Los Osos and surrounding areas that are currently being considered for a wastewater collection system or for project alternatives. This included developed residential properties, roads, and undeveloped parcels generally from Morro Bay State Park to the north, Montaña de Oro State Park to the south, Los Osos Creek to the east, and Morro Bay to the west.

In the field, the biologist referred to aerial photographs with the project study areas outlined for reference while conducting the survey. Plant communities were mapped using recent aerial photography and according to respected sources (Holland 1986 and Sawyer and Keeler-Wolf 1995).

Parameters assessed regarding the habitat requirements for special status plant and wildlife species known to occur in the area include the presence of suitable physical characteristics (slope, aspect, and hydrology), vegetation and plant community compositions, and soil substrates. Additionally, the presence of suitable habitat for nesting, roosting, foraging, basking, dispersing, or other behavioral

actions was assessed. Any evidence of previous disturbance on the project site was carefully noted and documented.

Common plant species observed during the site survey were identified by visual characteristics and morphology in a field notebook. Less familiar plants were identified offsite using taxonomical guides.. Taxonomic nomenclature used in this study follows Jepson (2008). In this report, scientific names are provided immediately following common names for the first reference only. A list of all plants species observed onsite is provided in Attachment A.

Wildlife species were detected during the site survey by sight, calls, tracks, scat, or other signs. All wildlife species detected were recorded in a field notebook. Notations were made regarding general habitat conditions for sensitive species potentially occurring on the project site based on preliminary literature review. A list of all wildlife species detected is provided in Attachment A.

### **1.3.3 - Survey Limitations**

The habitat assessment survey was conducted in late spring, and as a result, wildlife activity was relatively low in comparison with warmer seasons, and many annual plants were in the earlier stages of germination displaying limited above-ground growth. Some summer and fall-blooming annual plant species were not easily discernable. Additionally, existing land uses, most notably agricultural practices, also presented difficult circumstances in detecting certain plant species and sign of other resources. Opportunities for wildlife encounters and identifications of plant species proved somewhat problematic with existing land use disturbance and the proximity of the large majority of the study area to urban and developed land. It is anticipated that overall wildlife activity, and the extent of plant and wildlife species encountered, would increase substantially during further investigations performed during warmer seasons of the year.

Many amphibians, reptiles, and mammals are secretive by nature and some are only nocturnally active, making diurnal observations problematic. Observations of diagnostic signs may provide evidence of occurrence of these species. Otherwise, conclusions regarding potential occurrence are based on consideration of habitat suitability factors.

Pedestrian transects within portions of the study area could not be conducted due to restricted access, or were not necessary due to the fact that they are situated well outside any areas that are considered for the project. These areas include the Mid-town property, the Branin property, portions of the Cemetery property, and the extreme southern and western portions of the Tonini property. Surveys within these areas were conducted by walking perimeter transects and through binocular scans at perimeter locations. Habitat assessment findings for the Mid-town property were further confirmed with biological resources studies that had been prepared by others for previous wastewater facility projects in the community of Los Osos. Visual findings in the field were cross-referenced with aerial imagery, as well as previous studies and environmental documentation to confirm the presence of

vegetation communities, suitable habitat for special status species, potential jurisdictional features, and other resources.

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## **1.4 - Applicable Regulations**

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Potential project-related effects to biological resources were analyzed against Federal ESA, California ESA, CEQA, and the California Coastal Act, and all other relevant environmental policies and regulations that are provided in Attachment E.

## SECTION 2: ENVIRONMENTAL SETTING

### 2.1 - Regional Context

The study area for the LOWWP includes the unincorporated community of Los Osos and additional unincorporated lands to the immediate south and east. The general area is located centrally located along the coast of California, approximately ten miles northwest of the City of San Luis Obispo and five miles south of the City of Morro Bay. The study area spans the western portions of the Los Osos Valley, which is generally bounded on the north and west by Morro Bay and the Santa Lucia Mountains and to the south by the Irish Hills and Montaña de Oro State Park. The Los Osos Valley continues to the general east away from the study area toward the City of San Luis Obispo.

Three major drainage features define the region and enter the Los Osos Valley area as tributaries or sub-tributaries to Morro Bay and the Pacific Ocean. These include Chorro Creek, Los Osos Creek, and Warden Creek. Chorro Creek generally trends north-to-south and originates in the Santa Lucia Mountains to the north of the study area. Los Osos Creek generally trends south-to-north and originates in the Irish Hills south of the study area. A downstream reach of Los Osos Creek traverses the center of the study area. Warden Creek generally trends east-to-west and originates further to the east of the study area. Two downstream reaches of Warden Creek, which include Warden Lake (or Warden Creek wetlands), cross the eastern portions of the study area. Warden Creek eventually discharges into Los Osos Creek further to the north of the study area, downstream of which, the lower reach of Los Osos Creek discharges into Morro Bay.

The unique ecosystems and resources in the region have given rise to a large number of narrow ranging species that are endemic to the area. A late-Pleistocene and Holocene Dune complex overlies the majority of the community of Los Osos and portions of the study area that occur west of Los Osos Creek. These areas overlie young sand dunes along the coast at the beach, middle-aged dunes within the coastal valley, and old dunes at higher elevations and inland areas. These areas contain Aeolian sand deposits that host a unique ecosystem of dune and coastal scrub communities.

#### 2.1.1 - General Land Use

The study area includes all or portions of private and public property that are primarily used for public ROWs or parks, residential and private development, or agricultural practices. Excluding portions of the study area that fall within the Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs, the remaining properties are primarily used for agriculture or are fallow.

The Broderson property is the only undeveloped and undisturbed property within the study area. Portions of this property are proposed for use as a leachfield disposal option. Aside from two eucalyptus stands that intersect the property, the Broderson site is entirely occupied by native coastal sage scrub vegetation. There are a few dirt trails that are regularly used for pedestrian access to the property and the adjacent Morro Dunes Ecological Reserve. These trails could be used for passive

recreation activities that include hiking and mountain biking, and may also be used by pedestrians walking their dogs. Residential development occurs to the north and west, and undeveloped land within the parcel boundaries and within the Morro Dunes Ecological Reserve occurs to the south and east.

The Mid-town property is currently undeveloped, however, it had been previously disturbed in 2005 by vegetation clearing and excavation activities associated with the previous wastewater facility development efforts (LOCSO 2001). Portions of this property are proposed for use by the collection system. The site is currently vacant and surrounded by a perimeter fence, and is characterized by a predominance of bare ground and non-native grasses and forbs, with sparse low quality native coastal sage scrub vegetation. The land immediately to the north and west is undeveloped but disturbed, and mixed developments are located to the south and east.

The Cemetery, Giacomazzi, and Branin sites include mixed uses that are predominately associated with past or present agriculture. The southern portion of the Cemetery property contains the Los Osos Valley Memorial Park, while the remaining northern portion is characterized by fallow fields that had once been used for agriculture. Additionally, a small Pacific Gas and Electric (PGE) facility and electrical line easement occurs in the central portion of the Cemetery property. The majority of the Giacomazzi property is used for agricultural dry farming, and was recently disked at the time of the habitat assessment surveys. There is a turn-around and storage area along the western boundary of the site that is disturbed and fallow, and two drainage features that converge into a stand of native riparian vegetation in the northeastern portion of the property. The Branin property is primarily used for agricultural practices. The lower reach of Warden Creek Lake (Warden Creek wetlands) occurs within the northern portion of the property. Agricultural land on the Branin property is setback from the wetlands by shallow sloping fallow areas that may also be used for grazing. General land use surrounding the Cemetery, Giacomazzi, and Branin properties include open undeveloped land that is actively grazed to the north, rural residential property, and agricultural land to the south, rural residential property and the upper reach of Warden Creek wetlands to the east, and rural residential property and agricultural land to the west. A large transmission easement also occurs to the east of all three properties. This easement continues further to the north and south.

The Tonini property is used for agricultural and grazing practices. Crops used to produce a hay mix (barley, oat, and wheat) and irrigated row crops such as peas are cultivated in the lower elevations of the southern and eastern portions of the property, while the higher elevation rolling hills in the northern and western portions of the property are actively grazed by cattle. A ranch house and various barn structures occur in the central portion of the property, and an east-to-west trending driveway provides access to the house from Turri Road to the east. One large north-to-south trending drainage feature and two tributaries traverse the eastern portions of the property.

The Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs are primarily developed. These areas include a wide range of developments including paved asphalt roads, concrete sidewalks,

dirt shoulders, fallow margins, culverts, non-native ornamental landscape vegetation, and a variety of other landscaping elements and private property developments. Los Osos Valley Road is a major arterial that is frequented by commuters and residents traveling through the community of Los Osos from Morro Bay to the north and San Luis Obispo to the east. Vehicle traffic on Broderson Avenue is less intense and restricted to use by local residents, and Turri Road is likely restricted to local traffic and rarely used as an alternative route to and from Highway 1 and Los Osos Valley Road.

### **2.1.2 - Topography and Soils**

The majority of the study area is situated within the lower elevations of the western reach of the Los Osos Valley. The local area is generally bounded to the north by the Santa Lucia Hills, to the south by the Irish Hills, and to the west by Morro Bay and the Pacific Ocean. With the exception of the rolling hills in the northwestern portion of the Tonini property, the study area is characterized by shallow topography with gentle downhill slopes that run toward sea level elevations within Morro Bay, Los Osos Creek, and Warden Creek. The highest elevations occur within the rolling hills on the Tonini property, and are approximately 541 feet above mean sea level (AMSL). The second highest elevations occur within the gently-sloping stabilized dunes at the Broderson property, and are approximately 300 feet AMSL. The lowest elevations within the survey area occur within Warden Lake on the Branin property at approximately 25 feet AMSL. Elevations within the Los Osos Valley Road ROW undulate between low spots at the intersection of Turri Road (approximately 50 feet AMSL), the Los Osos Creek crossing (approximately 120 feet AMSL), and Broderson Avenue (approximately 115 feet AMSL), and high spots at the intersection of South Bay Boulevard (approximately 160 feet AMSL) and Clark Valley Road (approximately 110 feet AMSL).

Two general topographic drainage patterns are associated with the study area. Although regional flows emanate from the Santa Lucia Mountains (specifically Park Ridge) and generally move northeast-to-southwest to Chorro Creek and Warden Creek, flows from these mountains enter the study area and the Los Osos Valley at the northern boundary of the Tonini property via an unnamed drainage feature, and generally travel north-to-south toward Warden Creek, and then east-to-west into Los Osos Creek and Morro Bay. The other general topographic drainage pattern enters the study area and the Los Osos Valley from the Irish Hills to the south via Los Osos Creek. Flows conveyed through the study area within Los Osos Creek continue downstream to the north and northwest before discharging into Morro Bay.

The study area is mapped as containing 19 soil mapping units belonging to 11 separate soil series, soil complexes, and land features. A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. In terms of their functions and values to local natural resources, the most significant soils that are known in the area are the fine Aeolian sands that belong to the Baywood series. Baywood fine sands are specifically bounded to the south by foothills of the Irish Hills, to the north and west by Morro Bay, and to the east by Los Osos Creek. These soils underlie and define a unique ecosystem of sand dunes

and native scrub vegetation that is exclusive to the community of Los Osos and plays host to a number of special status species.

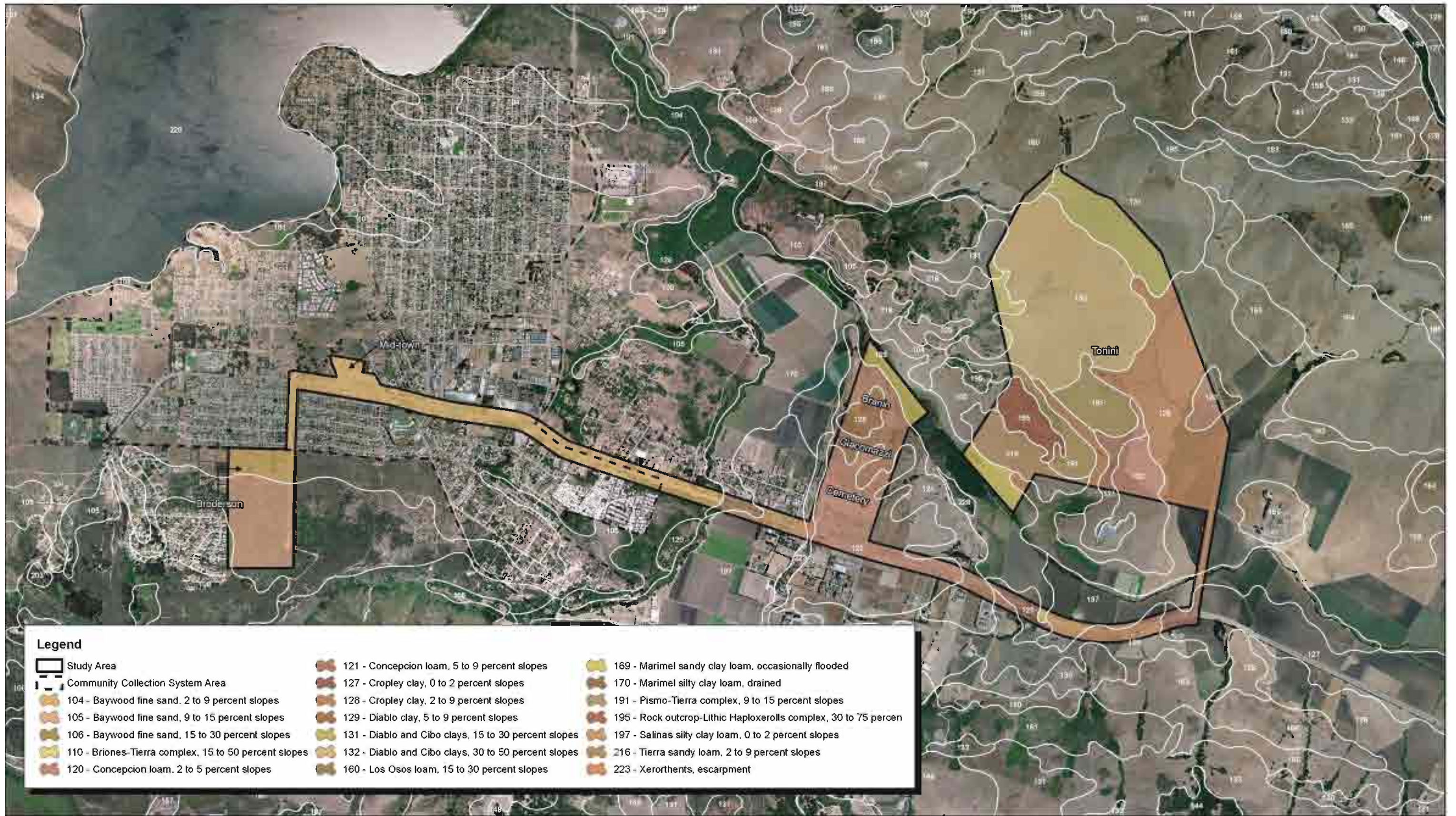
The soils mapped for the study area are displayed on Exhibit 4 and are summarized in Table 1 below.

**Table 1: Summary of USDA / NRCS Soil Descriptions**

Map Unit Symbol	Soil Series	Percentage Cover
104	Baywood fine sand, 2 to 9 percent slopes	14.9
105	Baywood fine sand, 9 to 15 percent slopes	0.4
106	Baywood fine sand, 15 to 30 percent slopes	0.1
110	Briones-Tierra Complex	0.4
120	Concepcion loam, 2 to 5 percent slopes	10.9
121	Concepcion loam, 5 to 9 percent slopes	6.9
127	Cropley clay, 0 to 2 percent slopes	2.2
128	Cropley clay, 2 to 9 percent slopes	19.2
129	Diablo clay, 5 to 9 percent slopes	1.2
131	Diablo and cibo clays, 15 to 30 percent slopes	7.4
132	Diablo and cibo clays, 30 to 50 percent slopes	19.5
160	Los Osos loam, 15 to 30 percent slopes	0.4
169	Marimel sandy clay loam, occasionally flooded	3.0
170	Marinel silty clay, loam, drained	0.6
191	Pismo Tierra complex, 9 to 15 percent slopes	4.8
195	Rock outcrop - Lithic Haploxerolls complex, 30 to 75 percent slopes	2.5
197	Salinas silty clay loam, 0 to 2 percent slope	2.5
216	Tierra sandy loam, 2 to 9 percent slopes	3.1
223	Xerothents, escarpment	0.1
Source: MBA, 2008.		

**2.1.3 - Habitat Types/Vegetation Communities**

A total of 12 vegetation communities/habitat types totaling approximately 676.28 acres of land occur within the project study area (Exhibit 5): Urban/Developed, Disturbed Habitat/Ruderal, Eucalyptus Woodland, Extensive Agriculture, Non-Native Grassland, Coastal Sage Scrub. Central (Lucian) Coastal Scrub, Coast Live Oak Forest, Central Coast Live Oak Riparian Forest, Central Coast Arroyo Willow Riparian Forest, Vernal Marsh, and Freshwater Marsh. Approximately 330.72 acres of the study area fall within areas that were not surveyed due to restricted access or their location was outside and well away from any proposed development.



Source: AirPhoto USA and San Luis Obispo County GIS.

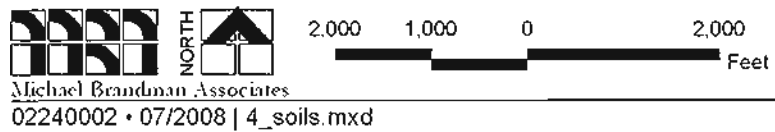


Exhibit 4  
USDA Soils Map





Source: AirPhoto USA and San Luis Obispo County GIS. MBA Survey Data, 2008.

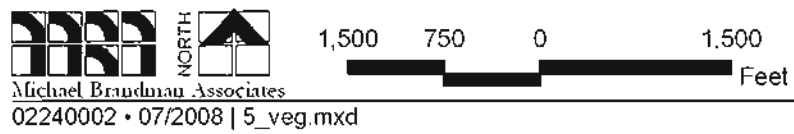


Exhibit 5  
Plant Communities Map

The names and definitions of vegetation communities discussed below are based on the Holland (1986) and Oberbauer (1996) natural communities classification system, Sawyer and Keeler-Wolf (1995) vegetation series and alliances, and MBA’s field interpretations. The Holland Code follows each vegetation community heading below. A complete list of all plant and wildlife species observed during the habitat assessment for the project site is provided in Attachment A of this document.

Table 2 below provides a summary of the existing acres mapped for each habitat type/vegetation community within the study area.

**Table 2: Summary of Habitat Type / Vegetation Communities**

Habitat / Vegetation Community	Existing (acres)
Urban/Developed Land (U/D)	122.60
Disturbed Habitat/Ruderal (DH)	111.04
Eucalyptus Woodland (EW)	6.68
Extensive Agriculture (EA)	225.46
Non-Native Grassland (NNG)	168.06
Coastal Sage Scrub (CSS)	27.23
Central (Lucian) Coastal Scrub (CLCS)	1.19
Central Maritime Chaparral (CMS)	59.25
Coast Live Oak Forest (CLOF)	4.62
Central Coast Live Oak Riparian Forest (CCLORF)	2.34
Central Coast Arroyo Willow Riparian Forest (CCAWRF)	4.81
Vernal Marsh (VM)	3.54
Freshwater Marsh (FWM)	13.34
<b>Total</b>	<b>750.16</b>
Source: MBA, 2008.	

**Urban/Developed Land (12000)**

A large portion of the study area is characterized by developed land. Most notably are the paved asphalt portions of Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs, and the residential developments that abut Broderson Avenue and occur sporadically along Los Osos Valley Road. Isolated rural residential and agricultural structures that constitute Urban/Developed Land also exist on the Mid-town, Cemetery, and Tonini properties. Areas mapped as Urban/Developed Land contain a very low percent coverage of vegetation, limited primarily to individual specimens and/or isolated stands of non-native ornamental trees (other than *Eucalyptus* sp.), shrubs, and groundcover associated with landscaped areas on private residential property and within ROWs.

Urban/Developed Land also characterizes the residential properties and roads in the community of Los Osos that will be included as part of the collection system. This generally includes land north of

developed areas around Bayview Heights Drive and Highland Drive, south of developed areas around Santa Ysabel Avenue, east of developed areas along the Morro Bay shores, and west of developed areas around South Bay Boulevard.

Due to their discontinuity and relatively poor habitat quality for wildlife species, vegetated areas mapped within Urban/Developed Land were not intensively mapped. However, developed areas to the west of Los Osos Creek, including portions of the Los Osos Valley Road ROW and residential properties to be included in the collection system, support Baywood fine sand soils and provide suitable habitat for the Morro shoulderband snail.

### **Disturbed Habitat/Ruderal (11300)**

Disturbed Habitat or Ruderal includes areas that have vegetative cover less than 10 percent and where there is evidence of soil surface disturbance from previously activity; or where the vegetative cover is greater than 10 percent; there is soil disturbance or compaction, and the presence of building foundations and debris. Vegetation within Disturbed Habitat consists of non-native and/or ruderal (weedy) species that are commonly associated with disturbed areas.

Disturbed Habitat occurs within portions of the study area that are currently fallow, or used as dirt access roads or ROWs. All of the areas mapped as Disturbed Habitat contain evidence of previous vegetation clearing and soil disturbance, including either previous disking or plowing from agricultural activities, or compaction and disturbance from off-highway vehicles or intensive grazing. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. There are isolated areas that contain Disturbed Habitat along Los Osos Valley Road, as well as disturbed upland areas on the Mid-town, Cemetery, Giacomazzi, Branin, and Tonini properties. Disturbed Habitat also characterizes portions of the drainage features, roadside ditches, and upland swales that occur throughout the survey area. Common plant species observed within the Disturbed Habitat in these areas include non-native annual grasses such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and wild oats (*Avena fatua*); and annual forbs such as filaree (*Erodium cicutarium*), pineapple weed (*Chamomilla suaveolens*), wild radish (*Raphanus sativus*), field mustard (*Brassica rapa*), bristly ox-tongue (*Picris echioides*), poison hemlock (*Conium maculatum*), and fennel (*Foeniculum vulgare*).

Habitat quality within the Disturbed Habitat that occurs within the study area is considered poor based on the limited size and overall lack of vegetative cover. Smaller stands of Disturbed Habitat may provide suitable opportunities for common small mammals and reptiles, while larger stands may provide marginal foraging opportunities for common bird species, including common raptors such as red-tailed hawk (*Buteo mexicanus*). However, disturbance factors strongly reduce the potential for wildlife to use these areas. Areas mapped as containing Disturbed Habitat that are supported by Baywood fine sands to the west of Los Osos Creek may provide suitable habitat for the Morro shoulderband snail.

### **Eucalyptus Woodland (11100)**

Eucalyptus woodland is a non-native vegetation community characterized by a dominance of gum tree species (*Eucalyptus* spp.). Physical structure and canopy is typically tall, with a sparse understory herbaceous layer, often with low species diversity. This community occurs as larger stands from historical plantings, and as smaller stands as windrows or ornamental landscaping in parks, residential properties, and other urban landscapes. This classification is used to describe single large specimens or clusters of mature Eucalyptus trees. These trees, introduced mainly from Australia, are commonly used for ornamental landscaping. Throughout California, eucalyptus trees can spread into natural areas and may be considered exotic invasive elements because they may displace native vegetation. Therefore, while eucalyptus trees and stands are not typically considered to be biologically significant in terms of the overall habitat value associated with them, these tall trees provide cover and perching opportunities, and are sometimes used as nest sites by hawks, owls, and other raptors (birds of prey) and potential roost sites for insect and bat species.

Eucalyptus Woodland occurs in isolated stands along Los Osos Valley Road, and as single stands on the Broderson property. Stands along Los Osos Valley Road integrate with ornamental landscaping and developed areas, and the stands on the Broderson property integrate with coastal sage scrub. In the local area, Eucalyptus Woodland provides nesting opportunities for common bird species, including raptors, as well as winter roosting habitat for the monarch butterfly.

### **Extensive Agriculture (18300)**

Extensive Agriculture may be defined broadly as land used primarily for production of food and fiber. Chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by livestock or mechanized equipment. However, pasture and other lands where such equipment is used infrequently may not show as well-defined shapes as other areas. The number of building complexes is lower and the density of the road and highway network is much lower than in Urban/Developed Land.

Extensive Agriculture occupies the large majority of the Giacomazzi, Branin, and Tonini properties, as well as portions of private lands that exist adjacent to the Los Osos Valley Road ROW. Cultivated species observed in these areas include peas and hay mix dry crops such as wheat, barley, and oats. The Extensive Agriculture within the study area provides marginal forging opportunities for common wildlife species including raptors.

### **Non-Native Grassland (42200)**

Non-Native Grassland is described as a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera

typically found within non-native grasslands include brome (*Bromus* sp.), wild oats (*Avena* sp.), fescue (*Vulpia* sp.), and barley (*Hordeum* sp.).

Non-Native Grassland occurs within the uncultivated portions of the Tonini property and in limited areas on the Giacomazzi property. Dominant species include ripgut brome, wild oats, and barley. These stands function as extensions to the adjacent Extensive Agricultural areas and may function to provide foraging habitat for common wildlife species, including raptors.

### **Coastal Sage Scrub (32000)**

For the purposes of this assessment, Coastal Sage Scrub habitat has been defined to include both elements of Coastal Dune Scrub (Holland 1986) and California sagebrush - black sage series (Sawyer and Keeler-Wolf 1995) due to the variability of the stands observed within the study area. In general, Coastal Sage Scrub habitat in the central California region is typically comprised of perennial low-growing, woody, drought-deciduous shrubs dominated by California sagebrush (*Artemisia californica*), and an herbaceous understory consisting of native and/or ruderal (weedy) herbaceous elements. In coastal areas on ancient dunes and stabilized backdune slopes, ridges, and flats, this community may occur as a dense coastal scrub community of scattered shrubs, subshrubs, and herbs, generally less than 3 feet tall and often developing considerable cover. Stands that are primarily associated with stabilized dunes are restricted to the coastal strip roughly between Bodega Bay and Point Conception. Diagnostic species include California sagebrush, black sage (*Salvia mellifera*), mock heather (*Ericameria ericoides*), California aster (*Corethrogyne filaginifolia*), silver dune lupine (*Lupinus chamissonis*), dune ragwort (*Senecio blochmanae*), and coastal sagewort (*Artemisia pycnocephala*). In coastal central California, this community intergrades toward the coast with foredunes and away from the coast with other Coastal Scrub types, Maritime Chaparral, or Coastal Sage-Chaparral Scrub.

Coastal Sage Scrub occurs in two locations within the study area that include portions of the Broderson property and the Mid-town property. The stands on the Broderson property are supported by stabilized dune substrates that give way to a variety of smaller plant species associations that include Coastal Sage Scrub - Disturbed, Mock Heather (Heather Goldenbush) Series - Disturbed, California Sagebrush - Black Sage Scrub Series - Disturbed, and Dune Lupine Scrub - Disturbed (Morro Group 2004b, Sawyer and Keeler-Wolf 1995, Holland and Keil 1985). In general, dominant plant species observed within the Broderson stands include shrubs such as California sagebrush, mock heather, and black sage, native herbaceous species such as dune lupine, and non-native herbaceous species such as veldt grass (*Ehrharta longiflora*). The Mid-town stands are dominated primarily by remnant coyote brush (*Baccharis pilularis*) and mock heather shrubs, and herbaceous species such as California croton (*Croton californicus*), and fig-marigold (*Carpobrotus edulis*). These stands are disturbed from previous vegetation clearing and excavation associated with construction activities for the previous wastewater facility project in 2005, in addition to other human-related disturbances associated with adjacent urban areas. Therefore, these areas contain a

high percentage of disturbance-related plant species such as veldt grass and deerweed (*Lotus scoparia*), among others.

The Coastal Sage Scrub that occurs on the Broderson property is less disturbed than that which occurs on the Mid-town property, and provides high quality habitat for common and sensitive resources, including plant species such as Blochman's leaf daisy (*Erigeron foliosus* var. *blochmaniae*), Saint's daisy (*Erigeron sanctarum*), San Luis Obispo wallflower (*Erysium suffretescens* var. *lompopense*), and dune almond (*Prunus fasciculata* var. *punctata*), among others, and wildlife species such as the Morro shoulderband snail and Morro Bay kangaroo rat. Habitat on the Mid-town property is much lower in quality as a result of previous disturbances. The majority of the property has been excavated and graded, and as a result, the area has been colonized by invasive species such as veldt grass. Many of the existing shrub species are sparse and low-growing. Isolation and fragmentation as a result of adjacent urban developments has greatly reduced the potential for the area to be used by many wildlife species; however, despite this isolation, the property supports Baywood fine sands and vegetation associations that are suitable for some sensitive plant and wildlife species. More discussion of special status species is provided in Section 3 of this report.

### **Central Lucian Coastal Scrub (32200)**

Central Lucian Coastal Scrub habitat is described as being dominated by shrubs, 3 to 6 feet tall, usually quite dense, lacking the grassy openings of Northern Coastal Scrub and with greater crown overlap than Coastal Sage Scrubs. This community is lower-growing, but often of similar density to the associated Upper Sonoran Mixed Chaparral, and shares several evergreen sclerophylls as dominant species. Most growth occurs in late winter and spring, with flowering concentrated in spring and early summer, but may continue through most of the year. Some species are relatively inactive during the dry summer and fall, but this is less pronounced than in the Coastal Sage Scrubs. Similar to most coastal scrub and chaparrals, it is adapted to fire by crown-sprouting. This community occurs on exposed, often south-facing slopes with shallow, rocky soils. This community is geographically and environmentally intermediate between Northern Coastal Scrub and Venturan Sage Scrub, intergrading with Upper Sonoran Mixed Chaparral on more mesic and rocky sites, and Venturan Sage Scrub in southern San Luis Obispo and Northern Santa Barbara counties. This scrub often interdigitates with madrean woodlands and even redwoods on even more mesic sites. Characteristic species include California sage brush, coyote brush, saw-toothed goldenbush (*Hazardia squarosa*), lupines (*Lupinus* sp.), and black sage, among others. The community is common on the ocean side of the Santa Lucia range between Monterey and Point Conception, and is usually found below about 2,000 feet. In the context of this analysis, this habitat is synonymous with the Coyote Brush series description provided by Sawyer and Keller-Wolf (1995).

This community occurs in isolated stands within the survey area on the Giacomazzi property. Dominant species include coyote brush and California sage brush. Understory herbaceous species include non-native grasses such as ripgut brome, barley, and oats, and non-native forbs such as field

mustard, pineapple weed, and fennel. These stands are sparse and relatively low in quality, and function as extensions to the adjacent Extensive Agricultural areas providing marginal nesting habitat for common scrub-nesting bird species, and marginal foraging habitat for common wildlife species, including raptors.

### **Central Maritime Chaparral (37C20)**

Central Maritime Chaparral is described as a variable sclerophyll scrub habitat characterized by a moderate to high percent cover of native shrubs dominated by woolly leaf manzanita (*Arctostaphylos tomentosa*) and other narrowly distributed manzanita (*Arctostaphylos* sp.) species. This community is restricted to areas within the summer coastal fog incursion zone that are supported by well-drained sandy substrates. Other native species characteristic of this community may include chamise (*Adenostoma fasciculatum*), California sagebrush, coyote brush, ceanothus (*Ceanothus* sp.), mountain mahogany (*Cercocarpus betuloides*), mock heather, toyon (*Heteromeles arbutifolia*), sticky monkeyflower (*Mimulus aurantiacus*), hollyleaf cherry (*Prunus ilicifolia*), coast live oak (*Quercus agrifolia*), coffee berry (*Rhamnus californica*), black sage, and poison oak (*Toxicodendron diversilobum*). This community is distributed in scattered locations near Monterey and Fort Ord, and in southern San Luis Obispo and northern Santa Barbara Counties.

Central Maritime Chaparral occurs as a large stand at a single location within the study area on the Broderson property. Manzanita and coast live oak represent the dominant plant species within the stand on the Broderson property (LOCSO 2004). Other species observed include California sagebrush, black sage, wedgeleaf ceanothus, deerweed, and veldt grass, among others.

### **Coast Live Oak Forest (81310)**

Coast Live Oak Forest, also known as Coast Live Oak series (Sawyer and Keller-Wolf 1995), is described as being similar to Mixed Evergreen Forest and Coast Live Oak Woodland, not quite so dense and with fewer tree species than the former; denser than the latter, forming forest instead of woodland. Dominated by coast live oak, a broad-crowned, sclerophyllous evergreen tree growing 60 feet tall or more. The growing season may begin earlier than in Mixed Evergreen Forest, at least in the southern coastal locations, whereas a greater reduction of growth probably occurs during the summer-fall drought. It is similar to Mixed Evergreen Forest and Coast Live Oak Woodland, but drier than the former and moister than the latter and may intergrade with these locally as well as regionally. This community may occur in valley bottoms as well as on slopes. Characteristic species include coast live oak, scrub oak (*Quercus berberidifolia*), and poison oak, among others. This community is known to occur from the coast ranges of Sonoma County to Santa Barbara County; however, it is most common away from the coast in the north, and near the coast in the south. It is often adjacent to Mixed Evergreen Forest in the north or merging with Coast Live Oak Woodland in the south at elevations usually below 3,000 feet.

Coast Live Oak Forest occurs in one location within the survey area along Los Osos Valley Road and adjacent and west of Los Osos Creek within the Los Osos Oaks State Reserve. This stand is almost

entirely comprised of coast live oak trees with little development in the understory. This stand intergrades with Central Coast Arroyo Willow Riparian Forest within areas associated with Los Osos Creek, and with Disturbed Habitat and developed areas associated with the Los Osos Valley Road ROW. The proximity of this habitat within the survey area to Los Osos Valley Road and associated disturbances reduce the overall quality for wildlife species. Although nesting is unlikely, common wildlife species may use the area as foraging habitat.

### **Central Coast Live Oak Riparian Forest (61220)**

Central Coast Live Oak Riparian Forest, also known as Coast Live Oak - Arroyo Willow series (Sawyer and Keller-Wolf 1995), is described as a low, evergreen sclerophyllous riparian forest, usually with an open appearance, dominated by coast live oak. This community is associated with drier outer flood plains along perennial streams, and is ecotonal between more mesic cottonwood- or willow-dominated types within or adjacent to the active stream channel and primary floodplain, as well as more xeric chaparrals in upland areas. Central Coast Live Oak Riparian Forest habitat is known from canyon bottoms and flood plains of the South Coast and Transverse ranges, from Sonoma County south to near Point Conception. This community includes many species usually associated with Coast Live Oak Woodland or Chaparral in the open scrub and woodland understory, with annual grasses dominating the herbaceous layer. Typical plant species found within Central Coast Live Oak Riparian Forest include coast live oak, Mexican elderberry (*Sambucus mexicana*), coyote bush (*Baccharis pilularis*), skunkbush (*Rhus trilobata*), poison oak, mugwort (*Artemisia douglasiana*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), wild oats, and bromes (*Bromus* spp.). According to mapping prepared for the Draft LOHCP, Central Coast Live Oak Riparian Forest or Coast Live Oak - Arroyo Willow series represents the most abundant riparian habitat type mapped within the Los Osos area (LOCSO 2005). This habitat is contiguous and dense along the lower reach of Los Osos Creek downstream of the Los Osos Valley Road crossing, as well in areas surrounding Eto Lake and its unnamed tributary west to South Bay Boulevard (LOCSO 2005).

Central Coast Live Oak Riparian Forest habitat was observed at a single location within the survey area at Los Osos Oaks State Reserve. The stand that exists within the survey area continues further upstream and to the south along Los Osos Creek, and integrates with Coast Live Oak Forest habitat occupying upland areas to the immediate southwest and west, and Central Coast Arroyo Willow Riparian Forest and Arroyo Willow - Black Cottonwood series riparian habitat further downstream. The habitat onsite contains a dense closed-canopy that is co-dominated by coast live oak trees and arroyo willow trees (*Salix lasiolepis*). Little understory growth exists within onsite areas that are characterized by this community, and especially within the bare active channel and adjacent channel margins of Los Osos Creek itself. Dominant understory species observed within limited areas include poison oak, mugwort, Himalaya blackberry, and horsetail (*Equisetum hyemale*).



Previous and ongoing disturbance associated with Los Osos Valley Road and adjacent urban elements has reduced the overall quality of the Central Coast Live Oak Riparian Forest habitat within the study area. Previous developments and ongoing maintenance associated with the Los Osos Valley Road ROW and Los Osos Creek over crossing have resulted in the removal and trimming of trees. Understory pedestrian trails leading down to the creek and signs of trash and human use have also contributed to a reduction in the overall value of the stand. Additionally, the area is subject to regular indirect disturbances associated with pedestrians and vehicles using the Los Osos Valley Road ROW. Central Coast Live Oak Riparian Forest habitat onsite and in the immediate vicinity provides suitable nesting opportunities for common and sensitive bird species, including raptors, and marginal upland habitat for amphibian species that occur within the perennial waters of Los Osos Creek. The dense riparian canopy that serves as an overstory for Los Osos Creek also may function to facilitate wildlife movement through the riparian corridor, in addition to providing important ecological elements for aquatic species that may inhabit the Creek during wet months, such as southern steelhead.

### **Central Coast Arroyo Willow Riparian Forest (61230)**

Central Coast Arroyo Willow Riparian Forest habitat, also known as Arroyo Willow series (Sawyer and Keller-Wolf 1995), is described as containing a dense closed-canopy of the shrub/tree, arroyo willow (*Salix lasiolepis*), with a sparse understory of shrub species. Other species associated with this habitat type include trees such as western sycamore (*Platanus racemosa*) and shrubs such as coyote bush, and other willow species such as red willow (*Salix laevigata*) and black willow (*Salix goodingii*). This habitat typically occurs within low gradient stream reaches and seasonally flooded bottomlands supported by moist or saturated sandy or gravelly soils, distributed near the coast from Monterey south to Santa Barbara. In the community of Los Osos, this habitat also occurs within or around dune slack ponds in the coastal fog incursion zone. According to mapping prepared for the Draft LOHCP, larger stands of Central Coast Arroyo Willow Riparian Forest or Arroyo Willow Series are narrowly distributed within the Los Osos area. This habitat is limited to isolated areas within the lower reach of Los Osos Creek, including one moderately sized stand downstream of the Los Osos Valley Road crossing, and one relatively large stand downstream of the Los Osos Creek and Warden Creek confluence (LOCSO 2005). Scattered smaller stands are more abundant, particularly within areas east of Los Osos Creek and within Warden Creek and its tributaries.

Central Coast Arroyo Willow Riparian Forest habitat occurs primarily within six locations within the study area including the Giacomazzi property, Los Osos Valley Road, Warden Creek at the Turri Road crossing, and the Turri Road culvert within the Tonini property. With the exception of the small isolated stand at Turri Road, the remaining stands are directly connected with and/or in the immediate vicinity of better quality stands associated with Warden Creek and its wetlands and tributaries. Although not ground-truthed for the purposes of this study, this habitat also lines the margins of the Warden Creek wetlands located within the Freshwater Marsh habitat on the Branin property. Dominant plant species within the Central Coast Arroyo Willow Riparian Forest habitat observed onsite include arroyo willow within the tree stratum, mulefat (*Baccharis salicifolia*) and

coyote bush within the shrub stratum, and poison hemlock, curly dock (*Rumex crispus*), fennel, and broad-leaf cattail (*Typha latifolia*) within the herbaceous stratum.

The Central Coast Arroyo Willow Riparian Forest habitat that occurs within the study area is disturbed with the exception of the stands that occur within Los Osos Creek, the Giacomazzi property, and the larger stands that were not ground-truthed within the Warden Creek wetlands on the Branin property. The stand mapped within Los Osos Creek contains an open canopy above the active channel for the Creek, and intergrades with the denser Central Coast Live Oak Riparian Forest habitat. The dominant overstory arroyo willows within the stands on the Giacomazzi property and Warden Creek wetlands are broad-leafed and mature, and provide a closed canopy for the overall stand. Although small and disjunct, the stands along Los Osos Valley Road exhibit healthy plant species compositions; however, they occur in the immediate vicinity of existing roads and are subject to associated direct and indirect impacts. Additionally, the riparian habitat within Warden Creek at the Turri Road crossing is sparse and contains evidence of disturbance from previous developments and agricultural activities from the adjacent uplands.

Habitat quality of the Central Coast Arroyo Willow Riparian Forest habitat onsite is relatively high, however, it is limited by the small size of the individual stands. The stands within Los Osos Creek and the Giacomazzi and Branin properties are more or less contiguous with adjacent stands of riparian and/or wetland habitat that occurs offsite. The stands within the Giacomazzi and Branin properties function as extensions of larger better quality habitat that occurs further to the north and northeast within the Warden Creek wetlands. These areas, along with the stand within Los Osos Creek, provides suitable nesting opportunities for common and sensitive bird species, including raptors, and marginal upland habitat for amphibian species that occur within the Warden Creek wetlands and perennial waters within Los Osos Creek. The stands of habitat that occur along Los Osos Valley Road and at the Turri Road culvert within the Tonini property provide limited opportunities for common wildlife species due to the overall size and quality of the stands. These areas provide only marginal nesting and foraging habitat for common wildlife species. The riparian habitat that occurs within Warden Creek at the Turri Road crossing provides suitable nesting and foraging opportunities for a number of common and sensitive wildlife species, and may function to facilitate wildlife movement through the riparian corridor that is supported by Warden Creek.

### **Vernal Marsh (52500)**

Vernal Marsh habitat, also known as the Spikerush series (Sawyer and Keller-Wolf 1995), is described as containing an arrangement of low-growing annual and perennial herbs, whose dominance and relative abundance may fluctuate due to seasonality (Holland 1986). These habitats typically occupy the margins of perennial and permanent water bodies, and isolated low-lying depressions, swales, and seeps throughout the coastal and interior valleys of California. This habitat is supported by an ephemeral and astatic hydrology regime in which sites supporting this habitat are temporarily inundated during and immediately following the winter rains, however, they are greatly

diminished or completely dried up by summer. The growing season for vegetation within Vernal Marsh habitats typically occurs between late spring to early summer. This habitat tends to become more alkaline later in the season due to receding water and evaporation.

Vernal Marsh habitat characterizes the larger ephemeral drainages that traverse the Tonini property and the seasonal wetlands that occur adjacent to Los Osos Valley Road. The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on the LOWWP site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*), curly dock, yellow sweet clover (*Melilotus officinalis*), and blue-eyed grass (*Sisyrinchium bellum*), and species typical of upland habitats such as ripgut brome, soft chess, wild oats, and bristly ox-tongue.

Consistent with the majority of the wetland habitat identified in the Los Osos community by the Draft LOHCP, the Vernal Marsh habitat within the study area could also be defined as Disturbed Wetlands from the Disturbed Wetland Series (LOCSO 2005, Sawyer and Keller-Wolf 1995) due to a number of disturbance factors. The Vernal Marsh habitat along Los Osos Valley Road has been previously disturbed as a result of various utilities projects within the ROW, and the hydrology regime has been altered as a result of road and culvert developments. These areas are also routinely disturbed by pollutants carried via nuisance and agricultural runoff from the adjacent roads and agricultural lands, in addition to direct and indirect vehicle disturbance within the ROW. Vernal Marsh habitat within the Tonini property is routinely disturbed by grazing and pollutants associated with grazing and agricultural activities. The hydrology regime that supports these wetlands appears to be relatively undisturbed from development, with the exception of a few culverts that facilitate water flows beneath Turri Road and the existing dirt access road on the property.

Habitat quality within the Vernal Marsh habitat within the study area ranges from low (poor quality) to high (good quality) based on limiting factors associated with water quality, plant species composition, and overall disturbance. Habitat quality within the Vernal Marsh habitat that occupies areas adjacent to Los Osos Valley Road is considered low based on the limited size of the areas and proximity to the heavily trafficked Los Osos Valley Road. The areas within the Los Osos Valley Road ROW also exhibited relatively poor plant species composition and overall coverage providing limited opportunities for wildlife species. The large majority of the Vernal Marsh habitat that occupies the drainage features on the Tonini property provides high quality habitat for a number of common and sensitive wildlife species, including California red-legged frog and two-striped garter snake. These areas exhibited relatively moderate plant species composition, and adequate coverage and water resources to support a wide range of wildlife species that typically occur in wetland and vernal marsh habitats.

## Freshwater Marsh (52400)

Freshwater Marsh habitat is dominated by perennial, emergent monocot species, which grow up to 4 to 5 feet tall and often form completely closed canopies. Dominant plant genera typically found within Freshwater Marsh include bulrush (*Scirpus* spp.) and cattail (*Typha* spp.). This community occurs in areas permanently flooded by fresh water, which lack any significant hydrologic flow. This community occurs in coastal valleys near river mouths and around the margins of lakes and springs. Within California, this community is most extensive in the upper portion of the Sacramento-San Joaquin River Delta and is common in the Sacramento and San Joaquin Valleys in river oxbows and other areas within active floodplains.

Freshwater Marsh occurs intermixed with elements of riparian forest within the northern portions of the Branin property in the area referred to as the Warden Creek wetlands. Dominate species present include hard-stem bullrush (*Scirpus acutus*) and arroyo willow. The Freshwater Marsh habitat within the study area is relatively undisturbed; however, the surrounding margins and upland areas contain evidence of intensive grazing that may present an adverse affect on the water quality of the area and an edge effect from vegetation removal for the creation of grazing land. Habitat quality is considered high for a number of common and sensitive terrestrial and aquatic species. The riparian trees provide suitable nesting and foraging opportunities for common and sensitive bird species, and the marsh habitat provides suitable breeding and foraging habitat for common amphibious species.

### 2.1.4 - Flora

Dominate and sub-dominate tree, shrub, herbaceous, and woody vine plant species that were specifically observed within each of their respective habitat type/vegetation communities are provided above in Section 2.1.4 of this report. A complete list of all plant species observed during the habitat assessment for the LOWWP site is provided in Attachment A of this document.

### 2.1.5 - Fauna

Wildlife species observed or otherwise detected during surveys include common species typical of agricultural areas, and lowland scrub and forest communities located in proximity to urban areas. The majority of the species observed are commonly associated with urban settings. A complete list of wildlife species detected onsite is included in Attachment A. Reptile species observed during the surveys include common species such as western fence lizard (*Sceloperus occidentalis*) and side-blotch lizard (*Uta stansburiana*). Amphibian species observed or otherwise detected during the general habitat surveys include Pacific tree frog (*Psuedacris regilla*) and American bullfrog (*Rana catesbeiana*). Bird species observed or otherwise detected include common species such as black phoebe (*Sayornis nigricans*), house finch (*Carpodacus mexicanus*), song sparrow (*Melospiza melodia*), western bluebird (*Sialia mexicana*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), common yellowthroat (*Geothlypis trichas*), Anna's hummingbird (*Calypte anna*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), and red-tailed hawk. Common mammal species observed or otherwise

detected include Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), domestic dog (*Canis familiaris*), domestic horse (*Equus caballus*), and domestic cow (*Bos taurus*).

## SECTION 3: SENSITIVE BIOLOGICAL RESOURCES

### 3.1 - Special Status Species

#### 3.1.1 - Special Status Plant Species

Based on a list compiled through the CNDDDB and gathered from the Draft LOHCP, 39 special status vascular and non-vascular plant species were analyzed for their potential to occur within the study area. A discussion is provided below for each special status plant species determined to be present, presumed present, or have a high potential to occur based on the results of botanical surveys and/or the best available scientific research. Further information detailing the listing status, habitat requirements, species life form, blooming periods, and potential to occur within the surveys area for all 39 sensitive plant species included in the analysis are provided in Attachment B1, Special Status Plant Species Table.

Twelve special status plant species were determined present, presumed present, or have a high potential to occur within various portions of the survey area including the vascular plant species; Morro manzanita, Monterey spineflower, Blochman leafy daisy, Saint's daisy, Indian knob mountainbalm, San Luis Obispo wallflower, curly-leafed monardella (*Monardella undulata*), and dune almond, and the non-vascular lichens; spiraled old man's beard (*Bryoria spiralifera*), Los Osos black and white lichen (*Hypogymnia mollis*), long-fringed parmotrema (*Parmotrema hypolecinum*), and splitting yarn lichen (*Sulcaria isidifera*). Each species listing status, general habitat requirements, and the extent to which they were determined to occupy the survey area is summarized below.

#### **Morro Manzanita**

Morro manzanita is a federally threatened and CNPS List 1B.1 plant species that is presumed to be present within the coastal sage scrub and maritime chaparral habitat on the Broderson property. Species listed as a federally threatened species are generally those species considered likely to become an endangered species within the foreseeable future throughout all or a significant portion of their entire known range. A CNPS list species is assigned a status value by the CNPS based on rarity indices of List 1A, List 1B, List 2, List 3, or List 4, and a level of endangerment value for each rarity index of 0.1, 0.2, or 0.3. CNPS rarity indices of List 1A and levels of endangerment of 0.1 correspond to species of highest priority in protecting the resource from threatening or endangerment of extinction, whereas rarity indices of List 4 and levels of endangerment of 0.3 correspond to species of lowest priority in protecting the resource from threatening or endangerment of extinction. A CNPS List 1B.1 species is thus defined by the CNPS as having a rarity index of List 1B (distributed in a limited number of occurrences and occasionally more if each occurrence is small, or, distributed in one to several highly restricted occurrences or present in such small numbers that it is seldom reported) and an endangerment value of 0.1 (seriously endangered in California with over 80 percent of occurrences threatened or a high degree and immediacy of threat) (CNPSEI 2008). This species has been previously observed to the immediate south of the portions of the Broderson property that

fall within the study area, as well as various locations within and in the vicinity of the community of Los Osos that are supported by Baywood fine sands (Holland and Keil 1985, LOCSD 2005, CNDDDB 2008). This species has a reduced potential to occur within coastal sage scrub stand on the Mid-town property due to the current degree of disturbances and relatively poor habitat quality.

### **Monterey Spineflower**

Monterey spineflower is a federally threatened and CNPS List 1B.2 plant species that has a high potential to occur within the coastal sage scrub on the Broderson property. A CNPS List 1B.2 species is defined by the CNPS as having a rarity index of List 1B (distributed in a limited number of occurrences and occasionally more if each occurrence is small, or, distributed in one to several highly restricted occurrences or present in such small numbers that it is seldom reported) and an endangerment value of 0.2 (fairly endangered in California with 20 to 80 percent of occurrences threatened) (CNPSEI 2008). This species has been previously observed and recorded at locations to the immediate south of the portions of the Broderson property that fall within the study area (Holland and Keil 1985). This species also has a reduced potential to occur within coastal sage scrub stand on the Mid-town property due to the current degree of disturbances and relatively poor habitat quality.

### **Blochman Leafy Daisy**

Blochman leafy daisy is a CNPS List 1B.2 plant species that is presumed present within the coastal sage scrub habitat on the Broderson property. This plant species is not federally or State listed, however, it is on the watch list of plant species by the CNPS. Two recorded occurrences of Blochman leafy daisy in the southwestern portions of the property have been documented in previous botanical survey reports prepared for the South Bay Wastewater Treatment Facility (Holland and Keil 1985). Additional observations have been recorded in the local vicinity in Morro Dunes Ecological Reserve and within Montaña se Oro State Park (Holland and Keil 1985, LOCSD 2005, CNDDDB 2008). This species has a reduced potential to occur within coastal sage scrub stand on the Mid-town property due to the current degree of disturbances and relatively poor habitat quality.

### **Saint's Daisy**

Saint's daisy is a CNPS List 4.2 plant species that is presumed present within the coastal sage scrub on the Broderson property. This plant species is not federally or State listed, however, it is on the watch list of plant species by the CNPS. A CNPS List 4.2 species is defined by the CNPS as having a rarity index of List 4 (having limited distribution and is rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is currently low) and an endangerment value of 0.2 (fairly endangered in California with 20 to 80 percent of occurrences threatened) (CNPSEI 2008). This species has been documented as occurring in coastal sage scrub/coastal dune scrub habitat within Morro Dune Ecological Reserve adjacent to the Broderson property (Holland and Keil 1985). This species has a reduced potential to occur within the Mid-town property based on the current degree of disturbance and overall low quality of the coastal sage scrub.

### **Indian knob Mountainbalm**

Indian knob mountainbalm is a federally endangered, State endangered, and CNPS List 1B.1 plant species that has a high potential to occur within the coastal sage scrub habitat on the Broderson property. Species listed as a federally endangered species are generally those species considered in danger of extinction throughout all or a significant portion of their entire known range. State endangered species are in danger of extinction throughout all or a significant portion of their known range within the State of California. This species has been documented within the north-facing slope areas south of the community of Los Osos, including undeveloped land in the vicinity of the Broderson property (Holland and Keil 1985, LOCSO 2005, CNDDDB 2008). This species has a reduced potential to occur within the Mid-town property due to the current degree of disturbances and low habitat quality.

### **San Luis Obispo Wallflower**

San Luis Obispo wallflower is a CNPS List 4.2 plant species that is presumed present within the coastal sage scrub habitat that occur on the Broderson property. This plant species is not federally or State listed, however, it is on the watch list of plant species by the CNPS. Based on previous botanical survey efforts conducted for the South Bay Wastewater Treatment Facility project, a number of individuals have been observed and recorded in the southwestern portions of the property (Holland and Keil 1985, LOCSO 2005). This species also has a low potential to occur within undisturbed coastal sage scrub stands on the Mid-town property.

### **Curly-leafed Monardella**

Curly-leafed monardella is a CNPS List 4.2 plant species that has a high potential to occur within the coastal sage scrub habitat on the Broderson property. This plant species is not federally or State listed, however, it is on the watch list of plant species by the CNPS. This species has been observed further to the south of the portion of the Broderson property that fall within the study area (Holland and Keil 1985, LOCSO 2005). This species has a low potential to occur within the Mid-town property based on the degree of disturbance and overall low quality of the coastal sage scrub. Although unlikely, this species may also occur within smaller undeveloped properties throughout the community of Los Osos with suitable substrate.

### **Dune Almond**

Dune almond or sand almond is a CNPS List 4.3 plant species that is presumed present within the coastal sage scrub habitat on the Broderson property. This plant species is not federally or State listed, however, it is on the watch list of plant species by the CNPS. A CNPS List 4.3 species is defined by the CNPS as having a rarity index of List 4 (having limited distribution and is rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is currently low) and an endangerment value of 0.3 (not very endangered in California with less than 20 percent of occurrences threatened or no current threats known) (CNPSEI 2008). This species has been previously observed and recorded at locations on and to the immediate south and east of the portions



of the Broderson property that fall within the study area (Holland and Keil 1985). This species also has a low potential to occur within the coastal sage scrub habitat on the Mid-town property.

### **Spiraled Old Man's Beard, Los Osos Black and White Lichen, Long-fringed Parmotrema, and Splitting Yarn Lichen**

The spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen are narrow endemic non-vascular species that have a high potential to occur within portions of the study area that generally support older coast live oak trees and native shrubs. These lichens have the highest potential to occur within the coastal sage scrub on the Broderson property, the central Lucian coastal scrub on the Giacomazzi property, and the coast live oak forest and central coast live oak riparian forest habitat in the vicinity of Los Osos Creek.

### **3.1.2 - Special Status Wildlife Species**

Based on a list compiled through the CNDDDB and gathered from the Draft LOHCP, 55 special status wildlife species were analyzed for their potential to occur on the LOWWP study area. A discussion is provided below for each special status wildlife species determined to be present, presumed present, or have a high potential to occur based on the results of protocol surveys and/or the best available scientific research. Further information detailing the listing status, habitat requirements, and potential to occur on the LOWWP site for all 55 sensitive wildlife species, including species that were determined to have a low potential or are unlikely to occur, are included in the analysis is provided in Attachment B2, Special Status Wildlife Species Table.

Nine special status wildlife species were determined present, presumed present, or have a high potential to occur within various portions of the survey area based on the results of protocol surveys conducted for the proposed LOWWP and best available scientific research that includes the results of recent protocol survey efforts for projects in the area. These species include Cooper's hawk (*Accipiter cooperi*), Monarch butterfly, Morro Bay kangaroo rat, white-tailed kite, Morro shoulderband snail, southern steelhead, Morro blue butterfly (*Plebejus icariodes moroensis*), California red-legged frog, and Allen's hummingbird (*Selasphorus sasin*). Each species listing status, general habitat requirements, and the extent to which they were determined to occupy the survey area is summarized below.

#### **Cooper's Hawk**

Cooper's hawk has recently been delisted from a California State species of special concern to a species whose only designation is a Global and State rank. This species has a Global rank of G5, which is considered globally secure, common, widespread, and abundant, as well as a State rank of S3, which is considered vulnerable in California due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Suitable nesting habitat for this species occurs within the riparian and oak habitats within the Los Osos Valley Road ROW near Los Osos Oak State Reserve, in addition to the Giacomazzi and Branin properties. This species forages throughout a wide range of habitats; therefore, the majority of

the study area could potentially be used for foraging by this species. Therefore, the proposed LOWWP may result in potential significant impacts to this species and its habitat (nesting and foraging).

### **Monarch Butterfly**

Monarch butterfly winter roosting sites are designated as a threatened phenomenon by the CDFG. A number of sites in the Los Osos area have been documented as supporting winter roost sites including a eucalyptus grove in the Skyline Grove area near the intersection of Doris Avenue, a site at West Woodland Avenue at the terminus of Monarch Lane, and in Sweet Springs Marsh north of Ramona (LOCSD 2005, CNDDDB 2008). There are stands of eucalyptus trees that occur in the Broderson and Mid-town properties, as well as along the Los Osos Valley Road ROW that provide suitable winter roosting habitat for this species. Therefore, the proposed LOWWP may result in potential significant impacts to this species and its roosting habitat.

### **Morro Bay Kangaroo Rat**

The Morro Bay kangaroo rat is a federally endangered and California State endangered kangaroo rat that has a high potential to occur within the coastal sage scrub habitat on the Broderson property. Although unlikely, this species may also occur within the disturbed coastal sage scrub on the Mid-town property as well. This species optimum vegetation association is early-successional coastal sage scrub dominated by herbaceous annuals and perennial shrubs such as California sagebrush, coyote brush, lupines, and buckwheat. This species known habitat is also supported by raw wind-blown sand typical of coastal dunes systems of various types of stability to allow for burrowing.

Suitable vegetation and soils for this species' requirements exist on the Broderson property; however, vegetation coverage can be considered dense and the community is in a later successional stage rather than an earlier one. The Broderson property is also contiguous with other suitable coastal dune scrub, and coastal sage scrub habitat located to the immediate east within the Morro Dunes Ecological Reserve. Although the coastal scrub on the Mid-town property may be recovering from disturbances in 2005, it is somewhat isolated from larger habitat blocks, and does not currently contain a sufficient vegetative coverage and composition to be considered an optimal early-successional stage coastal sage scrub for this species. Therefore, the Mid-town property is currently considered marginal for this species; however, the habitat may improve as time passes and the community re-establishes itself. In the vicinity of the LOWWP study area, three records of known occurrences from 1985, and six historical records have been documented by the CNDDDB (LOCSD 2005, CNDDDB 2008). The most recent known occurrences from 1985 include a site at Baywood Drive located south of Highland Drive between Broderson Avenue and Baywood Drive, a site at the junior high school east of South Bay Boulevard and west of Los Osos Creek, and a site located north of the terminus of Buckskin Drive. Although this species is thought to be completely extirpated and potentially extinct throughout its historical range, protocol trapping surveys continue to be mandated by the wildlife agencies in hopes to obtain specimens for captive breeding programs for its recovery.

The proposed leachfield element of the LOWWP's effluent disposal strategy will result in impacts to habitat on the Broderson property, and the proposed waste collection and pump facilities will result in impacts to the Mid-town property. The proposed effluent disposal through leachfield methods would result in a temporary loss of coastal sage scrub habitat and could result in direct take of this federally endangered species. Requirements for the waste collection would result in the permanent removal of coastal sage scrub habitat and could result in direct take of the species as well. Therefore, the proposed LOWWP may result in potential significant impacts to this species and its habitat.

### **White-tailed Kite**

The white-tailed kite is a fully protected species in the State of California that most commonly occurs within riparian and oak woodland habitat, and emergent trees within and adjacent to marsh habitats. This species was determined to have a high potential to nest within the riparian habitat on the Giacomazzi property, and the emergent trees within the freshwater marsh habitat on the Branin property. Marginal nesting opportunities also exist within the oak forest habitat within Los Osos Oaks State Reserve and the riparian forest habitat within Los Osos Creek; however, the proximity of these areas to urban developments and human-related disturbances strongly reduce the potential for this species to nest in the area. This species forages within a wide variety of habitat types, however the highest quality foraging habitat for this species occurs within the open extensive agriculture, non-native grassland, and disturbed habitat on the Cemetery, Giacomazzi, Branin, and Tonini properties. Therefore, the proposed LOWWP may result in potential significant impacts to this species and its habitat (nesting).

### **Morro Shoulderband Snail**

The Morro shoulderband snail is a federally endangered species that is endemic to the western portion of San Luis Obispo County and specifically, south of Morro Bay, west of Los Osos Creek, and north of Hazard Canyon. The species typically inhabits accumulated litter and the undersides of low shrub branches in coastal dune scrub vegetation, particularly mock heather, golden yarrow (*Eriophyllum staechadifolium*), deerweed, and dune almond (LOCSO 2005, CNDDDB 2008, USFWS 1998). While the species has most often been found in mock heather, it has also been found within introduced ice plant (*Mesembryanthemum* spp. and *Conicosia* spp.) and fig-marigold (*Carpobrotus edulis*), and surveys conducted by the USFWS and CDFG determined that snails also occur on California sage-black sage, dune lupine-goldenbush, Morro manzanita, California sagebrush, and several other maritime chaparral and coastal sage scrub plant communities (LOCSO 2005).

The Morro shoulderband snail is a federally endangered species that is presumed to be present within portions of the LOWWP site including the Broderson property, the Mid-town property, and residential properties within the community of Los Osos. All of these sites contain suitable coastal sage scrub habitat and/or Baywood fine sandy soils that are the preferred habitat for this species. Furthermore, the Broderson property is located within USFWS-designated Critical Habitat for this species, specifically within Critical Habitat Unit 2 known as the "South Los Osos" Unit (Exhibit 6).

According to intensive protocol surveys conducted by Jones and Stokes Associates and the Morro Group from 1997 through 2001, the Morro shoulderband snail was determined to occupy both the Broderson and Mid-town properties, as well as various residential properties throughout the community of Los Osos (LOCSO 2005, pers. comm. Bob Sloan). Therefore, this species is presumed present in unknown numbers within the Broderson property, the Mid-town property, and residential properties within the community of Los Osos that are mapped as containing Baywood fine sandy soils. The proposed LOWWP could result in a potential significant impact on this species and its habitat through the development of LOWWP elements that are proposed within these areas.

A portion of the Broderson property is proposed for the leachfield element of the proposed LOWWP's effluent disposal strategy. The proposed effluent disposal through leachfield methods would result in a temporary loss of coastal sage scrub habitat and occupied habitat by the Morro shoulderband snail, and could result in direct take of this federally endangered species. The temporary loss of coastal sage scrub habitat would result from installation and routine maintenance of leachfield materials, of which, initial vegetation clearing and excavation activities would result in the removal of coastal sage scrub habitat, and routine maintenance activities would result in future temporary disturbance to recovered habitat.

A portion of the Mid-town property is proposed for waste collection facilities prior to being pumped from the collection system in town to treatment facilities proposed further to the east of town. Requirements for the waste collection would result in the removal of coastal sage scrub habitat and occupied habitat by the Morro shoulderband snail, and could result in direct take of the species. Vegetation clearing and excavation activities for the placement of a permanent collection system would result in the permanent removal of occupied habitat.

A significant portion of residential properties within the community of Los Osos are proposed for collection system lines that will pump waste from individual residences to the LOWWP's collection system and eventually to the treatment facilities. These areas do not contain large stands of coastal sage scrub or other native vegetation communities; however, these areas do contain suitable substrate (i.e., Baywood fine sandy soils) and refuge habitat (i.e., introduced iceplant and fig-marigold, debris and litter piles) that are known to be associated with this species. The proposed collection lines would require excavation along numerous linear sections of trench lines that occur within suitable habitat that is presumed to be occupied by the Morro shoulderband snail.

The proposed LOWWP would result in a significant impact to this species and its habitat through the development of LOWWP elements that are proposed within the Broderson property, the Mid-town property, and residential properties that will be served by the proposed collection system.

### **Southern Steelhead**

The southern steelhead - South-Central California Coast Evolutionarily Significant Unit (ESU) is a federally threatened species and California State species of special concern that has a high potential to

occur within portions of the survey area that includes Los Osos Creek. Specifically, suitable habitat for this species include areas that fall within the Los Osos Creek stream course and associated riparian canopy that are adjacent to the Los Osos Valley Road over crossing. The relevant reach of Los Osos Creek that occurs in the vicinity of the study area has been designated by the National Marine Fisheries Service (NMFS) as Critical Habitat for this species. This area is depicted as South-Central California Coast Steelhead Critical Habitat on Exhibit 6. It was determined that the onsite portions of Los Osos Creek could be used as spawning and rearing habitat during the winter rainy season and into spring until the Creek no longer supports passable flows. According to CNDDDB records, there are no historical records within Los Osos Creek; however, this species has recently been documented in the Creek during efforts to determine its southern range (NMFS 2007), and records exist outside the survey area within Chorro Creek further to the north of the community of Los Osos, and within Coon Creek and Islay Creek further to the south of the community, north of Point Buchon in Montaña de Oro State Park.

The portion of Los Osos Creek within the survey area and downstream to the Eto Lake area were completely dry during the April and May 2008 habitat assessment surveys. Data indicate that Los Osos Creek is an intermittent relatively permanent water that supports freshwater flows that discharge into Morro Bay and the Pacific Ocean during the winter rainy season and partially into spring. There are no major impairments or dam structures downstream of the onsite reach that would inhibit fish passage or act as a migration barrier from Morro Bay and the Pacific Ocean to the LOWWP site. Therefore, this species was determined to have a high potential to occur throughout the rainy season until stream flows subside to impassable levels.

The LOWWP proposes four separate alternatives for installation of conveyance pipelines for the crossing of Los Osos Creek, including microtunneling, horizontal directional drilling (HDD), open-cut trenching, and pipeline suspension. Construction activities associated with these activities could result in potential significant impacts to this species and its habitat.

### **Morro Bay blue Butterfly**

The Morro Bay blue butterfly is not federally or State endangered or threatened, or listed as a California State species of special concern. However, this species is considered locally endemic and rare, and has been given a State rank of S1S3. A State rank of S1S3 indicates this species exact status is unknown, however, it ranges from being critically imperiled to vulnerable in California because of extreme rarity (5 or fewer occurrences or less than 1,000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor. This species' Global rank (G5) is considered secure. This species occupies coastal sage and dune scrub habitats that support the larval host plant species, silver lupine (*Lupinus chamissonis*), and forages within areas that support suitable nectar sources from flowering plants. This species has been previously observed within the coastal scrub habitat on the Broderson and Mid-town properties and is presumed present. Therefore, the proposed LOWWP could result in potential significant impacts to this species and its habitat.

### **California Red-legged Frog**

The California red-legged frog is a federally threatened and California State Species of Special Concern that was determined to occupy Vernal Marsh habitat within a drainage feature that occurs on the Tonini property. This species was also determined to have a high potential to occur within Warden Creek at the Turri Road crossing, in addition to the area known as the Warden Creek wetlands or Warden Lake. Based on the result of protocol surveys for this species conducted by MBA in May 2008 (see Attachment F), 9 California red-legged frog specimens were determined to occupy an approximate 2,500-linear feet reach of the largest drainage feature on the Tonini property. This area is depicted as California red-legged frog occupied habitat on Exhibit 6. The survey findings confirmed the presence of two fully metamorphosized sub-adults occupying two isolated ponds in the central-eastern and southeastern portions of the property, and 7 tadpoles occupying a single larger pond in the southeastern portions of the property. The remaining drainage features on the Tonini property were surveyed and determined not to support suitable long-lived aquatic habitat that is required by this species.

California red-legged frog has been previously recorded within Warden Creek at the Turri Road crossing during surveys conducted by an unknown source in 2006 (CNDDDB 2008). This area was also included in MBA's 2008 focused survey effort, however the species was not found. Additional suitable habitat for this species exists within the Warden Creek wetlands that bound the Branin property to the north, and occur to the immediate northeast of the Giacomazzi property. Access was restricted in these areas and therefore they were not surveyed during the 2008 protocol survey effort.

The adjacent upland areas and a downstream reach of the drainage feature are proposed for the placement of LOWWP treatment facilities, which include facultative ponds, storage facilities, and appurtenances. These permanent developments could result in adverse indirect impacts to this species and its habitat through the permanent loss of upland refuge habitat, development of adjacent above ground elements, and potential degradation of water resources. Therefore, the proposed LOWWP could result in potential significant impacts to this species and its habitat.

### **Allen's Hummingbird**

Allen's hummingbird is not federally or State endangered or threatened, or a California State species of special concern. This species has been designated a Global rank of G5, and a State rank of SNR. Globally, this species is considered secure; however, in California, this species is not specifically ranked because its conservation status has not yet been fully assessed. Due to its range throughout coastal habitats, this species could be considered rare and potentially vulnerable. Allen's hummingbird was determined to have a high potential to nest and forage within the coastal scrub, riparian, and oak habitat that occurs within the Broderson, Mid-town, and Giacomazzi properties, and portions of Los Osos Oaks State Reserve and Los Osos Creek that occur within the study area. Therefore, the proposed LOWWP may result in potential significant impacts to this species and its habitat (nesting and foraging).

### 3.1.3 - Raptor Foraging Habitat

The study area includes both fragmented and open expansive foraging habitat for common and sensitive raptor species that are known to occur in the area as year-round residents or seasonal migrants. The known range and foraging requirements for many raptor species are widespread and include a wide variety of habitats, including those that occur within the LOWWP study area. The areas containing suitable foraging habitat are most likely to be used by common hawks such as red-tailed hawk and red-shouldered hawk (*Buteo lineatus*), and common owls such as barn owl (*Tyto alba*) and great-horned owl (*Bubo virginianus*). Special status raptors that have a high potential to forage within the survey area due to the presence of suitable nesting habitat include Cooper's hawk and white-tailed kite. Other special status raptors that have a reduced (moderate) potential to occur and only forage within the survey area due to lack of nesting habitat and/or range restrictions include sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), and peregrine falcon (*Falco peregrinus anatum*).

The highest quality foraging habitat for most raptors occurs within the uncultivated disturbed habitat (fallow fields) and non-native grassland on the Cemetery and Branin properties. These areas are not routinely plowed and may support a higher prey base due to the availability of resources for small mammals and other prey items. The extensive agriculture on the Giacomazzi, Branin, and Tonini properties provide good quality foraging opportunities; however, the land within these properties is maintained for pest control and routinely disked and plowed, and probably support lower densities of available prey items. All potential foraging areas are adjacent to larger, more expansive, undeveloped lands offsite that provide foraging habitat that is better in quality. A significant portion of the Tonini is occupied by high quality non-native grassland that will be avoided and located outside of any areas that may be impacted by the proposed LOWWP. Additional undeveloped lands surround the Tonini property and areas further to the north of the Branin property that provide high quality foraging opportunities in the immediate vicinity of the study area.

### 3.1.4 - Nesting Birds

The MBTA protects all native wild birds found in the United States. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs without a permit.

Section 3503 of the CFG Code makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA without a permit. Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey, such as hawks and owls, and their eggs and nests from any form of take.

The vegetation communities that exist within the study area contain numerous trees, shrubs, and other resources that provide suitable nesting habitat for migratory and resident bird species protected under the MBTA and CFG Code. Of the special status species with a moderate or high potential to occur within the study area, these include yellow warbler, Allen's hummingbird, loggerhead shrike, Cooper's hawk, and white-tailed kite.

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### **3.2 - Jurisdictional Waters and Wetlands**

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A formal delineation of jurisdictional waters and wetlands was conducted for the proposed LOWWP on April 23 and 24<sup>h</sup>, and May 20, 2008 by MBA. The findings of this delineation are contained within the report titled "Delineation of Jurisdictional Waters and Wetlands for the Los Osos Wastewater Project," dated June 2008 (MBA 2008). This report is provided in Attachment G of this document.

The formal jurisdictional delineation of waters and wetlands prepared by MBA (Attachment G) for the proposed project identified 13 drainage features within the survey area. These drainage features include Los Osos Creek, Warden Creek, and 11 are unnamed tributaries or sub-tributaries to Warden Creek. Nine of these drainages are relatively permanent waters (RPWs) which have an Ordinary High Water Mark (OHWM) and a defined bed and bank. These include the two principal drainages, Los Osos Creek and Warden Creek. These RPWs have hydrologic connectivity to downstream navigable waters (Morro Bay and the Pacific Ocean, both of which are Traditional Navigable Waters [TNWs]). The remaining four drainages are ephemeral, non-RPWs. All drainages and associated wetlands are subject to the jurisdiction of the USACE, the Central Coast RWQCB, and the CDFG.

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### **3.3 - Habitat Connectivity and Wildlife Corridors**

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Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat, separating different populations of a single species. Corridors act as links between these "islands" and populations. Wildlife corridors represent a specific route that is used for movement and migration of species between land that has been constrained. A corridor may be different from a "Linkage" because it represents a smaller or narrower avenue for movement. A linkage is generally defined as an area of land which supports or contributes to the long-term movement of wildlife and genetic exchange by providing live-in habitat that connects to other habitat areas.

Limited portions of the survey area intersect riparian and riverine corridor areas that may facilitate wildlife and fish movement within Los Osos Creek, Warden Creek, and the Warden Creek wetlands. These features all support relatively permanent stream courses and associated riparian habitat which support a variety of resources that include, but are not limited to, perennial water sources, cover and refuge, breeding and dispersal habitat, and an anticipated suitable prey base for foraging. Its linear



conveyance currently provides opportunities for wildlife traveling to and from higher elevations upstream and to the south within the Irish Hills, and lower elevations downstream and to the north within Los Osos Valley and Morro Bay. During portions of the year that Los Osos Creek and Warden Creek sustain sufficient freshwater flows, these features may serve as valuable refuge and dispersal habitat areas for resident aquatic wildlife species, and although uncommon and restricted to favorable years, these features have the potential to provide a migration corridor from the Pacific Ocean into upstream resources for the special status fish species, southern steelhead. Potential impacts to riparian corridors would be temporary and result from any open-cut trenching for the construction of the conveyance system.

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### **3.4 - Urban Wildlands Interface / Adjacency Management Issues**

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An urban/wildlands interface is generally defined as land that presently contains, or will contain as a result of a proposed action, both elements of an urban setting and raw undeveloped land or protected land. This land is situated as such to present a sharply defined physical contrast between the two, potentially creating an adverse edge effect resulting from direct and/or indirect impacts derived from the urban elements. An urban/wildlands interface may be most recognizable in larger multi-use developments that occur within or immediately adjacent to completely undeveloped and undisturbed land that provides habitat for plant and wildlife species in the area.

All portions of the study area, including the Broderson Avenue, Los Osos Valley Road, and Turri Road ROWs, and the Broderson, Mid-town, Cemetery, Giacomazzi, Branin, and Tonini properties directly abut urban developments and/or agricultural areas. Of these areas, a large portion occurs within land that is currently developed and/or used as active agricultural and grazing land. With the exception of a few small segments at the Los Osos Creek and Warden Creek crossings, the ROW areas are surrounded on all sides by urban and/or agricultural areas. Although to a lesser degree on the Tonini property due to its proximity away from urban developments, these areas are subject to regular human-related disturbances from traffic, noise, and nighttime lighting, and are constrained and fragmented by aboveground developments that include roads, structures, and fences that are frequently utilized and maintained. Collectively, these disturbances preclude the function of areas adjacent to the survey area as permanent refuge for wildlife species and reduce their overall value. Regardless, all adjacent areas of high habitat value, including wetlands, would be entirely avoided and provided setbacks from all permanent developments.

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### **3.5 - Resources Protected Under Local Policies, Ordinances, and Plans**

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#### **3.5.1 - San Luis Obispo Coastal Zone Land Use Ordinance**

The County assumes permit authority in the Coastal Zone based on the adopted and certified Coastal Zone Land Use Element (CZLUE) and the Coastal Zone Land Use Ordinance (CZLUO). Relevant to the study area and the proposed project, the CZLUO provides policy protecting categorical sensitive biological resources that include; Sensitive Resource Areas (SRAs) and Environmentally Sensitive

Habitat Areas (ESHAs); Wetlands, Streams, and Riparian Vegetation; Terrestrial Habitat Protection; and Mature Trees. These areas are high-priority areas for preservation and developments requiring a land use permit within or adjacent to these areas are subject to Section 23.07.160 - Section 23.07.176 of the CZLUO.

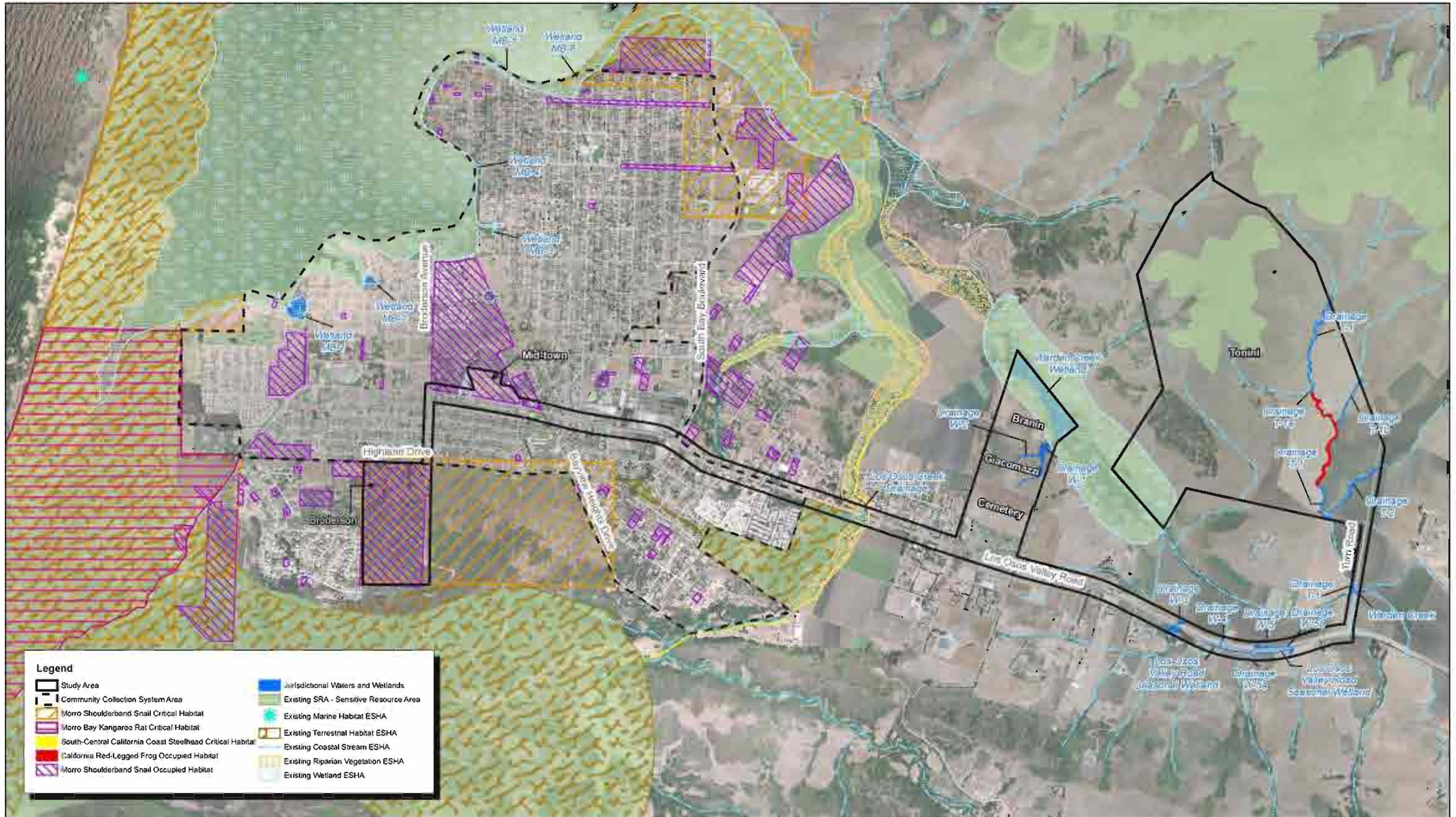
**Sensitive Resource Areas (SRAs) and Environmentally Sensitive Habitat Areas (ESHAs)**

SRAs are subject to the provisions of Sections 23.07.160 - Section 23.07.166 of the CZLUO. The CZLUE and CZLUO combining designations for SRAs are applied by the official maps of the Land Use Element of the Estero Area Plan Update to identify areas “with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources.”

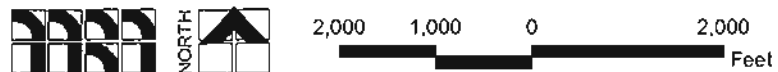
ESHAs are subject to the provisions of Section 23.07.170 of the CZLUO. According to the CZLUO, an ESHA is a “type of SRA where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations.”

**SRA and ESHA Lands within the Study Area**

Within the study area, SRAs and ESHAs occur as both existing and potential SRAs and ESHAs. The existing SRAs and ESHAs located on and in the vicinity of the study area are depicted on Exhibit 6. The location and approximate size of existing SRAs and ESHAs have been interpreted from County GIS mapping sources and mapping from the Estero Area Plan Update and Draft LOHCP. The primary SRA that occurs on and in the vicinity of the study area is known as the Dune Sands SRA, and includes areas mapped as containing Baywood fine sands and suitable habitat for the Morro shoulderband snail, among other species. Many of the existing SRAs and ESHAs overlap with other existing sensitive lands in the local area, including USFWS-designated critical habitat and known occupied habitat for the Morro shoulderband snail, and USFWS-designated critical habitat for the south-central California coast steelhead. The portions of the study area that occur within existing SRAs and ESHAs include portions of the Broderson property, portions of the Los Osos Valley Road ROW that occur within Los Osos Oak Reserve and Los Osos Creek, and portions of the Branin property that occur within Warden Lake (Warden Creek wetland).



Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates  
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Exhibit 6  
Sensitive Biological Resources

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT

The potential SRAs and ESHAs located on and in the vicinity of the study area would include new areas determined to contain sensitive resources during the subject effort. Potential SRAs and ESHAs could include areas identified on Exhibit 6 as occupied habitat for both the Morro shoulderband snail and California red-legged frog, in addition to areas identified as jurisdictional waters and wetlands. The portions of the study area that occur within potential SRAs and ESHAs could include portions of the Mid-town property that contain occupied habitat for Morro shoulderband snail, portions of the Tonini property that contain occupied habitat for California red-legged frog, and portions of the Giacomazzi property, Tonini property, and the Los Osos Valley Road and Turri Road ROWs that occur within jurisdictional waters and wetlands and/or riparian habitat. Additionally, areas proposed for the collection system within the community of Los Osos that contain occupied habitat for the Morro shoulderband snail could also be included as potential SRAs and ESHAs.

### **Wetlands, Streams, and Riparian Vegetation**

Wetlands, streams, and riparian vegetation are subject to the provisions of Section 23.07.172 - Section 23.07.174 of the CZLUO. Provisions protecting wetlands are intended “to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands.” Provisions protecting streams and riparian vegetation are intended “to preserve and protect the natural hydrological system and ecological functions of coastal streams.”

#### ***Wetlands, Streams, and Riparian Vegetation within the Study Area***

Wetlands, streams, and riparian habitat occur within a number of isolated areas throughout the study area. These areas are depicted on Exhibit 6 as jurisdictional waters and wetlands, and include waters and wetlands subject to the jurisdiction of the USACE, RWQCB, and streambed and associated riparian vegetation subject to the jurisdiction of the CDFG. Wetlands, streams, and riparian habitat occur within portions of the Giacomazzi property (Drainages W-1 and W-2), the Branin property (Warden Creek wetlands), and the Tonini property (Drainages T-1, T-1a, T-1b, and T-2). Within the Los Osos Valley Road ROW, these areas include portions of Los Osos Creek, and seasonal wetlands and Drainages W-3, W-4, and W-5 located east of Jacaranda Lane. Within the Turri Road ROW, these areas include portions of Warden Creek.

### **Terrestrial Habitat Protection**

Terrestrial habitat containing sensitive resources is subject to the provisions of Section 23.07.176 of the CZLUO. Provisions protecting terrestrial habitats are intended “to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitats. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal.”

#### ***Terrestrial Habitat within the Study Area***

Terrestrial habitat that meets the criteria of Section 23.07.176 would include the coastal sage scrub habitat supported by Baywood fine sands on the Broderon and Mid-town properties, and the

residential properties in the community of Los Osos supported by Baywood fine sands and proposed for the projects collection system.

### **Tree Removal**

Tree removal is subject to the provisions of Sections 23.05.060 - 23.05.064 of the CZLUO. The purpose of tree removal standards is “to protect existing trees and other coastal vegetation from indiscriminate or unnecessary removal consistent with Local Coastal Plan policies and pursuant to Section 30251 of the Coastal Act which requires protection of scenic and visual qualities of coastal trees.”

### **Tree Removal within the Study Area**

Various portions of the study area contain trees and/or coastal vegetation that would be subject to Sections 23.05.060 - 23.05.064. The Broderson and Mid-town properties contain coastal sage scrub vegetation and eucalyptus trees, the Los Osos Valley Road ROW contains a variety of oak, riparian, and ornamental trees, the Giacomazzi property contains cypress trees, coastal scrub vegetation, and riparian trees, the Branin property contains riparian trees, the Turri Road ROW contains riparian trees, and the Tonini property contains riparian trees, eucalyptus trees, and cypress trees. Additionally, the portions of the community of Los Osos that will be served by the project’s collection system contain various trees that would be subject to this ordinance.

### **3.5.2 - Draft Los Osos Habitat Conservation Plan / Natural Community Conservation Plan**

The western portions of the study area fall within the boundaries of the Draft LOHCP (LOCSO 2005). The Draft LOHCP was prepared in 2005 for the USFWS, CDFG, Los Osos Community Services District, and the County of San Luis Obispo, however, it has not been approved or implemented to date. The Draft LOHCP sets the framework for an overall protection strategy for the Los Osos dunes and the unique sensitive resources contained therein, including the Morro shoulderband snail, Morro Bay kangaroo rat, Morro manzanita, Indian Knob mountainbalm, and splitting yarn lichen, which would be the covered species under the LOHCP’s umbrella take permit pursuant to Section 10(A)(1)(B) of the ESA and Section 2081 of the CESA. Once approved, the LOHCP would provide for a funding mechanism and an implementation management strategy for establishing a preserve system that would provide for the protection and recovery of multiple resources that are targeted for the plan. Implementation would allow future growth in the community of Los Osos while establishing a preserve system that would protect large contiguous areas of the highest quality habitat for target resources. The absence of an umbrella plan such as the LOHCP would result in individual permitting and habitat conservation plans prepared at the project-level. Contrary to the conservation goals and objectives of a regional plan such as the LOHCP, such a strategy would result in a patchwork of fragmented preserved habitat, and would not be able to achieve the assembly of a large contiguous preserve of high quality habitat for the benefit and recovery of multiple resources.

The development and mitigation requirements of a previous wastewater facility within the community of Los Osos were considered during the preparation of the Draft LOHCP in 2005. Although a previous wastewater facility project was considered in the preparation of the plan, there remain areas in the proposed wastewater project that deserve planning consideration due to their significant habitat value, restoration potential, and importance to the assemblage of a future preserve system. These planning considerations are addressed in this report to provide information for determining consistency with any forthcoming habitat conservation plan. The proposed wastewater project is not anticipated to conflict with the conservation goals and objectives that have been proposed in the Draft LOHCP. Available undeveloped mitigation lands exist for the proposed project that, along with formal consultation requirements with the wildlife agencies, would provide for adequate mitigation and project consistency with the provisions of the Draft LOHCP and contribute to the establishment of a future preserve system.

## SECTION 4: CONCLUSIONS AND RECOMMENDATIONS

### 4.1 - Special Status Species

#### 4.1.1 - Threatened and Endangered Plant and Wildlife Species

Three federally and/or State listed threatened or endangered plant species were determined to have a high potential to occur within coastal sage scrub habitat on the Broderson and Mid-town properties. These include the federally threatened Morro manzanita, Monterey spineflower, and Indian knob mountainbalm. Four federally and/or State listed threatened or endangered wildlife species were determined present, presumed present, or have a high potential to occur within various habitats and locations within the survey area. The federally endangered Morro shoulderband snail is presumed present or has a high potential to occur within the coastal sage scrub habitat on the Broderson and Mid-town properties, as well as developed areas containing Baywood fine sands in the community of Los Osos California. The federally threatened California red-legged frog is present within a drainage feature that occurs on the Tonini property, and has a high potential to occur within Warden Creek at the Turri Road crossing and within the Warden Creek wetlands. The federally endangered and California State endangered Morro Bay kangaroo rat was determined to have a high potential to occur within the coastal sage scrub habitat on the Broderson property. The federally threatened southern steelhead (South/Central California Coast ESU) was determined to have a high potential to occur within Los Osos Creek.

Recommendations for further action regarding potential project-related impacts to listed species and their habitat are provided below.

#### General Recommendations for Listed Species

##### *Wildlife Agency Consultation*

The proposed project may result in take of federally listed species and their habitat. Prior to project approval, the project will be required to enter into formal consultation with the USFWS and NMFS pursuant to Section 7 (or possibly Section 10) of the federal ESA. A Biological Opinion (BO) will be prepared by the USFWS and NMFS for any proposed action which may result in potential take of a listed species and its habitat. Pending the determinations made by the USFWS and NMFS in their BO, the proposed project will be required to fulfill all mitigation obligations and conservation measures conditioned in the BO regarding federally-listed species and their habitat. This will include pre-construction survey and avoidance measures, and compensatory mitigation for loss of occupied habitat to be incorporated and implemented prior to project development.

The proposed project may result in take of California State listed species and their habitat. Prior to project approval, the project will also be required to enter into formal consultation with the CDFG to obtain a Memorandum of Understanding (MOU) and Management Authorization (MA) pursuant to Section 2050 et seq. of the CFG Code. Development of an MOU/MA for the project would be based

upon the formal consultation with the USFWS and NMFS, and BO for the proposed action. The project will be required to fulfill all responsibilities in the project MOU/MA regarding any state-listed species and their habitat. Responsibilities will include pre-construction survey and avoidance measures, and compensatory mitigation for loss of occupied habitat to be incorporated and implemented prior to project development.

### **Morro Manzanita, Monterey Spineflower, and Indian Knob Mountainbalm**

#### ***Survey Requirements***

Specific avoidance measures, pre-construction survey requirements, and mitigation measures, if required, will be provided by the USFWS through Section 7 (or possibly Section 10) consultation with regard to Morro manzanita, Monterey spineflower, and Indian knob mountainbalm. Prior to project approval and within all areas that contain coastal sage scrub that is suitable for these species on the Broderson and Mid-town properties, a qualified biologist shall conduct botanical surveys to identify all sensitive plant species within and in the immediate vicinity of the proposed impact area. Surveys shall be conducted during the local blooming periods for each species and according to recommendations and guidelines prepared by the CDFG and CNPS. All specimens shall be clearly demarcated with flagging, and avoided to the maximum extent feasible during construction. Any impacts that are proposed to the Morro manzanita, Monterey spineflower, and Indian knob mountainbalm shall proceed according to stipulations determined through wildlife agency consultation. A monitoring biologist with botanical knowledge of local flora will be retained to provide construction personnel specific instruction on avoidance of sensitive plant resources, and will be required to monitor all construction activities in the immediate vicinity of flagged specimens. Transplantation and relocation of salvaged specimens, if appropriate and feasible, should be considered during wildlife agency consultation. Salvaged specimens should be transported to an offsite location that is approved by the USFWS, and should be assessed against survival and reproduction success criteria according to a mitigation monitoring plan.

The proposed project should also avoid potential impacts to non-listed plant species designated as sensitive by the CNPS, including Blochman leafy daisy, Saint's daisy, San Luis Obispo wallflower, curly-leafed monardella, dune almond, spiraled old man's beard, Los Osos black and white lichen, long-fringed parmotrema, and splitting yarn lichen. A qualified biologist should conduct botanical surveys within suitable coastal sage scrub habitat on the Broderson and Mid-town properties to identify all sensitive plant species within and in the immediate vicinity of the proposed impact area. Surveys shall be conducted during the local blooming periods for each species and according to recommendations and guidelines prepared by the CDFG and CNPS. All specimens should be clearly demarcated with flagging and avoided to the maximum extent feasible during construction.



## **Morro Shoulderband Snail and Morro Bay Kangaroo Rat**

### ***Survey Requirements***

Specific avoidance measures, pre-construction survey requirements, and mitigation measures, if required, will be provided by the USFWS through Section 7 (or Section 10) consultation with regard to Morro shoulderband snail and Morro Bay kangaroo rat. Prior to project approval and within all areas that are presumed occupied by the Morro shoulderband snail, including the Broderson and Mid-town properties, and developed areas with Baywood fine sands in the community of Los Osos, a biologist permitted by the USWFS shall conduct intensive surveys to identify and relocate all snail specimens within the proposed impact area. Salvaged and relocated specimens shall be transported to an offsite location approved by the USFWS.

Prior to any construction, a biologist permitted by the USWFS shall conduct protocol trapping surveys for the Morro Bay kangaroo rat within all suitable habitat that occurs on and in the immediate vicinity of the proposed impact area. Protocol trapping efforts shall be conducted in coordination with the USFWS, CDFG, and the Endangered Species Recovery Program (ESRP), and all trapped specimens shall be retained for consideration of captive breeding by the USFWS, ESRP or other agency responsible for the recovery of extremely endangered species.

### ***Compensatory Mitigation***

Prior to project approval, the project proponent will be required to acquire coastal sage scrub habitat and/or other habitat sufficient to compensate the loss of habitat for the Morro shoulderband snail, the Morro Bay kangaroo rat, and other sensitive species on the Broderson and Mid-town properties, as well as developed areas containing Baywood fine sands in the community of Los Osos California. This habitat should be obtained at a minimum ratio of 2:1 (i.e., 2 acres of compensation mitigation for each acre of loss), or at a set ratio as determined through agreements between the USFWS, CDFG, the County of San Luis Obispo, and the Los Osos Community Services District.

Mitigation lands will likely be required within existing lands designated as Critical Habitat for the species and/or shall be contiguous with existing preservation lands located in the vicinity of the community of Los Osos within areas studied for the Greenbelt Program by the Land Conservancy. The habitat would be preserved in perpetuity and granted to an appropriate agency or conservation organization with the responsibility of management and monitoring the preserve, as determined during agreements between the USFWS, CDFG, the County of San Luis Obispo, and the Los Osos Community Services District. The mitigation lands should allow for passive public activities such as hiking and scientific research, in addition to low-impact education to raise public awareness on the resources for which it protects.

The acquired parcel or parcels to be used as mitigation lands should support appropriate soils to accept native plantings for restoration. The land should be capable of being cleared of unfavorable debris and structures. The land should support primarily Aeolian sand deposits, be in a stabilized condition (i.e., not mobile dune habitat), have an open canopy, contain appropriate slopes to

accommodate snail mobility to and from adjacent lands, and be of appropriate aspect and meteorological conditions.

### ***Restoration of Habitat***

Existing coastal sage scrub within mitigation lands acquired by the County shall be restored and maintained to promote the land's function and value as suitable habitat for sensitive plants and wildlife that are local or endemic to the area. Once mitigation lands are secured by the County, restoration activities shall be conducted by qualified personnel with expertise in restoration ecology and knowledge of sensitive plant and wildlife species in the area. Restoration activities shall be conducted according to a Restoration Plan or similar plan specifically prepared for the effort and approved by USFWS, CDFG, and/or the CNPS. Similarly, restorative measures and maintenance shall be implemented according to a Habitat Mitigation and Monitoring Plan or similar implementation plan that shall require a schedule and program for monitoring and reporting the progress of restoration.

The Restoration Plan shall include measures for the removal and eradication of invasive exotic plant species known to occur in the local area, including veldt grass and pampas grass. Activities that involve the removal of invasive species should not result in unnecessary trampling or removal of native species, and techniques for invasive removal shall be least invasive. Any disturbed portion of acquired mitigation lands should be appropriate for restoration into coastal sage scrub habitat and have the potential to support the functions and values necessary for the Morro shoulderband snail, the Morro Bay kangaroo rat, and other sensitive species.

The restoration shall include implementation of a seed collection program to gather seeds to be used during restoration from native sources. The seed collection program shall be prepared for approval by the County prior to project construction activities. The seed collection program shall include the use of native plants that will be removed as a result of the project. Collection shall take place by qualified personnel with expertise in botanical resources during the appropriate time of year for seed production and harvesting.

### ***California Red-legged Frog***

Specific avoidance measures, pre-construction survey requirements, and mitigation measures, if required, will be provided by the USFWS through Section 7 (or possibly Section 10) consultation with regard to California red-legged frog. All occupied California red-legged frog habitat should be avoided during all phases of the proposed project. Wetland resources and suitable habitat that is contiguous with occupied habitat that has a high potential to support this species should also be avoided to the maximum extent feasible. This includes portions of the large drainage feature on the Tonini property characterized by Vernal Marsh habitat, areas within Warden Creek at the Turri Road crossing, and areas within the Warden Creek wetlands on the Branin property. Permanent developments that are proposed in the vicinity of these areas, including facultative ponds, storage

facilities, and appurtenances, will be required to be set back a minimum of 100 feet to avoid potential indirect impacts.

Occupied habitat that will be avoided should be provided a 100-foot perimeter buffer from any project developments that could adversely affect this species and its habitat. Additional conservation measures would be determined through the USFWS through Section 7 (or possibly Section 10) consultation.

### **Southern Steelhead**

Specific avoidance measures, pre-construction survey requirements, and mitigation measures, if required, will be provided by the USFWS and NMFS through Section 7 (or possibly Section 10) consultation with regard to southern steelhead. Any impacts within Los Osos Creek should be minimized to the maximum extent feasible. If the project proposes to use open-cut trenching or bridge suspension methods for installation of the conveyance pipeline system, the project should perform all construction associated with the crossing of Los Osos Creek during the dry months when the creek bed is entirely dry and there is no sign of standing water. Project activities will be required to occur during times when there is the least potential for southern steelhead to occur in Los Osos Creek (July through September).

If project construction is to occur within any portions of Los Osos Creek or any adjacent upland areas within 100 feet of the Creek, the project will be required to implement erosion, sediment, material stockpile, and dust control Best Management Practices (BMPs) at all times during construction to minimize the potential for fill or runoff to enter Los Osos Creek. Construction vehicles should be restricted within Los Osos Creek to the maximum extent feasible required for either open-cut trenching or bridge suspension methods. All construction equipment will be required to be maintained to prevent leaks of fuel, lubricants, or other fluids into Los Osos Creek. Service and refueling procedures must take place within disturbed or developed upland areas at least 100 feet from Los Osos Creek to prevent potential spills of hazardous materials. The project shall confine all heavy equipment, vehicles, and construction work to approved roads and work areas around Los Osos Creek. Stream channel work for open-cut trenching or activities associated with pipe suspension shall limit disturbance to Los Osos Creek to what is necessary for construction. If the project proposes to use HDD methods, the project shall implement a frac-out contingency plan to manage the inadvertent release of any drilling muds into Los Osos Creek.

All project work areas within and around Los Osos Creek will be required to be restored to pre-existing contours upon completion of work. Any impacts to riparian and wetland habitat will be required to be mitigated for through replacement mitigation at a set ratio as determined through consultation with the regulatory and wildlife agencies. Where the mitigation requirements of separate policy under the CZLUO, or the requirements of the USACE, RWQCB, and CDFG or other agency with jurisdiction over an area are different, the more restrictive regulations will apply.

#### 4.1.2 - California State Species of Special Concern

Potential impacts should be avoided to California State species of special concern, threatened phenomenon, or species designated a global and state rarity index that have a potential to use portions of the proposed impact area for nesting, breeding, or roosting. These species include Monarch butterfly, Morro Bay blue butterfly, yellow warbler, Allen's hummingbird, loggerhead shrike, Cooper's hawk, and white-tailed kite. The white-tailed kite is also California State fully protected species. Potential impacts to yellow warbler, Allen's hummingbird, loggerhead shrike, Cooper's hawk, and white-tailed kite are addressed below in Section 4.1.3. The following is recommended regarding potential impacts to winter roosting habitat for the Monarch butterfly, and habitat that contains the host plant for the Morro Bay blue butterfly.

##### Monarch Butterfly

The proposed project should avoid monarch butterfly winter roost habitat where feasible. If the proposed project will impact potential winter roost habitat, a qualified biologist with expertise in positively identifying the monarch butterfly and winter roosting behavior should conduct pre-construction surveys within all suitable habitat that occurs within the proposed impact area during the months of October through February. All potential roost sites that have a potential to be impacted as a result of construction activities should be fenced and avoided. No construction activities should be permitted in the vicinity of potential roost sites during the winter roosting months.

##### Morro Bay Blue Butterfly

The proposed project should avoid coastal sage and dune scrub habitats that support this species' larval host plant, silver lupine, to the maximum extent feasible and during the appropriate time of year. If the proposed project will impact habitat containing this species' larval host plant, a qualified biologist with expertise in positively identifying the Morro Bay blue butterfly and the larval host plant should conduct pre-construction surveys within all suitable habitat that occurs within the proposed impact area prior to and during this species adult flight season which occurs from April to June. All potential larval host plants that have a potential to be impacted as a result of construction activities should be fenced and avoided. Larval host plants within the proposed impact area should be removed during the species adult flight season to minimize impacts to this species.

#### 4.1.3 - Nesting Birds

If the removal or trimming of any trees or shrubs is proposed during the general bird breeding season (February 1 through August 31), a pre-construction survey should be conducted by a qualified biologist within 30 days prior to grading activities within any project impact area to identify all active nests in areas impacted throughout project construction and implementation. If an active nest is identified during the pre-construction survey, no construction activity shall take place within a minimum of 250 feet of any active nest until the young have fledged (as determined by a qualified biologist) and/or the nest is no longer determined to be active. This distance shall be expanded to 500 feet for any nesting raptor species. For sensitive species, including Allen's hummingbird, yellow

warbler, Cooper's hawk, loggerhead shrike, and white-tailed kite, the distance and placement of the construction avoidance area should be determined through consultation with the CDFG. Pursuant to Section 2050 of the CFG Code, the CDFG will not permit any impacts to white-tailed kite. Construction activity in the vicinity of any active nest shall be conducted at the discretion of a qualified monitoring biologist, once it is determined that the nest is no longer active.

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## **4.2 - Jurisdictional Waters and Wetlands**

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The study area was determined to contain a total of 0.72 acre (6,030 linear feet) of non-wetland waters of the U.S. and 15.73 acres (12,567) of wetland waters of the U.S. subject to the jurisdiction of the USACE pursuant to 404 of the Clean Water Act (CWA). The study area was also determined to contain a total of 16.45 acres (18,597 linear feet) of waters of the State subject to the jurisdiction of the Central Coast RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne State Water Quality Control Act. Additionally, the study area was determined to contain 23.48 acres of streambed and riparian habitat subject to the jurisdiction of the CDFG pursuant to CFG Code 1602.

Prior to approval, the proposed project would be required to obtain appropriate permitting from the regulatory agencies for impacts to jurisdictional waters and wetlands. Depending on the extent of impacts, the project would require a Nationwide Permit or Individual Permit from the USACE, a Water Quality Certification from the Central Coast RWQCB, and a Streambed Alteration Agreement from the CDFG. These permits will include special conditions to further minimize and mitigate project impacts, of which, will be developed in conjunction with special status species and habitat mitigation provided through consultation with the USFWS, the NMFS, and the California Coastal Commission.

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## **4.3 - Resources Protected Under Local Policies, Ordinances, Plans**

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### **4.3.1 - San Luis Obispo Coastal Zone Land Use Ordinance**

The survey area contains SRAs and ESHAs, Wetlands, Streams, and Riparian Vegetation, Terrestrial Habitat, and Tree Removal subject to Section 23.07.160 - Section 23.07.176 of the CZLUO. Project development should be located as far away from these areas as feasible provided that other habitat values within potential setback areas are not thereby more adversely affected. The following is recommended for compliance with these sections of the CZLUO.

#### **Sensitive Resource Areas (SRAs) and Environmentally Sensitive Habitat Areas (ESHAs)**

The following are recommended for all uses within or in the immediate vicinity of an SRA:

- 1) Shoreline areas should not be altered by grading, paving, or other development of impervious surfaces for a distance of 75 feet from (Warden Lake) Warden Creek wetlands, or 50 feet from Los Osos Creek or Warden Creek, except where authorized through development plan approval. Where the requirements of separate policy under the CZLUO, or the requirements

- of the USACE, RWQCB, and CDFG or other agency with jurisdiction over an area are different, the more restrictive regulations will apply.
- 2) Construction and landscaping activities should not degrade lakes, ponds, wetlands, or perennial watercourses within an SRA through filling, sedimentation, erosion, increased turbidity, or other contamination.
  - 3) Trees, plants, or other vegetation protected within SRAs, including coastal sage scrub, riparian, and wetland vegetation should not be disturbed by construction activities or subsequent operation of the use, except where authorized by development plan approval.

The following are recommended for all uses within or in the immediate vicinity of an ESHA:

- 1) Any new development within or adjacent to an ESHA must not significantly disrupt the resource.
- 2) Any new development within an ESHA must be limited to those uses that are dependent upon the resource.
- 3) Where feasible, any damaged habitat within an ESHA must be restored as a condition of project approval.
- 4) Development should be consistent with the biological continuance of habitat within an ESHA.
- 5) Grading adjacent to an ESHA must also conform to the provisions for grading standards in Section 23.05.34c.

### **Wetlands, Streams, and Riparian Vegetation**

The following are recommended for all uses within or in the immediate vicinity of wetland. These areas would include wetland resources located within Los Osos Creek along the Los Osos Valley Road ROW, Drainages W-1 and W-2 within the Giacomazzi property, Warden Creek wetlands within the Branin property, seasonal wetlands and Drainages W-3, W-4, W-5, -5a, and W-5b along the Los Osos Valley Road ROW, Warden Creek along the Turri Road ROW, and Drainages T-1, T-1a, T-1b, and T-2 within the Tonini property:

- 1) Any new development within or adjacent to a wetland must be located a minimum of 100 feet from the upland extent of all wetlands, unless alternative routes are either infeasible or more environmentally damaging, or unless adverse environmental effects are mitigated to the maximum extent feasible. Where the requirements of separate policy under the CZLUO, or the requirements of the USACE, RWQCB, and CDFG or other agency with jurisdiction over an area are different, the more restrictive regulations will apply.

- 2) Wetland setbacks can be adjusted, but in no case would be allowed to be less than 25 feet, providing that the site would be physically unusable for the principal permitted use unless the setback is reduced and the reduction is the minimum to enable the use to be established after all practical design modifications have been considered. If the wetland setback is less than 100 feet, additional mitigation may be required.
- 3) Any development that includes structures larger than 1,000 feet in floor area on parcels larger than one acre that contain a wetland would require the property owner to grant the County or an approved land trust an open space easement or fee title dedication over all portions of the site not proposed for development, as well as the entire wetland.
- 4) Vehicles from public roads would be prevented from entering wetlands by the use of vehicular barriers.

The following are recommended for all uses within or in the immediate vicinity of coastal stream. Areas within the study area supporting coastal streams include Los Osos Creek and Drainages W-3, W-4, W-5, -5a, and W-5b within the Los Osos Valley Road ROW, Drainages W-1 and W-2 within the Giacomazzi property, Warden Creek (including the Warden Creek wetlands) within the Branin property and Turri Road ROW, and Drainages T-1, T-1a, T-1b, and T-2 within the Tonini property:

- 1) Any development adjacent to a coastal stream would be preceded by obtaining appropriate permits from regulatory agencies. The laying of pipelines across these drainages would cause temporary impacts to the drainages and associated riparian vegetation. Such impacts would be mitigated for as specifically outlined in the regulatory permits obtained from USACE, RWQCB, and CDFG.
- 2) Project facilities would be required to be setback at least 100 feet from streams and riparian vegetation. Permitted uses within wetland setbacks include utility lines, pipelines, drainage facilities or flood control facilities.

The following are recommended for all uses within or in the immediate vicinity of riparian vegetation. Within the study area, riparian vegetation occurs within Los Osos Creek and Drainages W-3, W-4, and W-5 within the Los Osos Valley Road ROW, Drainages W-1 and W-2 within the Giacomazzi property, Warden Creek (including the Warden Creek wetlands) within the Branin property and Turri Road ROW, and Drainage T-2 within the Tonini property:

- 1) Project development would be required to take place at least 100 linear feet from the upland edge of riparian areas.
- 2) Removal, trimming, or alteration of riparian vegetation associated with Los Osos Creek and Warden Creek should be restricted to activities associated with the placing pipelines or a storm drains. Concurrence would be obtained from the Planning Director as to what

constitutes the most feasible alternative for pipeline crossings or any other design features that could result in impacts to riparian vegetation.

### **Terrestrial Habitat**

The following are recommended for all uses within or in the immediate vicinity of terrestrial habitat that supports or could support rare and endangered plants and animals. Within the study area, terrestrial habitat subject to the provisions of this ordinance include the coastal sage scrub habitat within the Broderon and Mid-town properties, and the portions of the community of Los Osos that support Baywood fine sands and would be supported by the project's collection systems:

- 1) Vegetation that is rare or endangered, or that serves as habitat for rare and endangered species should be protected to the maximum extent feasible. Any development within or adjacent to sensitive terrestrial habitat should be sited to minimize disruption of the habitat.
- 2) Native vegetation must be used where any vegetation removal results from development.
- 3) Any area that is to be disturbed by development must be shown on a site plan for evaluation. Grading limits must be defined on the site to be developed by readily-identifiable barriers that will protect the surrounding native habitat areas.
- 4) Any pedestrian or equestrian trails through the habitat must be shown on the site plan and marked on the site. Potential impacts from pedestrian and equestrian trails must be analyzed in a biological resources report.

### **Tree Removal**

The following are recommended for all uses that may result in tree removal. Trees and vegetation subject to tree removal standards occur throughout the project study area:

- 1) Any trees proposed for removal must be identified for field inspection by means of flagging, staking, paint spotting or other means readily visible but not detrimental to a healthy tree.
- 2) A tree may be removed when it is dead, diseased beyond reclamation, or hazardous; crowded, with good horticultural practices dictating thinning; interfering with existing utilities, structures or ROW improvements; obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal; inhibiting sunlight needed for either active or passive solar heating or cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree; if it is in conflict with an approved fire safety plan where required by Section 23.05.080 of the CZLUO; or it is to be replaced by a tree that will provide better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscaped architect, licensed landscaping contractor or certified nurseryperson.



- 3) Any tree removed to accommodate new development or because it is a safety hazard must be replaced, in a location on the site and with a common species to the community, as approved by the planning director.
- 4) Any tree removal within public view corridors (areas visible from collector or arterial roads) must be minimized in accordance with Visual and Scenic Resources Policy 5 of the CZLUO.
- 5) Any new development must incorporate design techniques and methods that minimize the need for tree removal.

## SECTION 5: REFERENCES

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## **Attachment A: Floral and Faunal Compendia**

## Flora Compendia

<b>Equisetaceae</b>		<b>Horsetail Family</b>
<i>Equisetum</i>	<i>hyemale</i>	common scouring rush
<b>Cupressaceae</b>		<b>Cypress Family</b>
<i>Cupressus</i>	<i>forbesii</i>	Tecate cypress
<b>Aizoaceae</b>		<b>Fig-Marigold Family</b>
<i>Carpobrotus</i>	<i>edulis</i>	hottentot-fig
<b>Anacardiaceae</b>		<b>Sumac or Cashew Family</b>
<i>Rhus</i>	<i>trilobata</i>	skunkbrush
<i>Toxicodendron</i>	<i>diversilobum</i>	poison oak
<b>Apiaceae</b>		<b>Carrot Family</b>
<i>Conium</i>	<i>maculatum</i>	poison hemlock
<i>Foeniculum</i>	<i>vulgare</i>	fennel
<b>Asteraceae</b>		<b>Sunflower Family</b>
<i>Artemisia</i>	<i>californica</i>	California sagebrush
<i>Artemisia</i>	<i>douglasiana</i>	mugwort
<i>Artemisia</i>	<i>pycnocephala</i>	coastal sagewort
<i>Baccharis</i>	<i>pilularis</i>	coyote brush
<i>Baccharis</i>	<i>salicifolia</i>	mule fat
<i>Carduus</i>	<i>pycnocephalus</i>	Italian thistle
<i>Chamomilla</i>	<i>suaveolens</i>	pineapple weed
<i>Corethrogyne</i>	<i>filaginifolia</i>	California aster
<i>Ericameria</i>	<i>ericoides</i>	heather goldenbush
<i>Hazardia</i>	<i>squarrosa</i>	sawtooth goldenbush
<i>Picris</i>	<i>echioides</i>	bristly ox-tongue
<b>Brassicaceae</b>		<b>Mustard Family</b>
<i>Sisymbrium</i>	<i>irio</i>	London rocket
<b>Caprifoliaceae</b>		<b>Honeysuckle Family</b>
<i>Sambucus</i>	<i>mexicana</i>	Mexican elderberry
<b>Ericaceae</b>		<b>Heath Family</b>
<i>Arctostaphylos</i>	<i>tomentosa ssp. tomentosa</i>	woollyleaf manzanita
<b>Euphorbiaceae</b>		<b>Spurge Family</b>
<i>Croton</i>	<i>californicus</i>	California croton
<b>Fabaceae</b>		<b>Legume Family</b>
<i>Lotus</i>	<i>scoparius</i>	common deerweed
<i>Lupinus</i>	<i>chamissonis</i>	chamisso bush lupine
<i>Melilotus</i>	<i>officinalis</i>	yellow sweet clover
<b>Fagaceae</b>		<b>Oak Family</b>
<i>Quercus</i>	<i>agrifolia</i>	coast live oak
<i>Quercus</i>	<i>berberidifolia</i>	scrub oak

## Flora Compendia

<b>Geraniaceae</b>		<b>Geranium Family</b>
<i>Erodium</i>	<i>cicutarium</i>	red-stemmed stork's bill
<b>Lamiaceae</b>		<b>Mint Family</b>
<i>Salvia</i>	<i>leucophylla</i>	purple sage
<i>Salvia</i>	<i>mellifera</i>	black sage
<b>Myrtaceae</b>		<b>Myrtle Family</b>
<i>Eucalyptus</i>	<i>globulus</i>	blue gum
<b>Plantaginaceae</b>		<b>Plantain Family</b>
<i>Plantago</i>	<i>lanceolata</i>	English plantain
<b>Polygonaceae</b>		<b>Buckwheat Family</b>
<i>Rumex</i>	<i>crispus</i>	curly dock
<i>Rumex</i>	<i>salicifolius</i>	willow dock
<b>Rosaceae</b>		<b>Rose Family</b>
<i>Adenostoma</i>	<i>fasciculatum</i>	chamise
<i>Heteromeles</i>	<i>arbutifolia</i>	toyon
<i>Potentilla</i>	<i>egedii</i> spp. <i>egedii</i>	Pacific potentilla
<i>Rubus</i>	<i>armeniacus</i>	blackberry
<i>Rubus</i>	<i>ursinus</i>	California blackberry
<b>Salicaceae</b>		<b>Willow Family</b>
<i>Populus</i>	<i>balsamifera</i> ssp. <i>trichocarpa</i>	black cottonwood
<i>Salix</i>	<i>gooddingii</i>	Goodding's willow
<i>Salix</i>	<i>laevigata</i>	red willow
<i>Salix</i>	<i>lasiolepis</i>	arroyo willow
<i>Salix</i>	<i>lutea</i>	yellow willow
<b>Scrophulariaceae</b>		<b>Figwort Family</b>
<i>Mimulus</i>	<i>cardinalis</i>	scarlet monkeyflower
<b>Alismataceae</b>		<b>Water Plantain Family</b>
<i>Alisma</i>	<i>plantago-aquatica</i>	European water plantain
<b>Cyperaceae</b>		<b>Sedge Family</b>
<i>Eleocharis</i>	<i>macrostachya</i>	pale spikerush
<b>Iridaceae</b>		<b>Iris Family</b>
<i>Sisyrinchium</i>	<i>bellum</i>	western blue-eyed grass
<b>Poaceae</b>		<b>Grass Family</b>
<i>Avena</i>	<i>fatua</i>	wild oat
<i>Bromus</i>	<i>diandrus</i>	ripgut brome
<i>Bromus</i>	<i>hordeaceus</i>	soft brome
<i>Bromus</i>	<i>rubens</i>	foxtail brome
<i>Distichlis</i>	<i>spicata</i>	salt grass
<i>Ehrharta</i>	<i>calycina</i>	perennial veldt grass



## Flora Compendia

<i>Hordeum</i>	<i>brachyantherum</i>	meadow barley
<i>Lolium</i>	<i>perenne ssp. multiflorum</i>	Italian rye grass
<b>Typhaceae</b>		<b>Cattail Family</b>
<i>Typha</i>	<i>latifolia</i>	broad leaf cattail

## Fauna Compendia

<b>Hylidae</b>		<b>Treefrogs</b>
<i>Pseudacris</i>	<i>regilla</i>	Pacific treefrog
<b>Ranidae</b>		<b>True Frogs</b>
<i>Rana</i>	<i>catesbeiana</i>	bullfrog
<b>Phrynosomatidae</b>		<b>Lizards</b>
<i>Uta</i>	<i>stansburiana</i>	side-blotched lizard
<i>Sceloporus</i>	<i>occidentalis</i>	western fence lizard
<b>Odontophoridae</b>		<b>Quail</b>
<i>Callipepla</i>	<i>californica</i>	California quail
<b>Cathartidae</b>		<b>Vultures</b>
<i>Cathartes</i>	<i>aura</i>	turkey vulture
<b>Accipitridae</b>		<b>Hawks</b>
<i>Elanus</i>	<i>leucurus</i>	white-tailed kite
<i>Buteo</i>	<i>lineatus</i>	red-shouldered hawk
<i>Buteo</i>	<i>jamaicensis</i>	red-tailed hawk
<b>Columbidae</b>		<b>Pigeons/Doves</b>
<i>Zenaida</i>	<i>macroura</i>	mourning dove
<b>Trochilidae</b>		<b>Hummingbirds</b>
<i>Calypte</i>	<i>anna</i>	Anna's hummingbird
<b>Picidae</b>		<b>Woodpeckers</b>
<i>Melanerpes</i>	<i>formicivorus</i>	acorn woodpecker
<b>Tyrannidae</b>		<b>Flycatchers</b>
<i>Empidonax</i>	<i>difficilis</i>	Pacific-slope flycatcher
<i>Sayornis</i>	<i>nigricans</i>	black phoebe
<i>Tyrannus</i>	<i>vociferans</i>	Cassin's kingbird
<b>Corvidae</b>		<b>Jays/Crows</b>
<i>Aphelocoma</i>	<i>californica</i>	western scrub-jay
<i>Corvus</i>	<i>brachyrhynchos</i>	American crow
<i>Corvus</i>	<i>corax</i>	common raven
<b>Aegithalidae</b>		<b>Bushtits</b>
<i>Psaltriparus</i>	<i>minimus</i>	bushtit
<b>Troglodytidae</b>		<b>Wrens</b>
<i>Thryomanes</i>	<i>bewickii</i>	Bewick's wren
<b>Regulidae</b>		<b>Kinglets</b>
<i>Regulus</i>	<i>calendula</i>	ruby-crowned kinglet
<b>Timaliidae</b>		<b>Old world babblers</b>
<i>Sialia</i>	<i>mexicana</i>	western bluebird
<b>Mimidae</b>		<b>Mockingbirds/Thrashers</b>
<i>Mimus</i>	<i>polyglottos</i>	northern mockingbird

## Fauna Compendia

<b>Parulidae</b>		<b>New world warblers</b>
<i>Geothlypis</i>	<i>trichas</i>	common yellowthroat
<b>Emberizidae</b>		<b>Warblers, sparrow, etc.</b>
<i>Pipilo</i>	<i>maculatus</i>	spotted towhee
<i>Pipilo</i>	<i>crissalis</i>	California towhee
<i>Melospiza</i>	<i>melodia</i>	song sparrow
<b>Icteridae</b>		<b>New world blackbirds</b>
<i>Agelaius</i>	<i>phoeniceus</i>	red-winged blackbird
<b>Fringillidae</b>		<b>Finches</b>
<i>Carpodacus</i>	<i>mexicanus</i>	house finch
<b>Passeridae</b>		<b>True sparrows</b>
<i>Passer</i>	<i>domesticus</i>	house sparrow
<b>Sciuridae</b>		<b>Squirrels</b>
<i>Spermophilus</i>	<i>beecheyi</i>	California ground squirrel
<b>Geomyidae</b>		<b>Pocket Gophers</b>
<i>Thomomys</i>	<i>bottae</i>	Botta's pocket gopher
<b>Canidae</b>		<b>Wolves and Foxes</b>
<i>Canis</i>	<i>familiaris</i>	domestic dog
<i>Canis</i>	<i>latrans</i>	coyote
<b>Procyonidae</b>		<b>Raccoons</b>
<i>Procyon</i>	<i>lotor</i>	raccoon
<b>Bovidae</b>		<b>Bison, Goats, and Sheep</b>
<i>Bos</i>	<i>bovis</i>	domestic cattle

## **Attachment B: Special Status Species Tables**

## **B1: Special-Status Plant Species Table**

Special Status Plant Species Table

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<b>Lichens</b>									
<i>Bryoria spiralifera</i>	spiraled old man's beard	—	—	—	NC	Occurs on twigs and small branches of trees and older shrubs within coast live oak woodland, chaparral, and coastal sage scrub habitats. Endemic from central to northern California. Known from Humboldt, Sonoma, Monterey, and San Luis Obispo Counties.  Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<i>Cladonia firma</i>	Popcorn lichen	—	—	—	NC	Common at the base of small shrubs. Restricted to the Elfin Forest within Los Osos.  Known Elevation Limits: Unknown	Lichen	—	<b>Not Likely to Occur.</b> Suitable habitat for this species exists, however, the study area is outside this species known range.
<i>Hypogymnia mollis</i>	Los Osos black and white lichen	—	—	—	NC	Occurs on bark and twigs of trees and older shrubs in coast live oak woodland, chaparral, and coastal sage scrub habitats. Known from fog belt of central California	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						within Monterey, San Luis Obispo, Riverside, and San Diego Counties.  Known Elevation Limits: Unknown			Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<i>Parotrema hypolecinum</i>	Long-fringed parmotrema	—	—	—	NC	Occurs on bark and twigs of trees and older shrubs in coast live oak woodland, chaparral, coastal sage scrub, and arroyo willow series habitats. Known from fog belt of central California within Marin, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties.  Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest and Central Coast Arroyo Willow Riparian Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.
<i>Sulcaria isidifera</i>	Splitting yarn lichen	—	—	—	C	Occurs on trunks of coast live oak trees, chamise, and ceanothus. Known from the Los Osos/Baywood Park area in San Luis Obispo County.  Known Elevation Limits: Unknown	Lichen	—	<b>High Potential to Occur.</b> Coast live oak trees and coastal sage scrub shrubs that are suitable for this species occur within portions of the study area. The oldest shrubs are located within the Coast Live Oak Forest habitat adjacent to Los Osos Creek and Los Osos Valley Road.

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<b>Vascular Plants</b>									
<i>Agrostis hoovei</i>	Hoover bentgrass	—	—	1B.2	NC	Occurs in chaparral, cismontane woodland, and valley foothill grassland communities with dry sandy soil. Hoover's bentgrass is native and endemic to California. It occurs in Los Osos Valley, San Luis Valley, and the East slope of Santa Lucia Mountains in San Luis Obispo County and south to La Purisma Hills in Santa Barbara Counties.  Known Elevation Limits: 6 to 610 meters	Perennial Herb	Apr - Jun	<b>Not Likely to Occur.</b> Although non-native grassland occurs within limited portions of the survey area, these areas are not supported by dry sandy soils and are highly disturbed.
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	—	—	1B.2	NC	Found in broad-leaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland. San Luis Obispo County to Monterey County.  Known Elevation Limits: 60 to 310 meters	Evergreen shrub	Dec - Mar	<b>Low Potential to Occur.</b> Marginal coastal sage scrub habitat occurs within lower elevations of the survey area for this species, however, this species is more likely to occur in higher elevations. This species has not been previously observed within the coastal sage scrub habitat on the site.



Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>Arctostaphylos morroensis</i>	Morro manzanita	FT	—	1B.1	C	<p>The distribution of Morro manzanita is correlated with Baywood fine sands and is found in association with coastal scrub, maritime chaparral, and coast live oak woodland communities in sites with no or low to moderate slopes.</p> <p>San Luis Obispo County, from Morro Bay to just south of Hazard Canyon.</p> <p>Known Elevation Limits: 5 to 205 meters</p>	Evergreen shrub	Dec - Mar	<p><b>Species Present.</b> This species has been documented as occurring on the Broderson property (Holland and Keil 1985, Morro Group 2004). Suitable coastal sage scrub supported by Baywood fine sands occurs within the Broderson and Mid-town properties.</p>
<i>Arctostaphylos osoensis</i>	Oso manzanita	—	—	1B.2	NC	<p>Grows in chaparral and in cismontane woodland on dacite porphyry buttes.</p> <p>Narrowly endemic to the mountains North of Los Osos Valley, San Luis Obispo County.</p> <p>Known Elevation Limits: 300 to 500 meters</p>	Evergreen shrub	Feb - Mar	<p><b>Not Likely to Occur.</b> No dacite porphyry buttes occur within the survey area. No chaparral or cismontane woodland occurs within the survey area.</p>
<i>Arctostaphylos tomentosa ssp. daciticola</i>	Dacite manzanita	—	—	1B.1	NC	<p>Located in chaparral and cismontane woodland on dacite</p>	Evergreen shrub	Mar	<p><b>Not Likely to Occur.</b> No dacite porphyry buttes occur within the survey</p>

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						<p>porphyry buttes. Near Cambria and northeastern portion of Los Osos Valley, San Luis Obispo County.</p> <p>Known Elevation Limits: 100 to 300 meters</p>			<p>area. No chaparral or cismontane woodland occurs within the survey area.</p>
<i>Arenaria paludicola</i>	Marsh sandwort	FE	SE	1B.1	NC	<p>Found in marshes and swamps. Occurs within the counties of Los Angeles, San Bernardino (in southern San Bernardino), Santa Cruz (Felton), San Francisco (northern), and San Luis Obispo (Oceano).</p> <p>Known Elevation Limits: 3 to 170 meters</p>	Sporiferous herb	May - Aug	<p><b>Low Potential to Occur.</b> Marginal freshwater marsh habitat occurs within limited portions of the Branin property. No portions of the project are proposed within this area.</p>
<i>Calochortus obispoensis</i>	San Luis mariposa lily	—	—	1B.2	NC	<p>Found in chaparral, coastal scrub, grassland, and freshwater seep habitats of dry, serpentine soils.</p> <p>Endemic to San Luis Obispo County. Found in hills around San Luis Valley, from Cuesta Pass to</p>	Bulbiferous herb	May - Jul	<p><b>Not Likely to Occur.</b> Although coastal scrub and non-native grassland habitat occurs within the survey area, these areas are not supported by dry, serpentine soils.</p>

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Prefumo and See Canyons, south to Arroyo Grande.  Known Elevation Limits: 75 to 730 meters			
<i>Arctostaphylos pechoensis</i>	Pecho manzanita	—	—	1B.2	NC	Closed-cone coniferous forest, chaparral, and coastal scrub habitats supported by siliceous shale.  Known Elevation Limits: 125 to 850 meters	Evergreen shrub	Nov - Mar	<b>Not Likely to Occur.</b> Although coastal scrub habitat occurs within the survey area it is not supported by siliceous shale.
<i>Calystepia subacaulis</i> ssp. <i>episcopalis</i>	Cambria morning glory	—	—	1B.2	NC	Chaparral, cismontane woodland, and coastal plain habitats.  Known Elevation Limits: 60 to 500 meters	Rhizomatous herb	Apr - Jun	<b>Not Likely to Occur.</b> The survey area does not contain chaparral, cismontane woodland, or coastal plain habitat.
<i>Carex obispoensis</i>	San Luis Obispo sedge	—	—	1B.2	NC	This species chiefly occurs on steep, serpentine-derived hillsides in association with chaparral and coastal sage scrub habitats.  Monterey and San Luis Obispo Counties.  Known Elevation	Rhizomatous herb	Apr - Jun	<b>Not Likely to Occur.</b> The survey area is not characterized by any steep serpentine-derived hillsides.

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Limits: 10 to 790 meters			
<i>Castilleja densiflora</i> <i>ssp. obispoensis</i>	Obispo Indian paintbrush	—	—	1B.2	NC	Grows in valley and foothill grasslands. Occurs in Arroyo Grande, Pismo Beach, Port San Luis, San Luis Obispo, Lopez Mountain, Morro Bay, Cayucos, San Simeon, Pico Creek, Cambria, Piedras Blancas, and Burro Mountain.  Known Elevation Limits: 10 to 400 meters	Annual herb	Mar - May	<b>Low Potential to Occur.</b> Marginal non-native grassland supported by clay soils occurs for this species in limited areas on the Giacomazzi and Tonini properties; however, these areas are highly disturbed from grazing and agricultural practices.
<i>Chorizanthe breweri</i>	Brewer's spineflower	—	—	1B.3	NC	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats; primarily on serpentine substrates.  Only found in San Luis Obispo County in the outer South Coast Ranges.  Known Elevation Limits: 45 to 800 meters	Annual herb	Apr - Aug	<b>Not Likely to Occur.</b> Although coastal scrub habitat occurs within the survey area it is not supported by serpentine substrates.
<i>Chorizanthe pungens</i> ssp. <i>pungens</i>	Monterey spineflower	FT	—	1B.2	NC	Occurs in stabilized sand dunes and is found within open,	Annual herb	Apr - Jun	<b>High Potential to Occur.</b> Suitable coastal sage scrub for this species occurs on

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						dune scrub vegetation.  Monterey spineflower occurs from the Monterey Peninsula (Monterey County) northward along the coast to southern Santa Cruz County, and inland to the Salinas Valley.  Known Elevation Limits: 3 to 450 meters			the Broderson and Mid-town properties. This species has been documented as occurring within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985).
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	—	—	1B.2	NC	Valley and foothill grasslands supported by alkaline soils.  Known Elevation Limits: 1 to 230 meters	Annual herb	May - Oct	<b>Not Likely to Occur.</b> Although non-native grassland occurs within limited portions of the survey area, it is not supported by alkaline soils and is highly disturbed.
<i>Cirsium frontinale</i> var. <i>obispoense</i>	Chorro Creek bog thistle	FE	SE	1B.2	NC	Found in chaparral (cismontane woodlands/serpentine seeps).  Occurs within San Luis Obispo County in Pismo Beach and southern Morro Bay.  Known Elevation Limits: 35 to 380 meters	Perennial herb	Feb - Jul	<b>Not Likely to Occur.</b> The survey area does not contain chaparral or cismontane woodland habitats that are supported by serpentine soils, nor does it contain any serpentine seeps.
<i>Cordylanthus</i>	Salt marsh	FE	SE	1B.2	NC	Grows in the higher	Annual herb	May - Oct	<b>Not Likely to Occur.</b>

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>maritimus</i> ssp. <i>maritimus</i>	bird's beak					reaches of coastal salt marshes to intertidal and brackish areas influenced by freshwater input. Cuesta-By-The-Sea and at Sweet Springs Marsh, San Luis Obispo County.  Known Elevation Limits: 0 to 30 meters	hemiparasite		The survey area does not occur within any coastal salt marshes or brackish backwaters. The freshwater marsh and riverine habitats within the survey area are not suitable for this species.
<i>Dithyrea maritima</i>	Beach spectaclepod	—	ST	1B.1	NC	It is found in small transverse foredunes within approximately 50 to 300 meters from the surf. The dunes of San Luis Obispo and Santa Barbara counties and on San Nicholas and San Miguel Islands.  Known Elevation Limits: 3 to 50 meters	Rhizomatous herb	Mar - May	<b>Not Likely to Occur.</b> The survey area does not occur within any areas that are characterized by transverse foredunes.
<i>Dudleya abramsii</i> ssp. <i>bettinae</i>	San Luis serpentine dudleya			1B.2	NC	Coastal scrub and valley foothill grassland communities on serpentine soils. Endemic to San Luis Obispo County.  Known Elevation Limits: 20 to 180 meters	Perennial herb	May - Jul	<b>Not Likely to Occur.</b> The survey area does not contain habitats that are supported by serpentine soils.
<i>Dudleya</i>	Blochman's	—	—	1B.1	NC	Sandy openings within	Perennial herb	Apr - Jun	<b>Not Likely to Occur.</b>

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
<i>blochmaniae ssp. blochmaniae</i>	dudleya					coastal sage scrub at coastal locales. Also coastal bluff scrub, valley and foothill grassland, and maritime chaparral. Supporting substrates include clays and serpentinite or in rocky areas with little soil. Known sites have been mapped as Las Flores loamy fine sand and Terrace Escarpments. Requires strong coastal maritime microclimate.  Known Elevation Limits: 5 to 450 meters			Although the survey area contains coastal sage scrub and non-native grassland habitats, these areas are not supported by terrace escarpments or clays or rocky areas with little soil development.
<i>Erigeron blochmaniae</i>	Blochman leafy daisy	—	—	1B.2	NC	Coastal dune and coastal scrub habitats. Endemic to Santa Barbara and San Luis Obispo Counties. Blochman's leafy daisy is also found in undisturbed areas with suitable soils.  Known Elevation Limits: 3 to 45 meters	Rhizomatous herb	Jun - Aug	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-town properties.
<i>Erigeron sanctarum</i>	Saint's daisy	—	—	4.2	NC	Found in chaparral,	Rhizomatous	Mar - Jul	<b>Species Present.</b>

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						cismontane woodland, and coastal scrub. Occurs in Santa Barbara, Santa Cruz Island, Santa Rosa Island, and San Luis Obispo.  Known Elevation Limits: 160 to 350 meters	herb		This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-town properties.
<i>Eriodictyon altissimum</i>	Indian knob mountainbalm	FE	SE	1B.1	C	Maritime chaparral and coastal scrub. Ridges in open, disturbed areas within chaparral on Pismo sandstone. Between San Luis Obispo and Pismo Beach on Indian Knob Ridge, San Luis Obispo County.  Known Elevation Limits: 80 to 270 meters	Evergreen shrub	Mar - Jun	<b>High Potential to Occur.</b> Suitable coastal sage scrub for this species occurs on the Broderson and Mid-town properties. The CNDDDB has three records of known occurrence for Indian Knob mountainbalm west of Broderson Avenue and east of bend in Travis Drive, south of Los Osos; in Los Osos on a north-facing slope between Broderson Avenue and Bayview, just above Highland Drive; and in Los Osos at the extension of Bayview at Calle Cordoniz, 50 yards southwest of the road.
<i>Erysimum insulare ssp. suffrutescens</i>	suffrutescent wallflower	—	—	4.2	NI	Found in coastal bluff scrub, coastal dunes, maritime chaparral,	Perennial herb	Jan - Jul	<b>Species Present.</b> This species has been documented as occurring



Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						and coastal scrub. Known along the coast of California from Los Angeles County to San Luis Obispo County.  Known Elevation Limits: 0 to 150 meters			on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-town properties.
<i>Fritillaria viridea</i>	San Benito fritillary	—	—	1B.2	NC	Found in chaparral (serpentine). Occurs in Monterey, San Benito, and San Luis Obispo counties. Potential to occur.  Known Elevation Limits: 200 to 1525 meters	Bulbiferous herb	Mar - May	<b>Not Likely to Occur.</b> The survey area does not contain any chaparral supported by serpentine soils.
<i>Lasthenia glabrata</i> <i>ssp. coulteri</i>	Coulter goldfields	—	—	1B.1	NC	Coastal salt marshes, playas, vernal pools. From interior portions of Monterey County, south to coastal and interior portions of San Diego County, and on Santa Rosa Island. Known.  Known Elevation Limits: 1 to 1220 meters	Annual herb	Feb - Jun	<b>Not Likely to Occur.</b> The survey area does not contain any coastal salt marshes, playas, or vernal pools. The vernal marsh habitat that occurs on the Tonini property does not provide suitable hydrological conditions for this species. It is known to occur on the undeveloped lots at the shore end of Pine and Ramona (LOHCP). The CNDDDB also has records of known

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
									occurrence for Coulter's goldfields within in Sweet Springs Nature Preserve and at the southern end of Morro near Shark's Inlet.
<i>Layia jonesii</i>	Jones' layia	—	—	1B.2	NC	Found on serpentine or clay-based chaparral and valley grassland habitats. Known Only From Monterey and San Luis Obispo Counties.  Known Elevation Limits: 5 to 400 meters	Annual herb	Mar - May	<b>Not Likely to Occur.</b> The survey area does not contain any chaparral or grassland habitats supported by clay or serpentine soils.
<i>Monardella crisp</i>	Crisp monardella	—	—	1B.2	NC	Coastal Dunes, often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation. Known in Santa Barbara and San Luis Obispo Counties.  Occurs in the dunes of Point Arguello, Guadalupe, Point Sal, Casmalia, and Oceano.  Known Elevation Limits: 10 to 120 meters	Rhizomatous herb	Apr - Aug	<b>Low Potential to Occur.</b> The survey area does not contain any open sand areas within coastal dunes. The coastal sage scrub habitat that occurs on the Broderson and Mid-town properties is marginal and does not contain open sand areas.
<i>Monardella frutescens</i>	San Luis Obispo monardella	—	—	1B.2	NC	Found in chaparral supported by serpentine soils.	Rhizomatous herb	May - Sep	<b>Not Likely to Occur.</b> The survey area does not contain chaparral supported

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Monterey County, San Benito County, and San Luis Obispo County.  Known Elevation Limits: 10 to 200 meters			by serpentine soils.
<i>Monardella undulata</i>	Curly leafed monardella	—	—	4.2	NC	Occurs in coastal sand dune, chaparral, and coastal scrub communities. Curly-leaved monardella is found from Marin to Santa Barbara Counties.  Known Elevation Limits: 0 to 305 meters	Annual herb	May - Sep	<b>High Potential to Occur.</b> The coastal sage scrub habitat that occurs on the Broderon and Mid-town properties provides suitable habitat for this species. Curly-leaved monardella is known and documented in Los Osos (Holland and Kiel, 1985) and found occasionally in undeveloped properties throughout Los Osos (LOHCP).
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	Short-lobed broomrape	—	—	4.2	NC	Found in coastal bluff scrub and coastal dunes. San Diego County, San Luis Obispo County, San Nicolas Island, Santa Catalina Island, Santa Cruz Island, San Miguel Island, Santa Rosa Island; Baja California and Isla Guadalupe, Mexico.  Known Elevation	Perennial herb parasitic	Apr - Oct	<b>Moderate Potential to Occur.</b> The Broderon and Mid-town properties provide marginal coastal sage scrub habitat for this species. The site does not contain any coastal dunes or coastal bluff scrub.

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Limits: 3 to 305 meters			
<i>Prunus fasciculata punctata</i>	Dune (sand) almond	—	—	4.3	NC	Found in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and sand. Endemic to Santa Barbara and San Luis Obispo Counties.  Known Elevation Limits: 15 to 200 meters	Deciduous shrub	Mar - Apr	<b>Species Present.</b> This species has been documented as occurring on the Broderson property and within the Morro Dunes Ecological Reserve in the immediate vicinity of the Broderson property (Holland and Keil, 1985). Suitable habitat for this species occurs on the Broderson and Mid-town properties.
<i>Sanicula maritima</i>	Adobe sanicle	—	Rare	1B.1	NC	Found in wet to dry clay soils of coastal prairie and coastal sage scrub plant communities. Its distribution is centered in the coastal hills of San Luis Obispo and Monterey County.  Known Elevation Limits: 30 to 240 meters	Perennial herb	Feb - May	<b>Not Likely to Occur.</b> The survey area does not contain any of the preferred habitats that are supported by supported by wet to dry clay soils.
<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	Cuesta pass checkerbloom	—	Rare	1B.2	NC	Grows in open sites on serpentine rock and soils at in the vicinity of Sargent cypress forest. Restricted to a small area on West Cuesta Ridge, San	Perennial herb	May - Jun	<b>Not Likely to Occur.</b> The survey area does not contain open sites on serpentine rock and soils in the vicinity of Sargent cypress forest.

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
						Luis Obispo County. Documented occurrences limited to the vicinity of West Cuesta Ridge.  Known Elevation Limits: 600 to 800 meters			
<i>Suaeda californica</i>	California seablite	FE	—	1B.1	NC	It is restricted to the upper intertidal zone within coastal marsh habitat. Occurs along the perimeter of Morro Bay.  Known Elevation Limits: 0 to 15 meters	Evergreen shrub	Jul - Oct	<b>Not Likely to Occur.</b> The survey area is not located within the upper intertidal zone and is not characterized by coastal marsh habitat. This species is frequent on shoreline margins of undeveloped properties at Pecho Road and Pasadena Drive and First Street (LOHCP). The CNDDDB has records of a known occurrence for California seablite in Baywood Park at Sweet Springs Marsh.

Species		Status				Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS	DLOHCP				
U.S. Fish and Wildlife Service		California Department of Fish and Game				California Native Plant Society			
FE	Federal Endangered	CE	California Endangered			1A	Plants presumed extinct in California.		
FT	Federal Threatened	CT	California Threatened			1B	Plants rare, threatened, or endangered in California and elsewhere.		
PE	Proposed Endangered	CR	California Rare			2	Plants rare, threatened, or endangered in California, but more common elsewhere.		
PT	Proposed Threatened					3	Plants in need of more information.		
FC	Federal Candidate					4	Plants of limited distribution.		
						<b>Draft Los Osos Habitat Conservation Plan (DLOHCP)</b>			
						C	Covered Species		
						NC	Not Covered Species		
						NI	Not Included		
						<b>Other</b>			
						G	Global Ranking Rarity		
						S	State Ranking Rarity		
<p>Notes:</p> <p><b>Not Likely to Occur</b> - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the area.</p> <p><b>Low Potential to Occur</b> - There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.</p> <p><b>Moderate Potential to Occur</b> - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.</p> <p><b>High Potential to Occur</b> - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 3 miles).</p> <p><b>Species Present</b> - The species was observed on the survey area at the time of the survey or during a previous biological survey.</p>									

## **B2: Special-Status Wildlife Species Table**

Special Status Wildlife Species Table

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<b>Insects and Invertebrates</b>							
<i>Coelus globosus</i>	Globose dune beetle	—	—	NC	—	Coastal dunes, forming tunnels underneath native vegetation.  Found in California’s coastal dune system. Have colonized on the California Channel islands.	<b>Not Likely to Occur.</b> Coastal dune habitat does not occur on the project site.
<i>Danaus plexippus</i>	Monarch butterfly	—	TP	NC	—	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located within wind-protected tree groves of <i>Eucalyptus</i> sp., <i>Pinus radiata</i> , <i>Cypressus</i> sp., among others, with nectar and water sources nearby.	<b>High Potential to Occur.</b> Eucalyptus trees occur throughout the survey area that provide suitable winter roosting habitat for the Monarch butterfly. Specifically, suitable trees occur on the Broderson and Mid-town properties, and along Los Osos Valley Road near Los Osos Creek.
<i>Plebejus icariodes moroensis</i>	Morro blue butterfly	—	—	NI	G5 S1S3	This butterfly is known to occur within coastal sage and coastal dune scrub habitats that support their larval host plant, the silver dune lupine ( <i>Lupinus chamissonis</i> ), and suitable nectar sources such as deerweed ( <i>Lotus scoparia</i> ). The typical adult flight season occurs from early April to June. This species is restricted to the immediate coast in San Luis Obispo and western Santa Barbara counties.	<b>Species Present.</b> This species has been previously observed within coastal sage scrub habitat on the Borderson and Mid-town properties and is presumed present. These sites currently contain this species host plant ( <i>Lupinus chamissonis</i> ) as well as nectar sources ( <i>Lotus scoparia</i> ).
<i>Helminthoglypta walkeriana</i>	Morro shoulderband snail	FE	—	C	—	Coastal dune and scrub communities dominated by mock heather ( <i>Ericameria ericoides</i> ). Known within the southern portion	<b>Species Present.</b> Suitable coastal sage scrub habitat supported by Baywood fine sands occurs on the



Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						of Morro Bay and endemic to the western portion of San Luis Obispo County.	Broderson and mid-town properties. Additional habitat occurs within the developed areas in the community of Los Osos. The CNDDDB has two records of known occurrence for the Morro shoulderband snail in the immediate vicinity of the survey area. These areas include the coastal scrub south of Highland Drive Between Broderson Ave and Bayview Drive, and south of Pecho Valley Road in the Los Osos Oaks State Reserve.
<i>Tryonia imitator</i>	California brackish water snail	—	—	NC	—	Inhabits coastal lagoons, estuaries, and salt marshes from Sonoma to San Diego County. Specifically known from coastal lagoons and where creek mouths join tidal marshes. Found only in permanently submerged areas in a variety of sediment types, able to withstand a wide range of salinities. Present populations are scattered throughout the former range; however, the Sonoma County populations are believed to be extinct.	<b>Not Likely to Occur.</b> No coastal lagoon or saltmarsh habitat occurs within the survey area.
<b>Fish</b>							
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	SSC	NC	—	Brackish water habitats along the California coast from Agua Hedionda Lagoon in San Diego County to the mouth of the Smith River. Found in shallow lagoons	<b>Not Likely to Occur.</b> No coastal brackish water habitat occurs within the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						and lower stream reaches, requiring fairly still but not stagnant water, with high oxygen levels.	
<i>Oncorhynchus mykiss irideus</i>	Steelhead - South/Central California Coast ESU	FT	SSC	NC	—	<p>Steelhead inhabit riparian, emergent, palustrine habitat. Perennial streams usually characterize spawning and rearing habitat with clear, cool to cold, fast flowing water with high dissolved oxygen content and abundant gravels and riffles.</p> <p>The South/Central California Coast ESU is known from Malibu Creek, Ventura River, Santa Clara River, and Santa Ynez River, although in greatly reduced numbers. Recent records show that they have been found in Mission and Atascadero creeks (Santa Barbara County) and Mulholland, Big Sycamore, and Topanga canyons (Los Angeles County).</p>	<b>High Potential to Occur.</b> Suitable habitat for this species occurs within portions of the survey area that fall within Los Osos Creek.
<b>Reptiles and Amphibians</b>							
<i>Anniella pulchra nigra</i>	black legless lizard	—	SSC	NC	—	<p>Areas with sandy or loose loamy soils under the sparse vegetation of beaches, sand dunes, chaparral, or pine-oak woodland; or sycamores, cottonwoods, or oaks that grow on stream terraces. Antioch (Contra Costa County), south through the Coast, Transverse, and Peninsular ranges; parts of the San Joaquin Valley; and the western edge of the Sierra Nevada Mountains and</p>	<b>Moderate Potential to Occur.</b> Marginal coastal sage scrub habitat supported by Baywood fine sands occurs within the survey area; however, this habitat is not associated with beaches, sand dunes, chaparral, pine-oak woodland, sycamores, cottonwoods, or oaks that grow on stream terraces.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						Mojave Desert to El Consuelo (Baja California Norte).	
<i>Emys (Clemmys) marmorata pallida</i>	Southwestern pond turtle	—	SSC	NC	—	<p>Permanent or nearly permanent fresh water habitats below 6,000 feet in elevation. Inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons.</p> <p>Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. In lower elevations and latitudes, this species may be active at aquatic sites year-round. Uses protected upland terrestrial sites near aquatic sites with appropriate slope aspect and soils for an oviposition site.</p>	<b>Moderate Potential to Occur.</b> Suitable permanent or near permanent aquatic and terrestrial foraging and breeding habitat occurs within Warden Lake (Warden Creek wetlands) on the Branin property.
<i>Phrynosoma coronatum (frontale population)</i>	coast horned lizard	—	SSC	NC	—	The California horned lizard seems to occur in several habitat types, ranging from areas with an exposed gravelly-sandy substrate containing scattered shrubs (e.g. California buckwheat) to clearings in riparian woodlands, to dry uniform chamise chaparral to annual grassland with scattered perennial seepweed or saltbush. Maximum abundance is reached in sandy loam areas on alkali flats. California endemic with distribution from Lake Shasta southward along the edges of the Sacramento Valley into much of the	<b>Low Potential to Occur.</b> Marginal habitat occurs within limited portions of the Broderson and Mid-town properties for this species. This species is more likely to occur within maritime chaparral habitats in higher elevations than that which characterizes the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						South Coast Ranges, San Joaquin Valley, and Sierra Nevada foothills to northern Los Angeles, Santa Barbara and Ventura Counties. Several fine-scaled populations in the Shandon-Cuyama Valley region, Santa Barbara, and San Luis Obispo counties.	
<i>Taricha torosa torosa</i>	Coast range newt	—	SSC	NC	—	Frequents terrestrial habitats, breeds in ponds, reservoirs, and slop-moving streams. Coastal drainages from the vicinity of central Mendocino County, south to Boulder Creek, San Diego County. Populations in southern California are highly fragmented. Known elevation range of this species extends from near sea level to 1830m (6,004 ft).	<b>Moderate Potential to Occur.</b> This species has a moderate potential to occur within and immediately adjacent to Los Osos Creek, Warden Creek, and Warden Lake (Warden Creek wetlands). Within the survey area, these include portions of the Los Osos Valley ROW at the Los Osos Creek crossing, portions of the Branin property, and portions of the Turri Road ROW at the Warden Creek crossing.
<i>Thamnophis hammondi</i>	Two-striped garter snake	—	SSC	NC	—	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats. Monterey County southward (including Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties) along the coast and drainages within the coast and peninsular ranges to the Mexican border.	<b>Moderate Potential to Occur.</b> This species has a moderate potential to occur within and immediately adjacent to Los Osos Creek, Warden Creek, and Warden Lake (Warden Creek wetlands). Within the survey area, these include portions of the Los Osos Valley ROW at the Los Osos Creek crossing, portions of the Branin property, and portions of the Turri Road ROW at the Warden Creek crossing. This species also has a

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
							potential to occur within the vernal marsh habitat on the Tonini property.
<i>Ambystoma californiense</i>	California tiger salamander	FC	SSC	NC	—	Grasslands and low foothill regions where lowland aquatic sites are available for breeding. Large vernal pools, vernal playas, and large sag ponds. Occupies existing burrows during dormant phase in dry season. Disjunct remnant vernal pool complexes in Sonoma and Santa Barbara Counties, and scattered along narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County, and in sag ponds and human-maintained stock ponds in the coast ranges from the San Francisco Bay area south to Temblor Range.	<b>Moderate Potential to Occur.</b> No large vernal pools, vernal playas, sag ponds, or maintained stock ponds occur within the survey area. Marginal aquatic habitat for this species occurs within the Warden Creek wetlands on the Branin property, and within the drainage feature on the Tonini property. However, the Warden Creek wetlands do not contain the preferred aquatic habitat for this species, and are characterized by very dense thickets of <i>Scirpus acutus</i> and likely support a number of predators that would deter this species. Additionally, the drainage feature on the Tonini property does not contain the preferred aquatic habitat for this species, and provides limited small shallow pools and supports flows throughout the winter and into the spring season. No CNDDDB records of this species exist within 5 miles of the survey area.
<i>Rana aurora draytonii</i>	California red-legged frog	FT	SSC	NC		Inhabits lowland streams, wetlands, riparian woodlands, and livestock ponds. Found along the coast and coastal mountain ranges of California from Humboldt County	<b>Species Present.</b> This species was observed during protocol surveys conducted by MBA in 2008 at three locations within a drainage

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						to San Diego County; Sierra Nevada (mid-elevations [above 1,000 feet] from Butte County to Fresno County)	feature that traverses the Tonini property. Two adults and seven tadpoles were confirmed.
<b>Avian</b>							
<i>Accipiter cooperi</i>	Cooper's hawk	—	—	NC	G5 S3	(Nesting) Open, uninterrupted, or marginal type woodlands. Nest sites in riparian growths of deciduous trees, live oaks.	<b>High Potential to Occur.</b> Suitable nesting opportunities for this species occur within the riparian and oak forest habitats located within the Giacomazzi property and along Los Osos Valley Road adjacent to Los Osos Creek, in addition to the riparian trees within the freshwater marsh habitat on the Branin property. Suitable foraging habitat occurs within the riparian forest and scrub, and adjacent upland areas on and off the survey area. This species has a high potential to use portions of the site for nesting and foraging.
<i>Accipiter striatus</i>	Sharp-shinned hawk		SSC	NC		(Wintering) Prefer riparian habitats they are not restricted to them and are found in mid-elevation habitat such as pine forests, woodlands, and mixed conifer forests. For nesting they occur in dense tree stands that are cool, moist, well shaded and usually near water. For hunting habitat, they often use openings at the edges of woodlands and also brushy pastures. Permanent resident on the Sierra Nevada,	<b>Moderate Potential to Occur.</b> This species is unlikely to nest within the survey area due to elevation restrictions. However, suitable foraging opportunities for wintering individuals occur within the riparian and oak forest habitats located within the Giacomazzi property and along Los Osos Valley Road adjacent to Los Osos Creek, in addition to the riparian trees within the

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						Cascade, Klamath, and north Coast Ranges at mid-elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties; winters over the rest of the state except very high elevations.	freshwater marsh habitat on the Branin property.
<i>Athene cunicularia hypugea</i>	Burrowing owl	—	SSC	NC	—	Open grasslands, desert, and sparse scrublands with low-growing vegetation and suitable burrows. Restricted to the central valley extending from Redding south to the Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego and the Sonoran desert.	<b>Moderate Potential to Occur.</b> Marginal habitat for this species occurs within the extensive agriculture and disturbed ruderal habitats on the Cemetery, Giacomazzi, Branin, and Tonini properties; however, the survey area is outside of this species known range. The Los Osos Valley is generally isolated from areas that would provide adequate linkage to this species known range.
<i>Aquila chrysaetos</i>	Golden eagle	—	SSC FP	NC		Cliffs and escarpments or tall trees for nesting; annual grasslands, chaparral, and oak woodlands for hunting. Foothills and mountains throughout California; uncommon non-breeding visitor to lowlands such as the Central Valley.	<b>Low Potential to Occur.</b> No nesting habitat for this species occurs on or in the immediate vicinity of the survey area. Marginal wintering and foraging habitat occurs within the Cemetery, Giacomazzi, Branin, and Tonini properties; however, this species is unlikely to occur within the local area. Much of the survey area is subject to other anthropogenic disturbances that further reduce the potential for this species to occur.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Arenaria melanocephalus</i>	Black turnstone	—	—	NC	—	Found on rocky shores of marine habitats along the coast. In the summer they are found on partial to rugged, rocky, intertidal coasts, but also occurs on outer coast sandy beaches and on mudflats. Distributed along the shores of Pacific Coast during the winter. In the fall, the Black Turnstone migrates along the central California coast.	<b>Not Likely to Occur.</b> No portions of the survey area contain coastal habitat for this species.
<i>Buteo regalis</i>	ferruginous hawk	—	SSC	NC	—	(Wintering) Large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting. Its wintering habitat is similar in being open and it may also occur in areas of mixed grassy glades and pineries. Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, eastward to the Sierra Nevada foothills and southeastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County.	<b>Moderate Potential to Occur.</b> This species is unlikely to nest within the survey area due to elevation restrictions. Suitable wintering and foraging habitat occurs within the Cemetery, Giacomazzi, Branin, and Tonini properties.
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	SSC	NC	—	(Nesting) Sandy or gravelly beaches along coast, on estuarine salt ponds and shores of large alkali lakes. Sandy, gravelly or friable soils for nesting. Coastal areas from Del Norte County to San Diego County.	<b>Not Likely to Occur.</b> No suitable coastal beach or estuarine habitat occurs within the survey area. No shore habitat of large alkali lakes occurs within the survey area.
<i>Circus cyaneus</i>	Northern harrier	—	SSC	NC	—	(Nesting) Coastal salt and fresh-water marsh, wet and lightly grazed pastures, old fields, dry uplands,	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs within the Cemetery,



Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						upland prairies, mesic grasslands, drained marshlands, croplands, shrubsteppe, meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands. Occurs from annual grassland up to lodgepole pine and alpine meadow habitats. It breeds from sea level to 1,700 m (0-5700 ft) in the Central Valley and Sierra Nevada, and up to 800 m (3600 ft) in northeastern California. It is a permanent resident of the northeastern plateau and coastal areas; it is a less common resident of the Central Valley.	Giacomazzi, Branin, and Tonini properties. Marginal freshwater marsh habitat for nesting occurs on the Branin property.
<i>Contopus cooperi</i>	Olive-sided flycatcher	—	—	NC	G4 S4	Mid- to high-elevation mountains and coniferous forests, often associated with forest openings and edges. Presence in early successional forests appears to depend on availability of snags or live trees that provide suitable foraging and singing perches. It is frequently found along wooded shores of streams, lakes, and rivers, where natural edge habitat occurs and standing dead trees often are present. The breeding range extends south from Canada, extending as far south as the mountains of southern California. Winters primarily in the Andes Mountains of South America, with small numbers in Central America and southern Mexico.	<b>Not Likely to Occur.</b> The survey area occurs outside the known elevation range for this species. Marginal forest habitat occurs in the vicinity of Los Osos Creek; however, this species is not likely to occur at such low elevations.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
<i>Dendroica petechia brewsteri</i>	Yellow warbler	—	SSC	NC	—	(Nesting) Riparian plant associations preferring willows, cottonwoods, aspens, sycamores, and alders. Montane shrubbery in open conifer forests. Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes in the Sierra Nevada; winters along the Colorado River and in parts of Imperial and Riverside Counties; two small permanent populations in San Diego and Santa Barbara Counties.	<b>Moderate Potential to Occur.</b> Marginal nesting habitat for this species occurs within the riparian forest habitats on the Giacomazzi and Branin properties, and within the Los Osos Creek area. The survey area is outside this species known range.
<i>Elanus leucurus</i>	White-tailed kite	—	FP	NC	—	(Nesting) Prefers rolling foothills and valley margins with scattered oak trees and river bottomlands, or marshes adjacent to deciduous woodlands. Foraging habitat consists of open grasslands, meadows, and marshes in close proximity to isolated trees with dense canopies for nesting and perching. Lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border.	<b>High Potential to Occur.</b> Marginal nesting opportunities for this species occur within the riparian and oak forest habitat within limited portions of the Los Osos Valley Road ROW adjacent to Los Osos Creek, and the Giacomazzi and Branin properties. White-tailed kite has a reduced potential to nest in the riparian and oak habitats within the Los Osos Valley Road ROW due to the proximity to noise and other human-related disturbances associated with the road.
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE	SE	NC	—	Mature riparian woodlands with thick understory along rivers, streams, or other wetlands, where dense growths of willows ( <i>Salix</i> sp.), mulefat <i>Baccharis</i> , arrowweed ( <i>Pluchea</i> sp.), buttonbush ( <i>Cephalanthus</i> sp.), tamarisk	<b>Moderate Potential to Occur.</b> Suitable riparian habitat exists; however, the survey area is outside of this species known range.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						( <i>Tamarix</i> sp.), Russian olive ( <i>Eleagnus</i> sp.) or other plants are present, often with a scattered overstory of cottonwood ( <i>Populus</i> sp.). The breeding range for this species includes Owens Valley, south fork of the Kern River, the Los Angeles Basin, the Santa Ynez River near Buellton, the Prado Basin riparian forest in Riverside County, the Santa Margarita and San Luis Rey Rivers in San Diego County, Middle Peak in the Cuyamaca Mountains, and near Imperial Beach.	
<i>Falco columbarius</i>	merlin	—	SSC FP	NC	—	(Wintering) Forages along coastlines, open grasslands, savannas, and woodlands; often forages near lakes and other wetlands. Does not nest in California; rare but widespread winter visitor to the Central Valley and coastal areas.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, scrub, and forest habitats within the survey area. This species is unlikely to nest in the area.
<i>Falco mexicanus</i>	prairie falcon	—	SSC	NC	—	Annual grasslands to alpine meadows, but they are also associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas, typically dry environments of western North American where there are cliffs or bluffs for nest sites. Uncommon permanent resident and migrant that ranges from southeastern deserts northwest along the inner Coast Ranges and Sierra Nevada. It is	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, scrub, and forest habitats within the survey area. This species is unlikely to nest within the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						distributed from annual grasslands to alpine meadows within this region. It is not found in the northern coastal fog belt, or along the coastline.	
<i>Falco peregrinus anatum</i>	Peregrine falcon	D	SE FP	NC	—	Nests consist of scrape on a depression or ledge of an open site associated with cliffs, banks, dunes, mounds, and man-made structures near wetlands, lakes, rivers, or other water. Open habitats, including tundra, marshes, seacoasts, savannahs and high mountains. Breeds mostly in woodland, forest, and coastal habitats. Common along the coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California. In winter, found inland throughout the Central Valley, and occasionally on the Channel Islands. Migrants occur along the coast, and in the western Sierra Nevada in spring and fall.	<b>Moderate Potential to Occur.</b> Suitable foraging habitat occurs throughout the non-native grassland, marsh, scrub, and forest habitats within the survey area. No suitable nesting habitat occurs within the survey area for this species.
<i>Haematopus bachmani</i>	Black oystercatcher	—	—	NC	—	Black Oystercatcher is almost always found along the rocky shoreline of the Pacific Coast, although in winter, it can also occur on nearby mudflats. Found along almost the entire Pacific Coast of North America, stretching from southern Alaska all the way to Baja California.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Lanius ludovicianus</i>	Loggerhead shrike	—	SSC	NC	—	Forage over open ground within areas of short vegetation, pastures with fence rows, old orchards,	<b>Moderate Potential to Occur.</b> Suitable nesting and foraging habitat occurs within the

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						<p>mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.</p> <p>Found throughout the foothills and lowlands of California as a resident. Winter migrants are found coastally, north of Mendocino County.</p>	grassland habitats within the Cemetery, Giacomazzi, Branin, Tonini properties, and the scrub habitat within the Broderson and Mid-town properties,
<i>Laterallus jamiacensis coturniculus</i>	California black rail	—	ST FP	NC	—	<p>Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations. Northern reaches of the San Francisco Bay estuary, especially the tidal marshland of San Pablo Bay and associated rivers; several small, fragment subpopulations still existed at Tomales Bay, Bolinas Lagoon, Morro Bay, and in southeastern California.</p>	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Limosa fedoa</i>	Marbled godwit	—	—	NC	—	<p>Coastal mudflat wintering grounds. The species winters in greatest numbers along the Pacific coast from central California south through Southern California A number of Important Bird Areas (IBAs) in both the United States and Canada help protect important habitat for Marbled Godwit. These sites include California's Morro Bay</p>	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						IBA, which regularly hosts over 2,000 wintering godwits	
<i>Numenius americanus</i>	Long-billed curlew	—	—	NC	—	Breed mainly in the native grasslands of arid western regions, and are often found in farm fields and grasslands during migration and on their wintering grounds. Occur in coastal marshes and mudflats during the winter. Nest on the ground in the open, on dry prairie. Breeding grounds include northeastern California. Wintering range along entire Pacific Coast of California.	<b>Not Likely to Occur.</b> No suitable wintering habitat for this species occurs within the survey area. The survey area is outside this species known breeding range.
<i>Numenius phaeopus</i>	Whimbrel	—	—	NC	—	Dry heath uplands to dwarf shrub, and mossy lowlands. During the winter, it forages in tidal flats, mangroves and a variety of other coastal habitats. Winter along the coast of California.	<b>Not Likely to Occur.</b> No suitable wintering habitat for this species occurs within the survey area. The survey area is outside this species known breeding range.
<i>Passerculus sandwichensis rostratus</i>	Large-billed savannah sparrow	—	SSC	NC	—	(Wintering) Inhabits coastal salt marshes and dune grasses. Wintering only along the coast of California.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FE	SE FP	NC	—	Estuarine, marine subtidal, and marine pelagic waters along the California coast. Specifically, they are found on rocky shores and cliffs, in sloughs, and coastal river deltas. Colonial nester and rooster on small coastal islands just outside the surf line. Forages (piscivorous diver) over open water along the coast. Ranges along entire California coast. Breeds on Channel Islands (Santa Barbara, Anacapa,	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						and Santa Cruz). Also occasionally can be found on Salton Sea.	
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE	SE FP	NC	—	Found in salt marshes traversed by tidal sloughs that provide tidal circulation, and shallow water and mud flats on low tides intermittent with sparse vegetation. Currently limited to San Francisco Bay, San Pablo Bay, Suisun Bay, and tidal marshes associated with estuarine sloughs draining into these bays.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Selasphorus sasin</i>	Allen's hummingbird	—	—	NC	G5 SNR	Inhabit mixed evergreen, riparian woodlands, eucalyptus and cypress groves, oak woodlands, and coastal scrub areas in breeding season. Males maintain territories that overlook open coastal scrub or riparian shrubs where they perch in conspicuous places. Females choose nest sites in areas where there is more tree cover. They locate the nest in shrubs and trees with dense vegetation. Breeds in a narrow strip along the Pacific coast, throughout California.	<b>High Potential to Occur.</b> Suitable riparian, oak, and coastal scrub habitat for this species occurs throughout the survey area, specifically within the Broderson and Mid-town properties, as well as the Giacomazzi and Branin properties, the Los Osos Oak Preserve, and Los Osos Creek. Marginal habitat also occurs within the sparse riparian stands along the Los Osos Valley Road ROW.
<i>Thalasseus elegans</i>	Elegant tern	—	SSC	NC	—	Nests on open sandy disturbed beaches and on salt-evaporating pond dikes in association with the Caspian tern. Only 3 known breeding colonies in the southern California region.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Strix occidentalis occidentalis</i>	California spotted owl	—	SSC	NC	—	In northern California it resides in dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats. In southern	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						California, it occurs at low elevations (sea level to 1,000 m), and occupies habitats dominated by hardwoods, primarily oak and oak-conifer woodlands. The south Cascade Range and northern Sierra Nevada from near Burney (Pit River), Shasta County, California south through the remainder of the western Sierra Nevada and Tehachapi Mountains to Lebec, Kern County.	
<i>Toxostoma redivivum</i>	California thrasher	—	—	NC	—	Breeds from sea level to the higher parts of the montane chaparral. It will breed in adjacent oak woodlands and pine-juniper scrub as well as occasionally in parks and gardens, but only if dense cover is available. Endemic in what is known as the California Biotic Province (mostly in the western part of the state).	<b>Low Potential to Occur.</b> No highly suitable habitat for this species occurs within the survey area. Marginal scrub habitat occurs within the Broderson property; however, this species is more likely to occur further south and offsite within the maritime chaparral.
<b>Mammals</b>							
<i>Antrozous pallidus</i>	Pallid bat	—	SSC	NC	—	Found in rocky, mountainous areas and near water. Also, found over more open, sparsely vegetated grasslands, and prefer foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks. Occurs throughout California with the	<b>Low Potential to Occur.</b> Marginal nighttime roosting habitat and foraging habitat occurs within limited portions of the survey area,



Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						exception of the high Sierra Nevada.	
<i>Corynorhinus townsendii pallescens</i>	Pale big-eared bat	—	SSC	NC	—	Found in all habitats within elevations up to the alpine zone. Requires caves, mines, or buildings for roosting. An insectivore that prefers mesic habitats for foraging.	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Corynorhinus townsendii townsendii</i>	Townsend's western big-eared bat	—	SSC	NC	—	Coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and desert, and high-elevation forests and meadows. Roost and hibernate in caves, mine tunnels, buildings, and other humanmade structures. Throughout California; prefer humid, coastal regions of northern and central California	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Dipodomys heermanni morroensis</i>	Morro Bay kangaroo rat	FE	SE FP	NC	—	Optimum habitat consists of the earlier successional stages of the coastal sagebrush community that occur on the old, stabilized dune terraces. The optimum vegetation is an essentially herbaceous annual, with scattered woody perennial shrubs.	<b>High Potential to Occur.</b> Suitable coastal sage scrub habitat occurs on the Broderson and Mid-town properties for this species. This species has not been trapped since 1985 and may be extinct or extirpated from the area.
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	FP	NC	—	Shallow inshore habitats supporting kelp forests. Known from Ano Nuevo, San Mateo County to Point Sal, Santa Barbara County.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Eumops perotis</i>	Western mastiff bat	—	SSC	NC	—	Resides at low elevations in the coastal basin. Favors rugged, rocky areas where suitable crevices are available for day-roosts. Day-roosts are located in large cracks in slabs	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						<p>of granite or sandstone. Also frequently roost in buildings, provided there is sheltering space. Occurs in central California through southern California.</p> <p>Have been recorded from Butte County southward in the western lowlands through the southern California coastal basins, the western portions of the southeastern desert region, and central Sierra Nevada and Yosemite Valley.</p>	
<i>Myotis evotis</i>	Long-eared myotis	—	—	NC	—	<p>Prefers coniferous woodlands and forests, but is found in brush, woodland, and forest habitats.</p> <p>Widespread in California, but avoids the arid Central Valley and hot deserts. Occurs along the entire coast and in the Sierra Nevada, from sea level to at least 2700m (9000ft).</p>	<b>Low Potential to Occur.</b> Marginal roosting and foraging habitat occurs within limited portions of the survey area,
<i>Myotis thysanodes</i>	Fringed myotis	—	—	NC	—	<p>Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Roosts in caves, mines, buildings, and crevices. Widespread in California, occurring in all but the Central Valley and Mojave desert. Found at 1300-2200 m (4000-7000ft).</p>	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Myotis volans</i>	Long-legged myotis	—	—	NC	—	<p>Found in coniferous forest, also found in riparian and arid habitats. May shift habitats seasonally. Roosts in cracks on the ground,</p>	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,




Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						spaces beneath tree bark, buildings, and crevices. Typical habitat is montane or subalpine forest, ponderosa pine woodland, pinon juniper woodland, and montane shrub with willow. Occurs throughout California.	
<i>Myotis yumanensis</i>	Yuma myotis	—	SSC	NC	—	Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in caves, mines, buildings, and crevices. Widespread in California. Found in a wide variety of habitats ranging from sea level to 3300m (11,000ft), but it is uncommon to rare above 2560m (8000ft).	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,
<i>Phoca vitulina</i>	Harbor seal	—	—	NC	—	Prefers to remain close to shore in subtidal and intertidal habitats. Often swims into bays and estuaries. Groups form on emergent offshore and tidal rocks, mudflats, sandbars, and sandy beaches.  Found on California islands and along entire mainland coast.	<b>Not Likely to Occur.</b> No suitable habitat for this species occurs within the survey area.
<i>Tadarida brasiliensis</i>	Mexican free-tailed bat	—	—	NC	—	All habitats up through mixed conifer forests are used, but open habitats such as woodlands, shrubland, and grasslands are preferred. Requires caves, mine tunnels, crevices, or buildings for roosting and hibernation. Found throughout California, mostly absent from high Sierra Nevada (from Tehama to Tulare cos.) and north coastal region (from Del	<b>Low Potential to Occur.</b> Marginal foraging habitat occurs within limited portions of the survey area,

Species		Status				Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	DLOHCP	Other		
						Norte and Siskiyou cos. to northern Sonoma Co).	
<i>Taxidea taxus</i>	American badger	—	SSC	NC	—	Grasslands, savannas, mountain meadows, and openings in desert scrub. An uncommon, permanent resident found throughout most of the state, with the exception of the North coast area.	<b>Low Potential to Occur.</b> Marginal habitat occurs within limited portions of the survey area for this species.
<b>Federal</b>		<b>State</b>		<b>Draft Los Osos Habitat Conservation Plan (DLOHCP)</b>			
FE	Federal Endangered	SE	State Endangered	C	Covered Species		
FT	Federal Threatened	ST	State Threatened	NC	Not Covered Species		
PFT	Proposed Federal Threatened	SSC	California State Species of Concern	NI	Not Included		
C	Candidate for Federal Listing	FP	California State Fully Protected Species	<b>Other</b>			
D	Delisted	TP	Threatened Phenomenon	G	Global Ranking Rarity		
				S	State Ranking Rarity		
<b>Notes:</b>							
<b>Not Likely to Occur</b> - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the area.							
<b>Low Potential to Occur</b> - There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.							
<b>Moderate Potential to Occur</b> - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.							
<b>High Potential to Occur</b> - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 3 miles).							
<b>Species Present</b> - The species was observed on the survey area at the time of the survey or during a previous biological survey.							

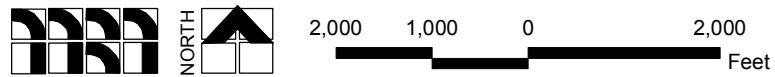
## **Attachment C: Site Photographs**



**Legend**

-  Study Area
-  Community Collection System Area
-  Photograph Location

Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates  
02240002 • 11/2008 | C\_photo\_location\_map.mxd

**Attachment C**  
**Photograph Location Map**

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 1: View of central maritime chaparral and coastal sage scrub within the central and southern portions of the Broderson property, facing southwest.



Photograph 2: View of coastal sage scrub within central and northern portions of the Broderson property, facing west.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_1and2.cdr

## Attachment C Site Photographs 1 and 2



Photograph 3: View of northern portions of the Broderson property, facing northwest. Note stand of mature eucalyptus trees in background of photo.



Photograph 4: View of northeastern portions of Broderson property, facing north. Note stand of cypress trees in the background. Existing residential development and Broderson Avenue is depicted in background as well. Also note existing dirt access road and trail separating the property from the Morro Dunes Ecological Reserve to the immediate east.

Source: Michael Brandman Associates, 2008.

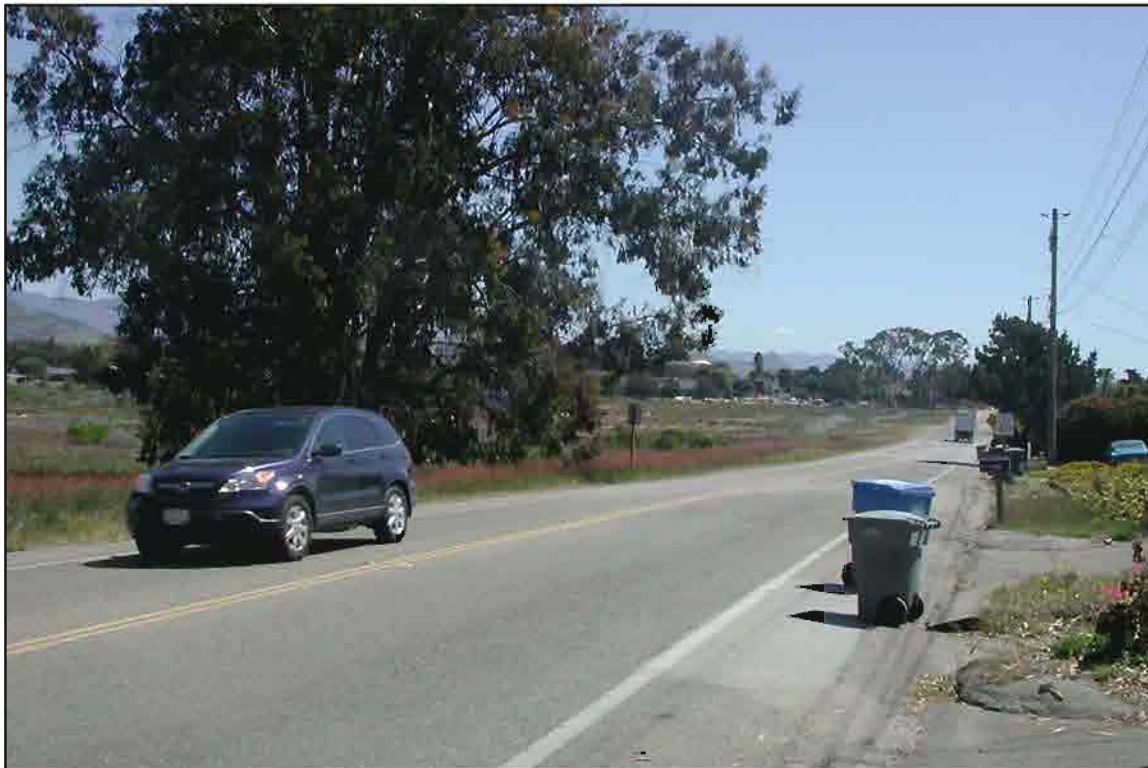


Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_3and4.cdr

## Attachment C Site Photographs 3 and 4





Photograph 5: View of Los Osos Valley Road right-of-way east of its intersection with Broderson Avenue, facing east. The Mid-Town property is depicted in the background center and left behind the large eucalyptus tree.



Photograph 6: View of southeastern portions of the Mid-Town property, facing south.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_5and6.cdr

## Attachment C Site Photographs 5 and 6



Photograph 7: View of disturbed coastal sage scrub within the central portions of the Mid-Town property, facing southwest.



Photograph 8: View of northern portions of the Mid-Town property, facing west.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_7and8.cdr

## Attachment C Site Photographs 7 and 8

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 9: View of Los Osos Valley Road right of way east of its intersection with Ninth Street, facing east.



Photograph 10: View of Los Osos Valley Road right of way at the Los Osos Creek overcross, facing east. Note riparian forest in the central and right portions of the photo.

Source: Michael Brandman Associates, 2008.

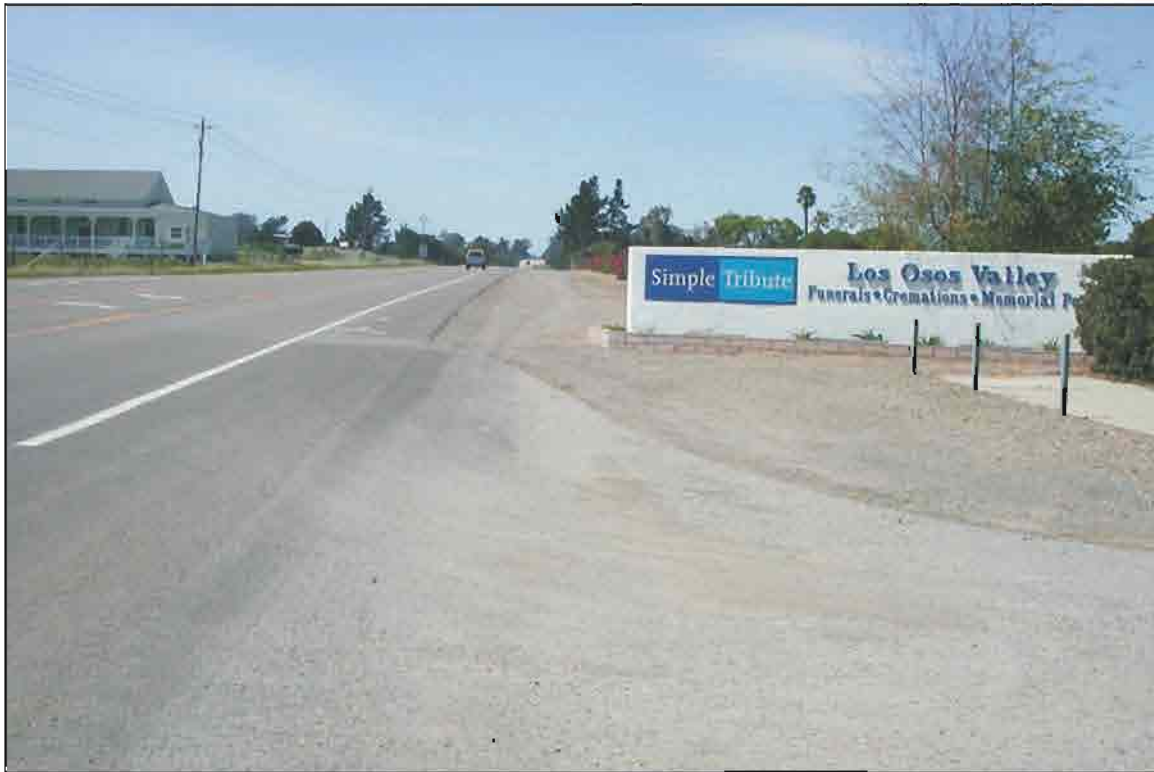


Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_9and10.cdr

## Attachment C Site Photographs 9 and 10

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 11: View of Los Osos Valley Road right-of-way immediately east of its intersection with Clark Valley Road, facing west. Note Cemetery Property entrance depicted in the right of the photo.



Photograph 12: View of eastern portions of the Cemetery property along existing dirt access road, facing south.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_11and12.cdr

## Attachment C Site Photographs 11 and 12



Photograph 13: View of central-eastern portions of the Cemetery property, facing east.



Photograph 14: View of central-western portions of the Cemetery property, facing west.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_13and14.cdr

## Attachment C Site Photographs 13 and 14

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 15: View of ruderal areas within the western portions of the Cemetery property, facing north.



Photograph 16: View of previously cultivated ruderal areas within the central and northeastern portions of the Cemetery property, facing southwest.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_15and16.cdr

## Attachment C Site Photographs 15 and 16

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 17: View of extensive agriculture within the southern portions of the Giacomazzi property, facing west. Note stand of cypress trees in background of photo.



Photograph 18: View of extensive agriculture within the northwestern portions of the Giacomazzi property, facing south. Note stand of cypress trees in background of photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_17and18.cdr

## Attachment C Site Photographs 17 and 18

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 19: View of extensive agriculture within the central portions of the Giacomazzi property, facing southeast.



Photograph 20: View of extensive agriculture within the northern portions of the Giacomazzi property, facing east.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_19and20.cdr

## Attachment C Site Photographs 19 and 20





Photograph 21: View of central coast arroyo willow riparian habitat within the northeastern portions of the Giacomazzi property, facing east. Note freshwater marsh and central coast arroyo willow riparian habitat associated with Warden Lake in the background of photo.



Photograph 22: View of central coast arroyo willow riparian habitat within the northeastern portions of the Giacomazzi property, facing southeast.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

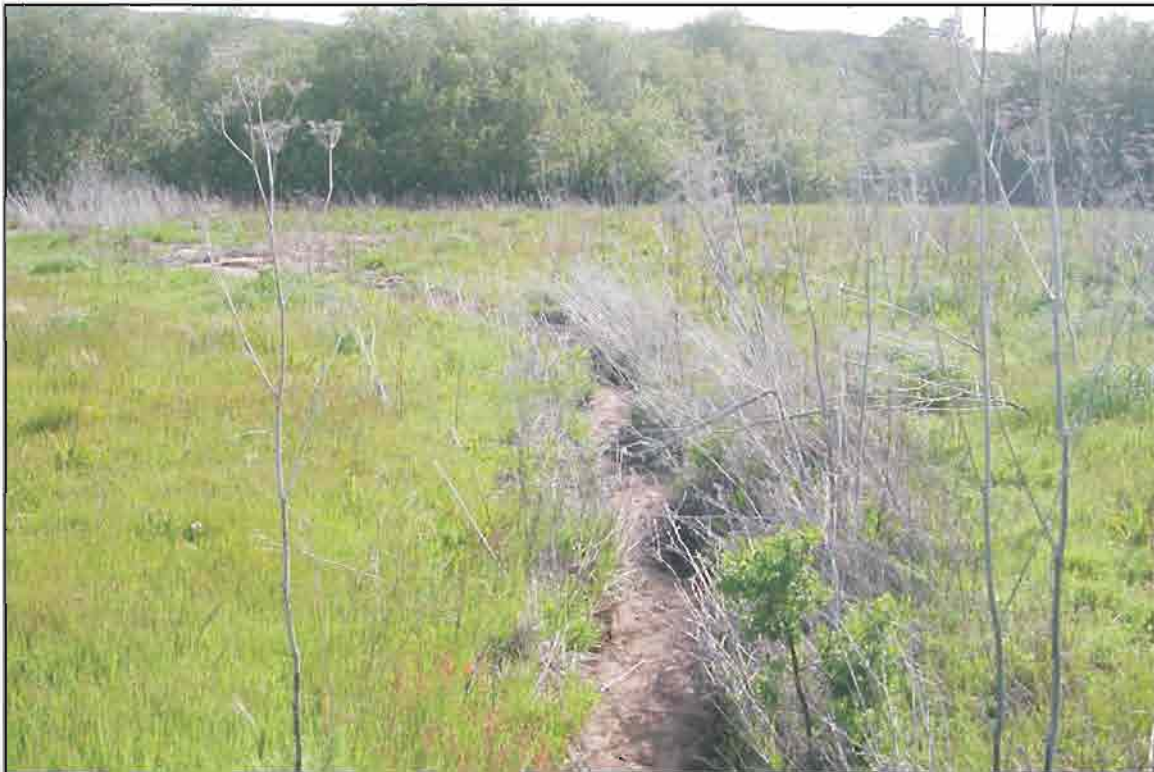
02240002 • 11/2008 | C\_site\_photos\_21and22.cdr

## Attachment C Site Photographs 21 and 22

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 23: View of central Lucian coastal scrub and extensive agriculture within the northeastern portions of the Giacomazzi property, facing southeast. Drainages W-1 and W-2 converge in the left of the photo at the stand of central coast arroyo willow riparian habitat.



Photograph 24: View of extensive agriculture and lower reach of drainage W-1 within the Branin property, facing northeast.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_23and24.cdr

## Attachment C Site Photographs 23 and 24

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 25: View of extensive agriculture within eastern portions of the Branin property, facing northeast. Note Warden Lake in the background.



Photograph 26: View of extensive agriculture within central portions of the Branin property, facing north.

Source: Michael Brandman Associates, 2008.



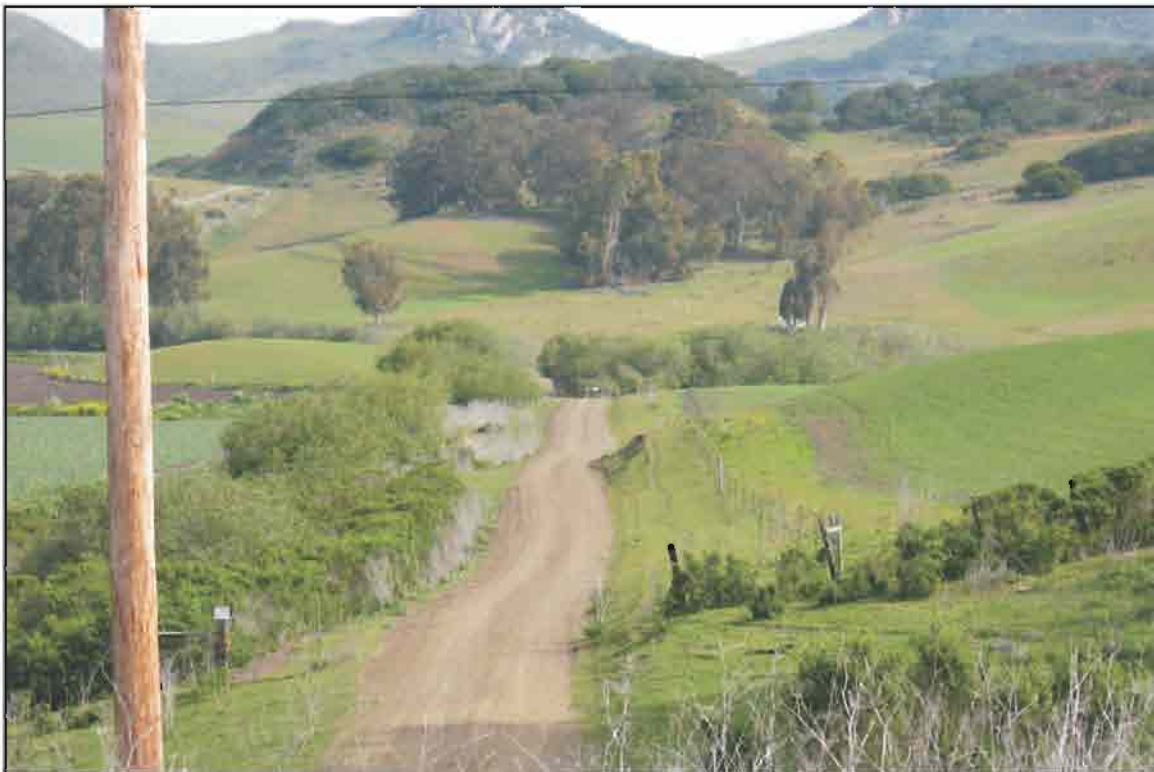
Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_25and26.cdr

## Attachment C Site Photographs 25 and 26



Photograph 27: View of existing corrals and extensive agriculture in central-western portions of the Branin property, facing northeast.



Photograph 28: View of western boundary of the Branin property, facing north. The south-to-north trending access road depicted in the photo terminates at Warden Creek in the central portion of the photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_27and28.cdr

## Attachment C Site Photographs 27 and 28

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 29: View of northern margin of Los Osos Valley Road right-of-way east of Jacaranda Lane, facing west.



Photograph 30: View of northern margin of Los Osos Valley Road right-of-way west of Turri Road, facing east.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_29and30.cdr

## Attachment C Site Photographs 29 and 30

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 31: View of Warden Creek and central coast arroyo willow riparian forest habitat at the Turri Road crossing, facing west.



Photograph 32: View of Warden Creek at the Turri Road crossing, facing east.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_31and32.cdr

## Attachment C Site Photographs 31 and 32

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 33: View of southern boundary of Tonini property and discharge point for drainage T-1, facing north. Note off-highway vehicle disturbance and existing dirt access road disrupting the drainage flow pattern.



Photograph 34: View of entrance to Tonini property and existing driveway, facing west. Note existing two-story house and barn structures in the background, also active agricultural land to the left and right of the photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_33and34.cdr

## Attachment C Site Photographs 33 and 34

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 35: View of upstream reach of drainage T-1b where it enters the northern portions of the Tonini property from Turri Road, facing south.



Photograph 36: View of upstream reach of drainage T-1 where it enters the northern portions of the Tonini property from Turri Road, facing south. Note grazed non-native grassland characterizing the drainage and adjacent uplands.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_35and36.cdr

## Attachment C Site Photographs 35 and 36

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT





Photograph 37: View of western-central portions of the Tonini property, facing north. An upper middle reach of drainage T-1 is depicted in the background. Note actively grazed non-native grassland depicted in the left portions of the photo, and active agricultural land depicted in the right portions of the photo.



Photograph 38: View of active agricultural land, specifically row crops, occupying the central portion of the Tonini property, facing southeast. Note middle reach of drainage T-1 in background and left of photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_37and38.cdr

## Attachment C Site Photographs 37 and 38

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT



Photograph 39: View of middle reach of drainage T-1 at an existing culvert and driveway for the Tonini property, facing upstream and north. Note vernal marsh habitat within the drainage bounded by active agricultural land within the adjacent uplands.



Photograph 40: View of ruderal land within the southwestern portions of the Tonini property, facing northeast.

Source: Michael Brandman Associates, 2008.



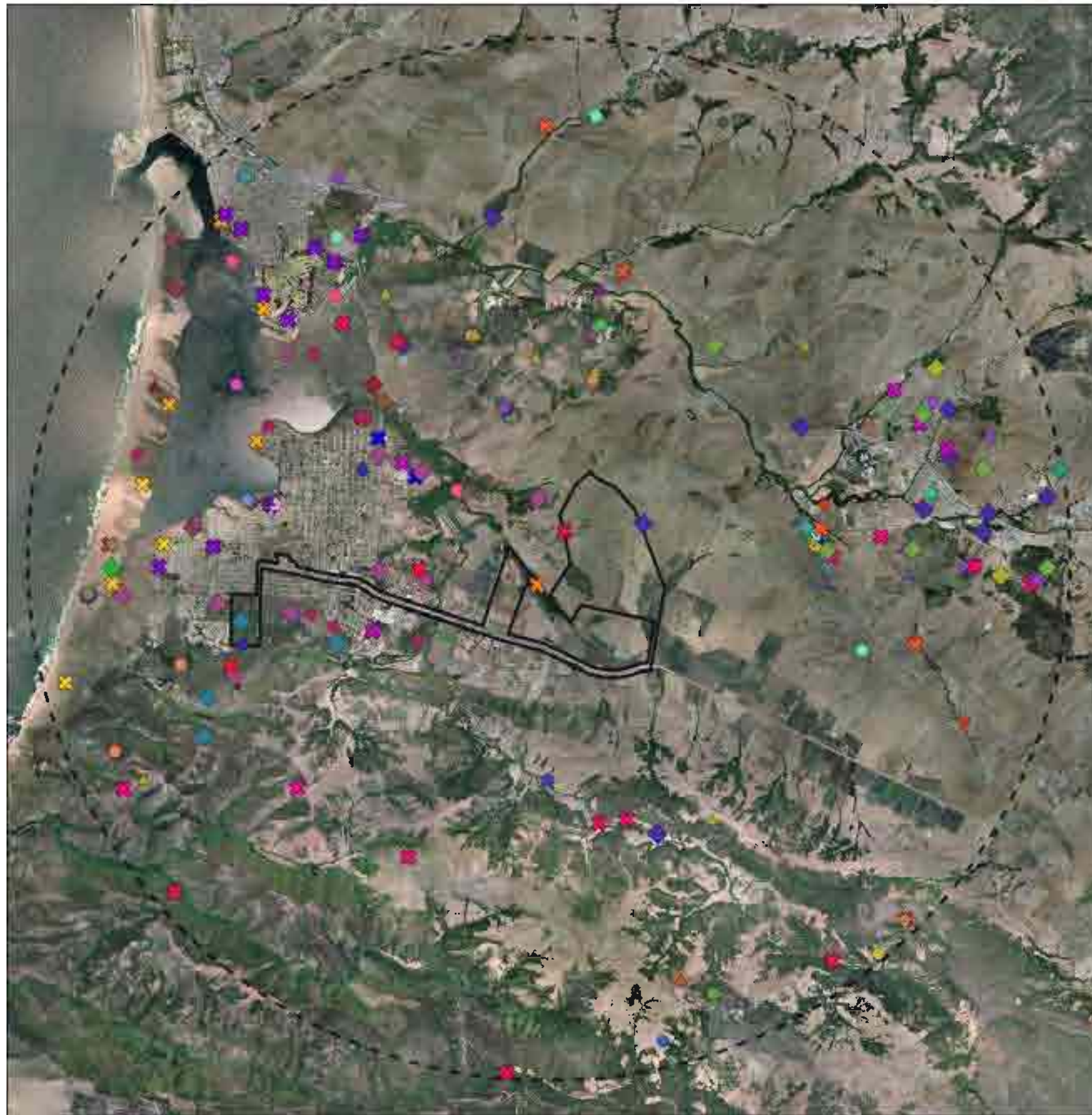
Michael Brandman Associates

02240002 • 11/2008 | C\_site\_photos\_39and40.cdr

## Attachment C Site Photographs 39 and 40

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
BIOLOGICAL RESOURCES ASSESSMENT

## **Attachment D: California Natural Diversity Database Results**



### Legend

Study Area

5 mile CNDDB Buffer

### CNDDB Results

- ▲ Arroyo de la Cruz manzanita
- Betty's dudleya
- ◆ Blochman's dudleya
- ✱ Blochman's leafy daisy
- Brewer's spineflower
- ▲ California black rail
- California clapper rail
- ◆ California red-legged frog
- ✱ California seablite
- Cambria morning-glory
- ▲ Central Dune Scrub
- Central Maritime Chaparral
- ◆ Coastal Brackish Marsh
- ✱ Coastal and Valley Freshwater Marsh
- Congdon's tarplant
- ▲ Cooper's hawk
- Coulter's goldfields
- ◆ Indian Knob mountainbalm
- ✱ Jones' layia
- La Panza mariposa-lily
- ▲ Miles' milk-vetch
- Morro Bay blue butterfly
- ◆ Morro Bay kangaroo rat
- ✱ Morro manzanita
- Morro shoulderband (=banded dune) snail
- ▲ Northern Coastal Salt Marsh
- Oso manzanita
- ◆ Palmer's monardella
- ✱ Pecho manzanita
- San Benito fritillary
- ▲ San Joaquin spearscale
- San Luis Obispo fountain thistle
- ◆ San Luis Obispo monardella
- ✱ San Luis Obispo owl's-clover
- San Luis Obispo pyrg
- ▲ San Luis Obispo sedge
- Santa Lucia manzanita
- ◆ Townsend's big-eared bat
- ✱ Valley Needlegrass Grassland
- Wells' manzanita
- ▲ adobe sanicle
- beach spectaclepod
- ◆ big free-tailed bat
- ✱ coast (California) horned lizard
- dacite manzanita
- ▲ dwarf soaproot
- marsh sandwort
- ◆ mimic tryonia (=California brackishwater snail)
- ✱ monarch butterfly
- most beautiful jewel-flower
- ▲ mouse-gray dudleya
- pallid bat
- ◆ salt marsh bird's-beak
- ✱ silvery legless lizard
- splitting yarn lichen
- ▲ steelhead - south/central California coast ESU
- tidewater goby
- ◆ white-tailed kite

Source: County of San Luis Obispo and Dept. of Fish and Game CNDDB data (July 2008).

## **Attachment E: Regulatory Framework**

## REGULATORY BACKGROUND

### Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

#### Federal Endangered Species Act

The USFWS administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A “threatened” species is a species that is likely to become endangered. A “proposed” species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

ESA §9 prohibits “take” of threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in “take” of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

#### California Endangered Species Act

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an “endangered” species one whose prospects of survival and reproduction are in immediate jeopardy. A “threatened” species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A “rare” species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term “species of special concern” is an informal designation used by CDFG for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

### **California Native Plant Society**

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed an inventory of California's sensitive plant species. This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

### **Migratory Bird Treaty Act**

The MBTA protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

### **California Fish and Game Code - §3503 and §3511**

The California Department of Fish and Game (CDFG) administers the CFG Code. There are particular sections of the CFG Code that are applicable to natural resource management. For example, §3503 of the CFG Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. CFG Code §3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests from any form of take. CFG Code §3511 lists fully protected bird species where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

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## **Jurisdictional Waters and Wetlands**

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Impacts to natural drainage features and wetland areas are regulated by the USACE, Regional Water Quality Control Board (RWQCB), and CDFG based upon the policies and regulations discussed below.

### **United States Army Corp of Engineers Regulations**

#### **Federal Clean Water Act - §404**

The USACE administers §404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the U.S. USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S., if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary

authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

### **Waters of the United States**

Waters of the U.S., as defined in the Code of Federal Regulations (CFR) §328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand-flats, natural ponds, wetlands, wet meadows, and other aquatic habitats. Frequently, waters of the U.S., with at least intermittently flowing water or tidal influences, are demarcated by an ordinary high water mark (OHWM). The OHWM is defined in CFR §328.3(e) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. In this region, the OHWM is typically indicated by the presence of an incised streambed with defined bank shelving.

In June 2001, the USACE South Pacific Division has issued *Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest*. The purpose of this document was to provide background information concerning physical characteristics of dryland drainage systems. These guidelines were reviewed and used to identify jurisdictional drainage features within the study area.

### **Wetlands**

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation)
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils)
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology)

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. As a result of the 2001 Solid Waste Agency of North Cook County (SWANCC) case, a wetland must show connectivity to a stream course in order for such a feature to be considered jurisdictional. Although wetland criteria was used to identify if areas were considered wetlands, the exact limits of jurisdiction were not measured based on the standard wetland delineation protocol as described in the 1987 USACE manual.



### **United States Army Corp of Engineers Regulated Activities**

The USACE regulates the discharge of dredged or fill material including, but not limited to, grading, placing of rip-rap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. Activities that generally do not involve a regulated discharge, if performed specifically in a manner to avoid discharges, include driving pilings, drainage channel maintenance, temporary mining and farm/forest roads, and excavating without stockpiling.

### **Regional Water Quality Control Board Regulations**

#### **Clean Water Act - §401**

Per §401 of the CWA, “any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a §404 permit, applicants must apply for and receive a §401 water quality certification from the RWQCB.

#### **Porter-Cologne Water Quality Act**

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (water code §13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (water code §13050 (e)).

### **Regional Water Quality Control Board Regulated Activities**

Under §401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

### **California Department of Fish and Game Regulations**

#### **California Fish and Game Code - §1600 to §16003**

The CFG Code mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit

evidence of an OHWM to be claimed as jurisdiction. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

### **California Department of Fish and Game Regulated Activities**

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources.

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### **California Coastal Commission**

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The mission of the California Coastal Commission is to protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations. The Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, broadly defined by the California Coastal Act of 1976 to include, among others, construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The community of Los Osos utilizes the San Luis Obispo County Local Coastal Program (LCP) as a planning tool to guide development in the coastal zone, in partnership with the California Coastal Commission. The LCP contains the ground rules for future development and the protection of coastal resources. The elements of the General Plan include the LCP, which applies to those areas within the Coastal Zone. For the purposes of preparing the LCP, the County is divided into four segments. Los Osos is located within the region covered by the Estero Area Plan.

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### **San Luis Obispo County General Plan**

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The San Luis Obispo County General Plan (General Plan) outlines the development goals of the county and provides a basis for government decision making, as well as for informing the public about the rules that guide development within the county. The County Plan includes both ordinances and elements.

The general breakdown of sections of the General Plan that are relevant to the discussion of surface water quality and drainage is as follows:

- General Plan
  - Ordinances
    - Land Use Ordinances
  - Elements
    - Land Use Elements
      - Local Coastal Plan
      - Land Use Element (LUE)

Coastal Zone Land Use Ordinance (CZLUO)  
Estero Area Plan  
Coastal Plan Policies

A brief discussion of relevant sections follows.

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## Land Use Ordinances

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Land use ordinances contain standards for development based on what the effects of an action or project will be on specific land uses. Specific ordinances relevant to a discussion of biological resources include:

Title 22 - Land Use Ordinance (revised in 2008)

Title 23 - Coastal Zone Land Use Ordinance (CZLUO) (revised in January, 2006)

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## Elements

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Land use elements serve as a statement of County land use policies and intentions regarding future growth. They also serve as a guide for daily decisions regarding land use. The elements within the General Plan address components such as Land Use, Conservation, and Open Space. Some elements are required to be included in the plan, whereas state law also allows the adoption of additional elements. These are selected based on their appropriateness to local conditions.

### **San Luis Obispo Coastal Zone Land Use Ordinance**

The County assumes permit authority in the Coastal Zone based on the adopted and certified Coastal Zone Land Use Element (CZLUE) and the Coastal Zone Land Use Ordinance (CZLUO). The CZLUO provides policy protecting categorical sensitive biological resources that include; Sensitive Resource Areas (SRAs) and Environmentally Sensitive Habitat Areas (ESHAs); Wetlands, Streams, and Riparian Vegetation; Terrestrial Habitat Protection; and Mature Trees. These areas are high-priority areas for preservation and developments requiring a land use permit within or adjacent to these areas are subject to Section 23.07.160 - Section 23.07.176 of the CZLUO.

### **Sensitive Resource Areas (SRAs) and Environmentally Sensitive Habitat Areas (ESHAs)**

SRAs are subject to the provisions of Sections 23.07.160 - Section 23.07.166 of the CZLUO. The CZLUE and CZLUO combining designations for SRAs are applied by the official maps of the Land Use Element of the Estero Area Plan Update to identify areas “with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources.”

ESHAs are subject to the provisions of Section 23.07.170 of the CZLUO. According to the CZLUO, an ESHA is a “type of SRA where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed

or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations.”

### **Wetlands, Streams, and Riparian Vegetation**

Wetlands, streams, and riparian vegetation are subject to the provisions of Section 23.07.172 - Section 23.07.174 of the CZLUO. Provisions protecting wetlands are intended “to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands.” Provisions protecting streams and riparian vegetation are intended “to preserve and protect the natural hydrological system and ecological functions of coastal streams.”

### **Terrestrial Habitat Protection**

Terrestrial habitat containing sensitive resources is subject to the provisions of Section 23.07.176 of the CZLUO. Provisions protecting terrestrial habitats are intended “to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitats. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal.”

### **Tree Removal**

Tree removal is subject to the provisions of Sections 23.05.060 - 23.05.064 of the CZLUO. The purpose of tree removal standards is “to protect existing trees and other coastal vegetation from indiscriminate or unnecessary removal consistent with Local Coastal Plan policies and pursuant to Section 30251 of the Coastal Act which requires protection of scenic and visual qualities of coastal trees. “

### **Local Coastal Plan**

The community of Los Osos utilizes the San Luis Obispo County Local Coastal Program (LCP) as a planning tool to guide development in the coastal zone, in partnership with the CCC. The LCP contains the ground rules for future development and the protection of coastal resources.

The elements of the General Plan include the LCP, which applies to those areas within the Coastal Zone. For the purposes of preparing the LCP, the County is divided into four segments. Los Osos is located within the region covered by the Estero Area Plan.

### **Estero Area Plan**

Information regarding drainage that is included in the Estero Area Plan is addressed above under the section titled “Local Flooding.”

### **Coastal Plan Policies**

The County of San Luis Obispo Coastal Plan Policies, which forms part of the San Luis Obispo County Land Use Element of the General Plan (revised April, 2007), addresses Environmentally Sensitive Habitats in Chapter 6.

## **Attachment F: California Red-Legged Frog Protocol Survey Report**

**California Red-Legged Frog Protocol Survey Report**  
**Los Osos Wastewater Project**  
**Unincorporated San Luis Obispo County, California**

Morro Bay South and San Luis Obispo, California  
USGS 7.5-minute Topographic Quadrangle Maps  
Un-Sectioned, Township 30 South, Range 11 East

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July 27, 2008

**TABLE OF CONTENTS**

**Section 1: Summary..... 1**

**Section 2: Introduction ..... 2**  
2.1 - Project Location ..... 2

**Section 3: Target Species Biology ..... 6**  
3.1 - California Red-Legged Frog..... 6

**Section 4: Methodology..... 7**  
4.1 - Literature Review ..... 7  
4.2 - Protocol Survey..... 7  
4.2.1 - Survey Area..... 8

**Section 5: Protocol Survey Results ..... 10**  
5.1 - California Red-Legged Frog Protocol Survey ..... 10

**Section 6: Recommendations ..... 15**  
6.1 - Recommended Measures for California Red-Legged Frog ..... 15  
6.1.1 - Wildlife Agency Consultation..... 15  
6.1.2 - Pre-Construction Measures..... 15  
6.1.3 - Construction Measures ..... 15  
6.1.4 - Post-Construction Measures ..... 16

**Section 7: References..... 17**

**Attachment A: Site Photographs**

**Attachment B: California Natural Diversity Database Map**

**Attachment C: California Red-Legged Frog Survey Data Sheets**

**LIST OF TABLES**

Table 1: CRLF Protocol Survey Data..... 10

**LIST OF EXHIBITS**

Exhibit 1: Regional Location Map..... 3

Exhibit 2: Local Vicinity Map Topographic Base ..... 4

Exhibit 3: Local Vicinity Map Aerial Base ..... 5

Exhibit 4: Survey Area Map..... 9

Exhibit 5: California Red-Legged Frog Occupied Habitat Map ..... 13



## SECTION 1: SUMMARY

This report contains the results of California red-legged frog protocol surveys conducted by Michael Brandman Associates (MBA) on May 20 and May 21, 2008 for the Los Osos Wastewater Project (LOWWP). The study area for the LOWWP includes portions of the community of Los Osos and other unincorporated lands within western San Luis Obispo County, California. The study area is located within the Morro Bay South and San Luis Obispo, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. Habitat assessment surveys conducted by MBA on April 8, 9, 23, and 24, 2008 determined the need to conduct protocol surveys for the California red-legged frog (*Rana aurora draytonii*) at two locations within the study area, including two drainage features and their tributaries that traverse Assessor's Parcel Number (APN) 067-031-001, herein referred to as the Tonini property, and portions of Warden Creek that cross Turri Road.

During protocol surveys for the California red-legged frog (CRLF) on May 20 and 21, 2008, CRLF species was detected within a single drainage feature on the Tonini property. Nine CRLFs were observed during the protocol surveys in three pooling localities within a drainage feature that is herein referred to as Drainage T-1. A single adult CRLF was observed during daytime and nighttime protocol surveys in an ephemeral pool (Pool 1) located within an upper reach of Drainage T-1. Seven CRLF tadpoles were observed during daytime surveys in a plunge-pool (Pool 2) located within a middle reach of Drainage T-1. A single adult CRLF was observed during daytime surveys in a standing pool (Pool 3) located within a lower reach of Drainage T-1. All of the CRLFs observed were occupying pools characterized by vernal marsh habitat. Recommendations are provided for avoidance of occupied habitat during the preconstruction, construction, and operation phases of any forthcoming project within the study area.

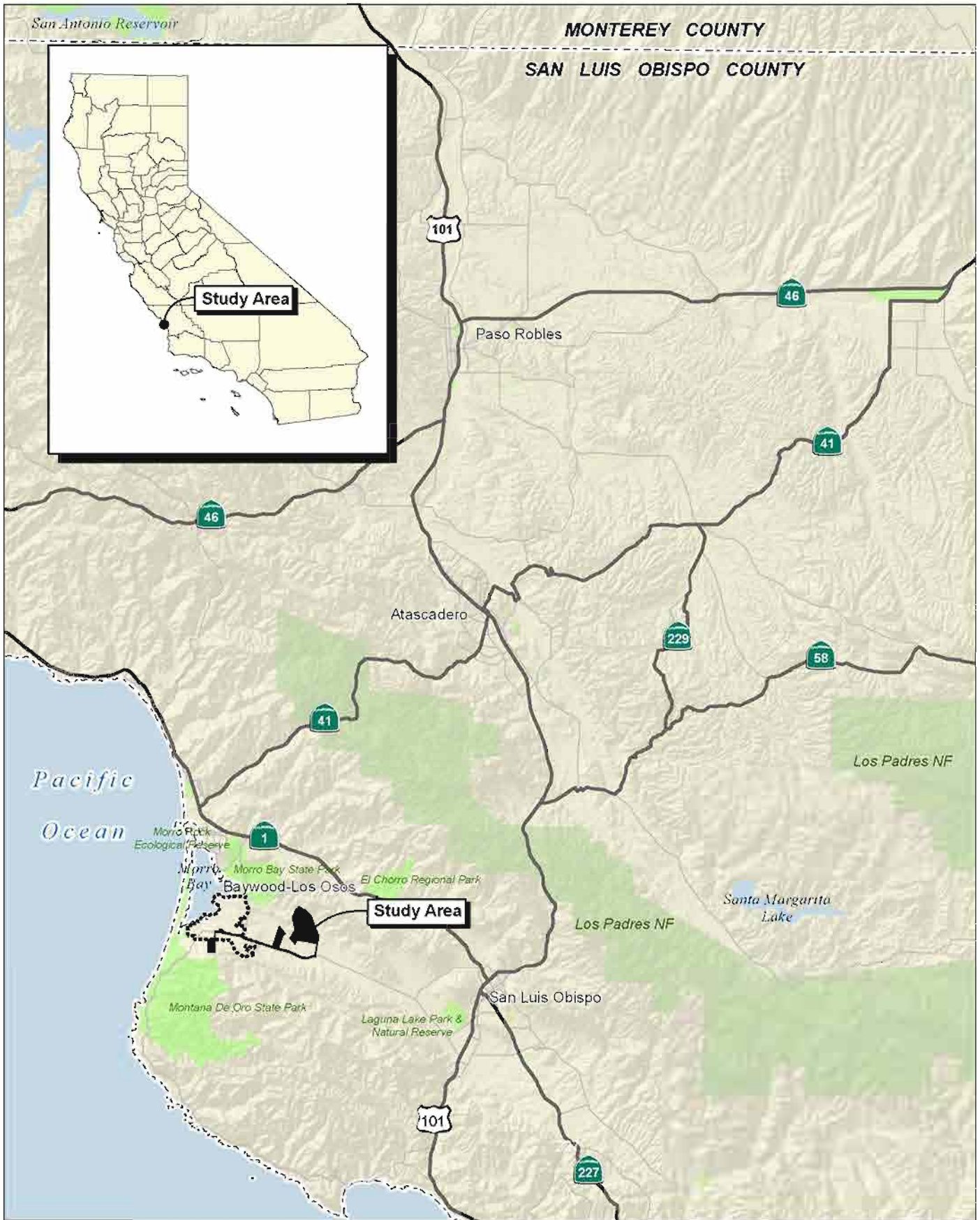
## SECTION 2: INTRODUCTION

The following report documents the results of the 2008 CRLF protocol surveys for the LOWWP located in unincorporated San Luis Obispo County, California. The objective of the protocol surveys were to determine the presence/absence and distribution of CRLF and provide recommendations for any forthcoming project within the study area.

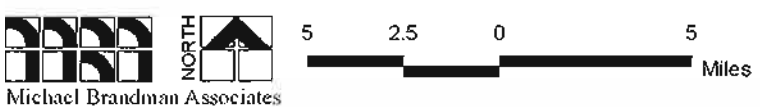
### 2.1 - Project Location

The study area for the LOWWP generally includes portions of the community of Los Osos, Los Osos Valley Road, and properties located east of the community of Los Osos within unincorporated San Luis Obispo County, California (Exhibit 1). The proposed project consists of a series of components which linked together provide a complete wastewater treatment facility with a pipeline collection system for sewage, a treatment plant, an effluent disposal pipeline system, and effluent disposal sites. The area that will encompass the proposed project is depicted in unsectioned portions of Township 30 South, Range 11 East on the Morro Bay South and San Luis Obispo, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Exhibit 2).

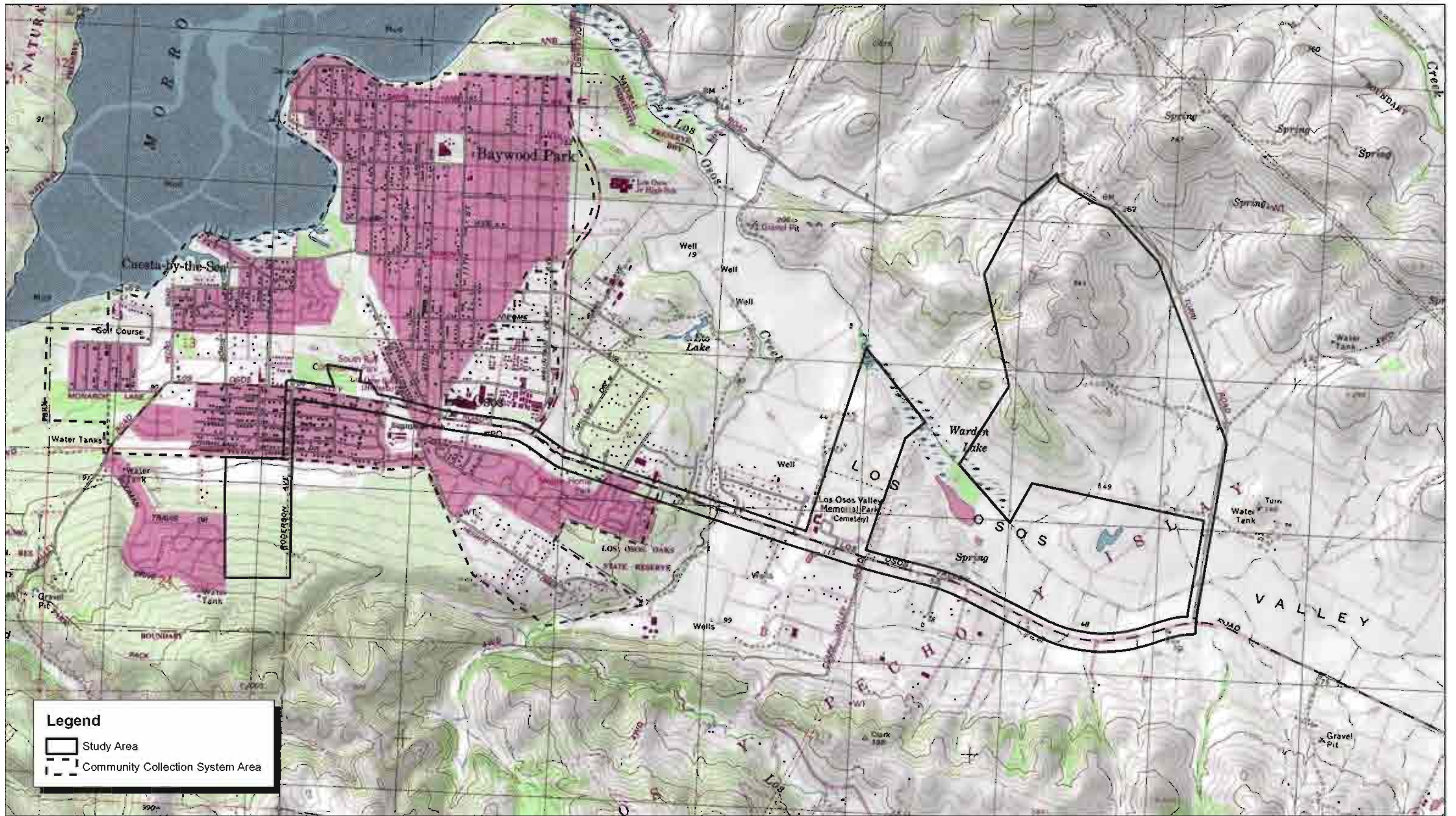
The study area includes all or portions of six parcels that are herein referred to as the Broderson, Mid-town, Cemetery, Giacomazzi, Branin, and Tonini properties (Exhibit 3). Suitable habitat for the CRLF was determined to exist in the eastern portions of the survey area, specifically within the Tonini property (APN 067-031-001) and portions of Warden Creek that occur at the Turri Road crossing. Protocol surveys for the CRLF were directed within these areas. Additional suitable habitat exists within Warden Lake (Warden Creek wetland), however these areas were not surveyed due to restricted access and proximity well outside from any developments associated with the proposed project. No portions of the study area occur within USFWS-designated critical habitat for the California red-legged frog.



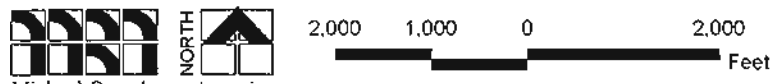
Source: Census 2000 Data, The CaSIL, MBA GIS 2008.



## Exhibit 1 Regional Location Map



Source: TOPO! USGS Morro Bay South (2002) 7.5' DRG.



Michael Brandman Associates  
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Exhibit 2

Local Vicinity Map  
Topographic Base

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
CALIFORNIA RED-LEGGED FROG PROTOCOL SURVEY REPORT



Source: AirPhoto USA and San Luis Obispo County GIS.

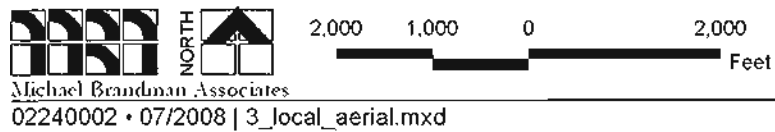


Exhibit 3  
Local Vicinity Map  
Aerial Base

## SECTION 3: TARGET SPECIES BIOLOGY

### 3.1 - California Red-Legged Frog

The California red-legged frog, is a federally threatened species and California State species of special concern. The CRLF is a relatively large aquatic frog ranging from 4 to 13 centimeters (1.5 to 5 inches) from the tip of the snout to the vent. From above, the CRLF can appear brown, gray, olive, red or orange, often with a pattern of dark flecks or spots. The skin usually does not look rough or warty. The back of the CRLF is bordered on either side by an often prominent dorsolateral fold of skin running from the eye to the hip. The hind legs are well-developed with large webbed feet. A cream, white, or orange stripe usually extends along the upper lip from beneath the eye to the rear of the jaw. The undersides of adult CRLF are white, usually with patches of bright red or orange on the abdomen and hind legs. The groin area can show a bold black mottling with a white or yellow background.

The California red-legged frog is generally distributed along the coast and coastal mountain ranges of California from Humboldt County to San Diego County, and in mid-elevations above 1,000 feet in the Sierra Nevada from Butte County to Fresno County. Breeding habitat for the CRLF species may consist of coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Summer habitat for CRLF includes areas close to deep pools in creeks or ponds that support emergent vegetation, undercut banks, or semi-submerged rootballs that provide refuge. Small mammal burrows and other refugia up to 100 meters away from water sources may be used in the summer. Upland habitat used by CRLF may include grasslands that support seeps and springs for foraging and dispersal.

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## SECTION 4: METHODOLOGY

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### 4.1 - Literature Review

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Prior to conducting protocol surveys, a literature review was conducted to obtain background information and resources pertinent to the survey effort. The literature review began with a thorough review of aerial imagery of the study area and vicinity, as well as the topographic electronic and hard copies of the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations. Mapping sources used for the effort also included online interactive mapping tools provided by Google Earth and Google Maps Pedometer.

Data on previous observations of the target species that have been recorded in the vicinity of the study area was compiled from the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDDB), a sensitive species and plant community account database. MBA conducted a query of the CNDDDB records based on a 5-mile radius surrounding the study area that included the Morro Bay South and San Luis Obispo, California USGS 7.5-minute topographic quadrangle maps. The CNDDDB Geographical Information Systems (GIS) database was also used, together with ArcGIS software, to confirm and map the locations of CNDDDB records. A map of all previous observations recorded by the CNDDDB within one mile of the study area is provided in Attachment B.

The literature review also included research of existing data and documents pertaining to the target species, including federal register listings, protocol survey guidelines, and species data provided by the United States Fish and Wildlife Service (USFWS), and CDFG. Other documents reviewed for the effort include the Biological Resources Assessment for the Los Osos Wastewater Project (MBA 2008b) and the Delineation of Jurisdictional Waters and Wetlands for the Los Osos Wastewater Project (MBA 2008c). These and other references are provided in Section 7.

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### 4.2 - Protocol Survey

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Qualified MBA biologists T'Shaka Touré and Karl Osmundson conducted daytime and nighttime protocol surveys for the CRLF on May 20 and 21, 2008, according to the protocol provided by the USFWS in the Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog (USFWS 2005). The objective of the protocol surveys were to determine the presence/absence and distribution of CRLF within the survey area, and provide recommendations for any forthcoming project.

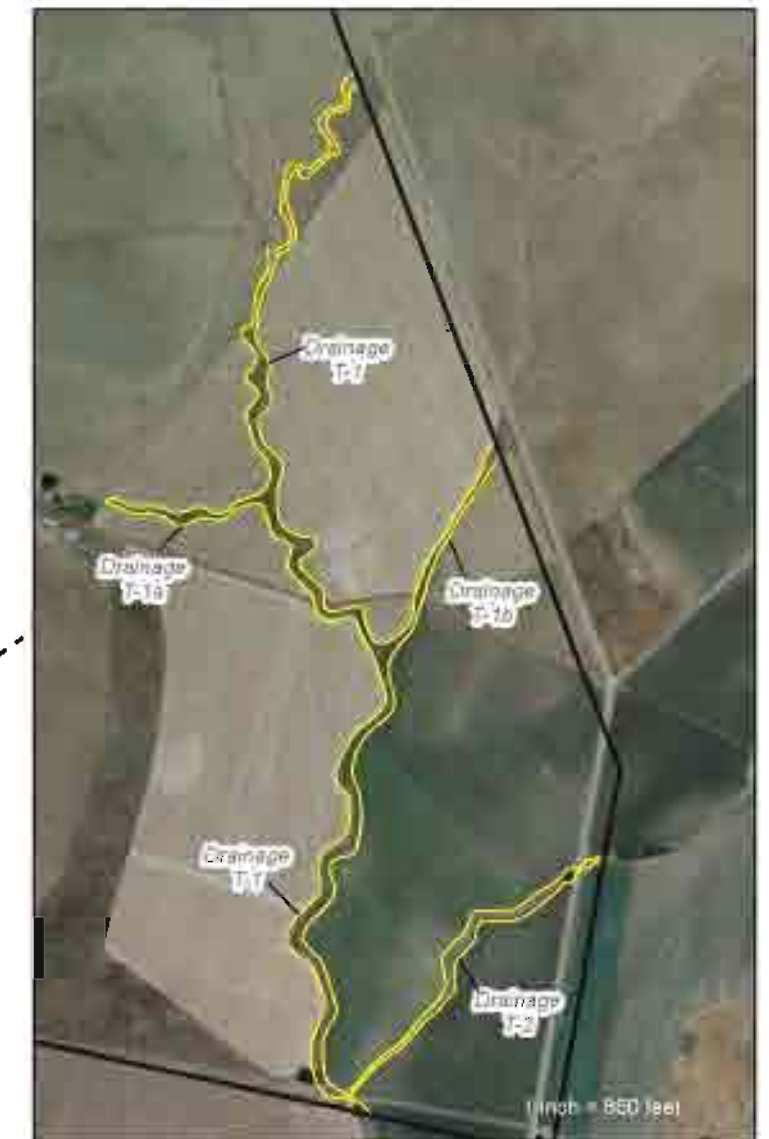
All protocol surveys were conducted on foot and included 100 percent coverage over the entire survey area, as discussed below. This included a minimum distance of 500 feet upstream and

downstream from all suitable habitat that may be affected by the proposed project. All potentially suitable habitats were surveyed during appropriate daytime and nighttime hours. Qualified MBA biologists meticulously walked and inspected all drainage features and ponding areas containing wetland, marsh, or riparian habitats, and all other aquatic and/or upland habitat that was determined suitable habitat for CRLF. The air and water temperatures were recorded for each reach of the survey area. Binoculars (10 X 50) and flashlights (< 100,000 candlepower) were used during the field surveys to detect for the presence/absence of CRLF.

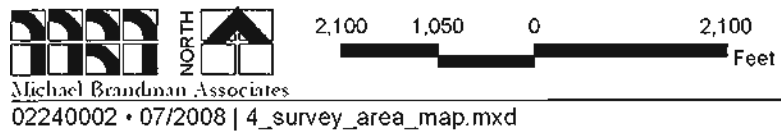
#### **4.2.1 - Survey Area**

The survey area for the CRLF protocol surveys includes two unnamed drainage features and associated tributaries on the Tonini property and a short reach of Warden Creek (Exhibit 4). The two main drainage features on the Tonini property are herein referred to as T-1 and T-2, with tributaries to T-1 referred to as T-1a and T-1b. These drainage features generally flow north to south and east to west, and encompass a significant portion of the hydrology regime associated with the tributary valley that supports the property. T-1 and T-2 converge at the southern boundary of the Tonini property and continue as a single feature (T-1) exiting the property and continuing further to the southeast into Warden Creek. Drainage T-1 supports vernal marsh habitat that is suitable for CRLF, and the upper reach of Drainage T-2 and relevant reach of Warden Creek support central coast arroyo willow riparian forest habitat that is suitable for CRLF. Drainage T-1a and T-1b are primarily disturbed erosion features characterized by upland vegetation. No portions of Drainage T-1a or T-1b were determined to contain suitable habitat for CRLF.





Source: AirPhoto USA and San Luis Obispo County GIS. MBA Survey Data, 2008.



## Exhibit 4 Survey Area Map

## SECTION 5: PROTOCOL SURVEY RESULTS

### 5.1 - California Red-Legged Frog Protocol Survey

A total of nine CRLF individuals, including two adults and seven tadpoles, were observed within three separate pools (Pool 1, Pool 2, and Pool 3) that occur within Drainage T-1 on the Tonini property (Exhibit 5). All of the occupied areas within Drainage T-1 are characterized by vernal marsh habitat that supported saturated conditions and/or standing water during the survey. No CRLFs were observed within the upland vegetation and habitat in Drainage T-1a and Drainage T-1b during the protocol survey effort. Similarly, no CRLFs were observed within the arroyo willow riparian habitat in the upper reach of Drainage T-2 or the relevant reach of Warden Creek. Additionally, no bullfrogs (*Lithobates catesbeianus*), African clawed frogs (*Xenopus leavis*), or fish species were observed or otherwise detected during the protocol survey.

Table 1 below provides a summary of the protocol survey results.

**Table 1: CRLF Protocol Survey Data**

Survey Date	Observers	Survey Type	Time	Air / Water Temp (Avg. °F)	Weather	CRLF Observed	Location of CRLF Observation
05/20/08	TT/KO	Day	1545 to 1900	61°F / 64°F	Clear skies	Yes: 1 Adult	Drainage T-1: Pool 1
05/20/08	TT/KO	Night	2045 to 2300	54°F / 59°F	Clear skies	Yes: 1 Adult	Drainage T-1: Pool 1
05/21/08	TT/KO	Day	0900 to 1245	63°F / 69°F	Clear skies	Yes: 7 Tadpoles 1 Adult	Drainage T-1: Pool 2 Pool 3
Legend: TT = T'Shaka Touré                      KO = Karl Osmundson							

Although the central arroyo riparian forest habitats located within Drainage T-2 and Warden Creek at the Turri Road crossing provide suitable habitat for CRLF, this species was not observed or otherwise detected within these portions of the survey area. Possible explanations for the negative findings in these areas may include their proximity to Turri Road and associated disturbances and/or susceptibility to predators. Additionally, the habitat occurring within these areas was relatively sparse and contained evidence of disturbance from bridge and culvert developments, and agricultural activities from the adjacent upland areas.

Occupied habitat for the CRLF was determined to be restricted to three concentrated areas within an approximately 2,600 linear-foot reach of Drainage T-1. Drainage T-1 is characterized by a contiguous stand of vernal marsh habitat that includes a number of isolated pools that have developed

within the banks of separate bends and runs throughout the drainage. Overall, the vernal marsh habitat within the relevant reach of Drainage T-1 provides good quality breeding habitat for the CRLF, including adequate vegetative composition, cover, density, and long-lived water resources that are required for CRLF. Vegetation is moderately dense and comprised primarily of spikerush (*Eleocharis macrostachya*) and herbaceous annual grasses and forbs. Isolated areas support deeper pools and extended period of saturation that have given rise to taller emergent herbaceous species such as hard-stem bullrush (*Scirpus acutus*). The water source for Drainage T-1 is combination of natural sources and unnatural sources associated with irrigation of the adjacent agricultural land. Active irrigation systems were observed within the uplands adjacent to the upper reach of Drainage T-1. These areas were being utilized for the cultivation of peas. Additionally, the low elevations that define the area suggest that groundwater influence may also promote saturation conditions for extended periods of time lending suitability for CRLF's habitat requirements. Attachment A provides photographs of the observed CRLF individuals and locations of occupied habitat within the survey area.

The following includes a discussion of target species observations and overall habitat suitability within Pool 1, Pool 2, and Pool 3 located in the relevant reach Drainage T-1.

#### **Pool 1 (Drainage T-1: Vernal Marsh Habitat)**

A single adult CRLF was observed repeatedly within Pool 1 during both the daytime and nighttime protocol surveys conducted on May 20 and 21, 2008 (see Attachment A, Photographs 1 to 4, and Photograph 8). Pool 1 is described as a small shallow ephemeral pool located within a run section of the upper reach of Drainage T-1 (Exhibit 5). At the time of the survey, Pool 1 was approximately 48 square feet in dimension (4 feet wide x 12 feet long) with an average depth of approximately 1.5 feet. Air temperatures and water temperatures recorded at Pool 1 during the daytime survey were 61°F and 64°F, respectively. Air temperatures and water temperatures recorded at Pool 1 during the nighttime survey were 54°F and 59°F, respectively. At the time of the survey, the pool occurred intermittent to good quality vernal marsh vegetation to the immediate upstream and downstream, and was characterized primarily by bare alluvial soil and a large boulder within its western bank.

#### **Pool 2 (Drainage T-1: Vernal Marsh Habitat)**

Seven CRLF larvae (tadpoles) were observed during daytime protocol surveys conducted on May 21, 2008 (Attachment A, Photograph 5). Pool 2 is described as a plunge pool located within a run section of the middle reach of Drainage T-1 (Exhibit 5). At the time of the survey, Pool 2 was the deepest pool observed within the survey area for the effort with dimensions of approximately 396 square feet (22 feet wide by 18 feet long) and an average depth of approximately 6 feet. Air temperatures and water temperatures recorded at Pool 2 during the daytime survey were 61°F and 65°F, respectively. Air temperatures and water temperatures recorded at Pool 2 during the nighttime survey were 54°F and 61°F, respectively. Pool 2 serves as an incised headwater section for a relatively long reach of Drainage T-1 that supported standing water and/or saturated conditions. The pool appeared to be

associated with one of many sinkholes within the stream course of which standing water remains for extended periods of time. The adjacent stream banks that support Pool 2



Source: AirPhoto USA and San Luis Obispo County GIS. MBA Survey Data, 2008.



Exhibit 5  
California Red-Legged Frog Occupied Habitat Map

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
CALIFORNIA RED-LEGGED FROG PROTOCOL SURVEY REPORT

are deeply incised and steep, lending little opportunity for accessing the pool from the adjacent upland areas. No emergent vegetation was observed in Pool 2 during the survey, however good quality vernal marsh habitat was observed in the drainage section immediately downstream.

### **Pool 3 (Drainage T-1: Vernal Marsh Habitat)**

A single adult CRLF was observed within Pool 3 during daytime protocol surveys conducted on May 21, 2008 (see Attachment A, Photograph 7). Pool 3 is described as a long linear-shaped ephemeral pool located within a run and bend section of the lower reach of Drainage T-1 (Exhibit 5). At the time of the survey, Pool 3 was approximately 264 square feet in dimension (22 feet wide by 12 feet long) with an average depth of approximately 4 feet. Air temperatures and water temperatures recorded at Pool 3 during the daytime survey were 61°F and 64°F, respectively. Pool 3 contains a number of good quality habitat suitability elements for CRLF. Most notably, the pool is relatively large and supports adequate depths and an abundance of emergent and aquatic vegetation that provide ideal refuge for CRLF. The margins of Pool 3 contained mats of coontail (*Ceratophyllum demersum*) that integrate with emergent spikerush, hard-stem bulrush, and cattail (*Typha* sp.). Moist terraces containing dense vegetation also exist to either side of the pool and the drainage channel.

## **SECTION 6: RECOMMENDATIONS**

California red-legged frog protocol surveys have been completed for the LOWWP in accordance with USFWS guidance on conducting site assessments and surveys and pursuant to the federal Endangered Species Act (ESA). Nine California red-legged frog individuals, including two adults and seven tadpoles, were confirmed present within a large drainage feature on the Tonini property in the eastern portions of the project study area.

In order to avoid potential impacts to the CRLF as a result of any forthcoming development of the survey area or immediate vicinity, the following recommendations are made.

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### **6.1 - Recommended Measures for California Red-Legged Frog**

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#### **6.1.1 - Wildlife Agency Consultation**

For any proposed action which may result in potential take of a listed species and its habitat, the project would be required to enter into formal consultation with the USFWS pursuant to Section 7 and Section 10 of the federal ESA. A Biological Opinion (BO) would be prepared by the USFWS. Pending the determinations made by the USFWS in their BO, the proposed project will be required to fulfill all mitigation obligations and conservation measures conditioned in the BO regarding federally-listed species and their habitat. This will include preconstruction surveys and avoidance measures, and compensatory mitigation for loss of occupied habitat to be incorporated and implemented prior to project development.

#### **6.1.2 - Pre-Construction Measures**

A pre-construction survey shall be conducted immediately preceding any construction activity that occurs in CRLF habitat or an activity that may result in take of the species. A qualified and experienced biologist familiar with identifications, detections, and recognition of CRLF and other sensitive amphibians shall carefully search all obvious potential hiding spots for CRLF and the perimeter of any aquatic habitat. In the event a CRLF is found during the pre-construction survey, the biologist shall establish a 250-foot buffer away from the CRLF to avoid any potential impact to the species. The biological monitor shall remain at the construction site for the duration of the construction activities.

#### **6.1.3 - Construction Measures**

Construction within and near the drainages should be conducted during the dry season between May 1 and October 15. If construction activities are to occur outside of the dry season, a qualified biologist familiar with identifications, detections, and recognition of CRLF and other sensitive amphibians shall be present during the construction activities. The biological monitor shall coordinate with the USFWS during construction activities occurring outside of the dry season.

An erosion and sediment control plan shall be implemented to prevent impacts outside of the project construction area. Tightly woven natural fiber netting or similar material shall be used for erosion control or other purposes at the project site to ensure that CRLF's are not trapped. No plastic monofilament matting shall be used for erosion control.

Access routes to the construction area and the size of staging and work areas shall be clearly delineated and limited to the minimum necessary to achieve the project goals. Routes and boundaries of the access roads will be clearly marked prior to initiating construction/grading.

All food and food-related trash will be enclosed in sealed trash containers at the end of each workday and removed completely from the construction site daily.

No pets will be allowed on the construction site.

A speed limit of 15 mph on dirt roads shall be maintained.

All equipment shall be maintained such that there will be no leaks of automotive fluids such as fuels, oils, and solvents. Any fuel or oil leaks will be cleaned up immediately and disposed of properly. Hazardous materials such as fuels, oils, solvents, etc. shall be stored in sealable containers in a designated location that is at least 250 feet from the affected drainage(s). All fueling and maintenance of vehicles and other equipment shall occur at least 250 feet from the drainage.

#### **6.1.4 - Post-Construction Measures**

Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, and the like shall be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas shall be determined on a site-specific basis in consultation with USFWS, CDFG, and an experience restoration biologist.



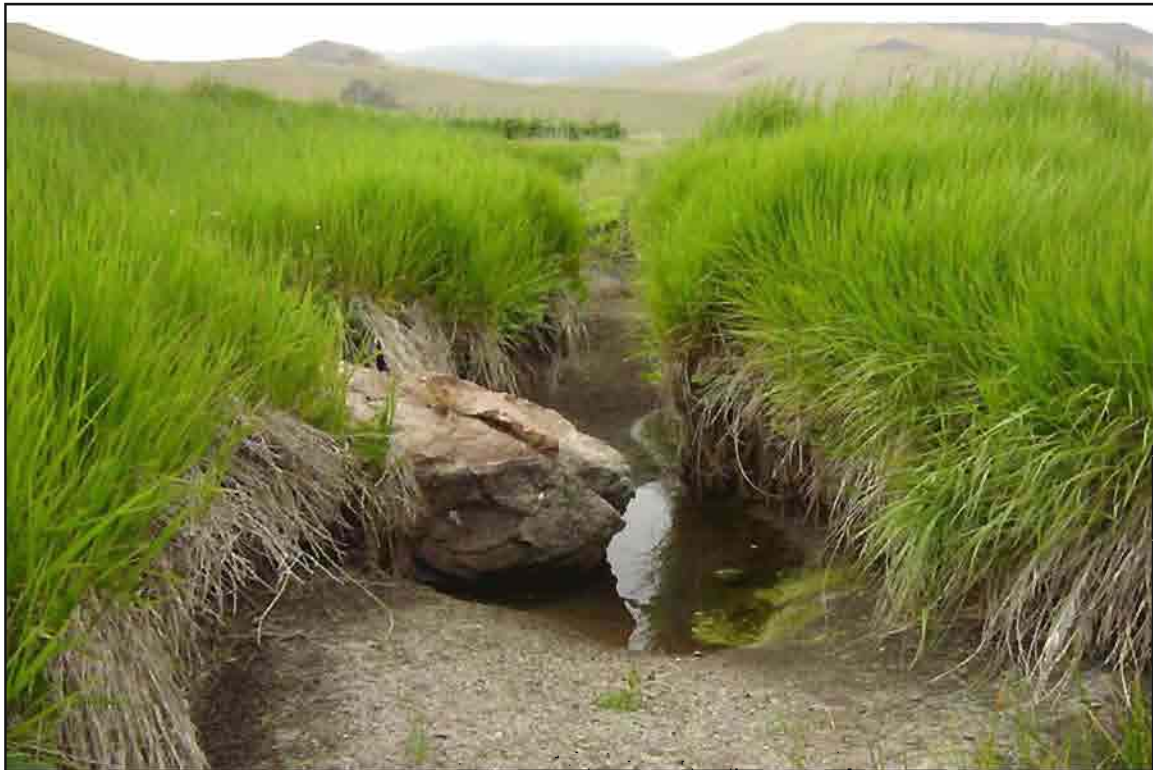
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## **Attachment A: Site Photographs**



Photograph 1: View of upstream reach of Drainage T-1 and portions California red-legged frog occupied habitat, facing north. Note existing irrigated row crops and agricultural land within the upland areas adjacent to the drainage banks, as depicted within on the left side of the photo.



Photograph 2: View of Pool 1 located within an upper reach of Drainage T-1, facing north. A single adult California red-legged frog was observed during day and night surveys adjacent to the boulder within the small pool in the center of the photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Attachment A Site Photographs 1 and 2



Photograph 3: View of single adult California red-legged frog within Pool 1 of Drainage T-1.



Photograph 4: View of California red-legged frog habitat downstream of Pool 1, facing southeast. Note existing row crops depicted within the upland areas in the background of the photo.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Attachment A Site Photographs 3 and 4



Photograph 5: View of Pool 2, a plunge pool located within the middle reach of Drainage T-1, facing east. Seven California red-legged frog tadpoles were observed within this pool during day surveys.



Photograph 6: View of California red-legged frog habitat upstream of Pool 2, facing northeast. Note recently disked dry crops and agricultural land within the upland areas adjacent to the drainage.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Attachment A Site Photographs 5 and 6



Photograph 7: View of an adult California red-legged frog observed during day surveys of Pool 3 located within the lower reach of Drainage T-1.



Photograph 8: View of adult California red-legged frog observed beneath a boulder during night surveys of Pool 1.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Attachment A Site Photographs 7 and 8



Photograph 9: View of existing row crops and agricultural land adjacent and northeast of Drainage T-1 and occupied habitat. Grazed non-native grassland is depicted in the background of the photo.



Photograph 10: View of upper reach of Drainage T-1 where it enters the property from the north at Turri Road, facing south. No suitable breeding habitat was observed within this portion of Drainage T-1 during the surveys. All California red-legged frogs observed during the surveys were observed downstream from this reach.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Attachment A Site Photographs 9 and 10

## **Attachment B: California Natural Diversity Database Map**





2,600 1,300 0 2,600  
Feet

## **Attachment C: California Red-Legged Frog Survey Data Sheets**



**Appendix E.**  
**California Red-legged Frog Survey Data Sheet**

11

**AMPHIBIAN OBSERVATIONS**

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
<i>Rana aurora dreyfohii</i>	1	O	Adult		Yes

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No non-native amphibians or reptiles observed.

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Other notes, observations, comments, etc.  
*CRLF observed in Pool #1.*

*See attached report.*

**Necessary Attachments:**

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.  
California Red-legged Frog Survey Data Sheet

Survey results reviewed by \_\_\_\_\_  
(FWS Field Office) (date) (biologist)

Date of Survey: 05/20/2008  
(mm/dd/yyyy)  
Survey Biologist: Touree' T'Shaka  
(Last name) (first name)  
Survey Biologist: Osmondson Karl  
(Last name) (first name)

Site Location: San Luis Obispo, Los Aras Valley, 35° 18' 38.63" N  
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S). 120° 46' 43.24" W

**\*\*ATTACH A MAP** (include habitat types, important features, and species locations)\*\*

Proposed project name: Los Aras Wastewater Project  
Brief description of proposed action:  
  
See: Biological Resources Assessment

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 8:45 pm End Time: 11:00 pm

Cloud cover: clear skies Precipitation: None

Air Temperature: 54°F Water Temperature: 59°F

Wind Speed: \_\_\_\_\_ Visibility Conditions: \_\_\_\_\_

Moon phase: \_\_\_\_\_ Humidity: \_\_\_\_\_

Description of weather conditions: See Table 1 of attached report.

Brand name and model of light used to conduct surveys: \_\_\_\_\_

Were binoculars used for the surveys (circle one)? YES NO  
Brand, model, and power of binoculars: Minolta 10x40 56°

**Appendix E.  
California Red-legged Frog Survey Data Sheet**

**AMPHIBIAN OBSERVATIONS**

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
<i>Rana aurora draytonii</i>	1	0	Adult		Yes

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No threats observed in immediate area. See biological report for environmental settings.

Other notes, observations, comments, etc.

CLRF observed in Pool #1.

See attached report.

**Necessary Attachments:**

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations



**Appendix E.**  
**California Red-legged Frog Survey Data Sheet**

**AMPHIBIAN OBSERVATIONS**

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
RANA ANNOBIA DEAYI/NOII	7	0	LARVAE (tadpoles)		Yes
Bufo boreas	25+	0	LARVAE		Yes
RANA ANNOBIA DEAYI/NOII	1	0	Adult		Yes

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No immediate threats observed. CRLF tadpoles observed in Pool #2.  
CRLF single adult observed in Pool #3. See  
Attached report for discussion.

Other notes, observations, comments, etc.

CRLF tadpoles observed in Pool #2  
 CRLF adult observed in Pool #3

See Attached report.

**Necessary Attachments:**

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations



## **Attachment G: Delineation of Jurisdictional Waters and Wetlands for the Los Osos Wastewater Project**

**Delineation of Jurisdictional Waters and Wetlands**  
**Los Osos Wastewater Project**  
**Los Osos, San Luis Obispo County, California**

Morro Bay South and San Luis Obispo, California,  
USGS 7.5-minute Topographic Quadrangle Maps  
Township 30 South, Range 11 East, Unsectioned

Prepared for:

**San Luis Obispo County**  
**Public Works Department**  
1050 Monterey Street  
San Luis Obispo, CA 93408

Contact: Mark Hutchison, Project Manager

Prepared by:

**Michael Brandman Associates**  
220 Commerce, Suite 200  
Irvine, CA 92602  
714.508.4100

Contact: Michael Brandman, President and CEO



Michael Brandman Associates

Survey Dates: April, May, 2008  
Report Date: June 30, 2008

## TABLE OF CONTENTS

<b>Section 1: Summary</b> .....	<b>1</b>
1.1 - Introduction .....	1
1.2 - Subject Features .....	1
<b>Section 2: Jurisdictional Methodology</b> .....	<b>2</b>
2.1 - Methodology Statement .....	2
2.2 - Pre-Survey Investigation .....	2
2.3 - Field Investigation .....	2
<b>Section 3: Environmental Setting</b> .....	<b>4</b>
3.1 - Location of the Property .....	4
3.1.1 - Directions to the Property .....	4
3.2 - Land Uses .....	8
3.2.1 - Activities Relating to Interstate or Foreign Commerce .....	8
3.3 - Topography .....	8
3.3.1 - Pertinent Hydrogeomorphic Features .....	9
3.3.2 - Watershed Description .....	10
3.3.3 - Connectivity to Downstream Resources .....	11
3.3.4 - Water Quality Issues .....	11
3.4 - Field Conditions .....	12
3.4.1 - Seasonal Climate Variation .....	12
3.4.2 - Conditions at time of Field Investigation.....	12
3.5 - Soils .....	12
3.6 - Vegetation .....	15
3.7 - Coastal Zone Evaluation .....	15
3.8 - Critical Habitat.....	15
3.9 - Biological Resources.....	15
3.9.1 - Biological Resources Surveys and Reports .....	15
3.10 - Environmental Documentation .....	16
<b>Section 4: Jurisdictional Delineation Results</b> .....	<b>17</b>
4.1 - Summary of Jurisdictional Areas.....	17
4.1.1 - USACE Jurisdiction .....	17
4.1.2 - RWQCB Jurisdiction.....	17
4.1.3 - CDFG Jurisdiction .....	20
4.2 - Rationale for Jurisdictional Determination.....	21
4.2.1 - Los Osos Creek.....	21
4.2.2 - Warden Creek .....	24
4.2.3 - Warden Creek Wetland .....	25
4.2.4 - Drainage W-1 .....	26
4.2.5 - Drainage W-2 .....	29
4.2.6 - Drainage W-3 .....	32
4.2.7 - Drainage W-4 .....	32
4.2.8 - Drainage W-5 .....	33
4.2.9 - Drainage W-5.a .....	34
4.2.10 - Drainage W-5.b .....	36
4.2.11 - Los Osos Valley Road Seasonal Wetland.....	37
4.2.12 - Drainage T-1 .....	37
4.2.13 - Drainage T-1.a .....	38

4.2.14 - Drainage T-1.b ..... 41  
4.2.15 - Drainage T-2 ..... 44  
**Section 5: References..... 46**

**Attachment A: Regulatory Compliance**

**Attachment B: Jurisdictional Wetlands and Significant Nexus Determination**

**Attachment C: Glossary of Terms**

**Attachment D: Site Photographs**

**Attachment E: Jurisdictional Determination Form**

**Attachment F: Wetlands Data Sheets**

**Attachment G: Historical Aerial Photography**

**Attachment H: Q Value Calculations for Significant Nexus Evaluation**

**LIST OF TABLES**

Table 1: Jurisdictional Drainages Within the Project Site..... 9  
Table 2: CWA Section 303(d) Water Quality Limited Segments Within Project Site ..... 11  
Table 3: Summary of USDA / NRCS Soil Descriptions..... 14  
Table 4: USACE Jurisdictional Evaluation ..... 17  
Table 5: RWQCB Jurisdictional Evaluation..... 20  
Table 6: CDFG Jurisdictional Evaluation ..... 20  
Table 7: Significant Nexus Determination - Drainage W-1..... 28  
Table 8: Significant Nexus Determination - Drainage W-2..... 31  
Table 9: Significant Nexus Determination - Drainage T-1.a..... 40  
Table 10: Significant Nexus Determination - Drainage T-1.b..... 43

**LIST OF EXHIBITS**

Exhibit 1: Regional Location Map..... 5  
Exhibit 2: Local Vicinity Map Topographic Base ..... 6  
Exhibit 3: Local Vicinity Map Aerial Base ..... 7  
Exhibit 4: USDA Soils Map..... 13  
Exhibit 5: USACE/RWQCB Jurisdictional Areas ..... 18  
Exhibit 6: CDFG Jurisdictional Areas ..... 19  
Exhibit 7: Data Point Locations ..... 22  
Exhibit 8: Photo Location Map ..... 23

## SECTION 1: SUMMARY

### **Applicant Name:**

County of San Luis Obispo  
Public Works Department  
SLOC Government Center  
1050 Monterey Street  
San Luis Obispo, CA 93408  
Project Manager: Mark Hutchison

### **Agent Name:**

Michael Brandman Associates (MBA)  
220 Commerce, Suite 200  
Irvine, CA 92602  
Phone: 714.508.4100  
Contact: Michael Brandman  
Email: mbrandman@brandman.com

---

### **1.1 - Introduction**

At the request of the County of San Luis Obispo Public Works Department, MBA conducted a jurisdictional delineation for a 1,004-acre series of sites (hereafter referred to as the “study area” or the “site”) located in the community of Los Osos, San Luis Obispo County, California, on April 23, April 24, and May 20, 2008.

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### **1.2 - Subject Features**

The study area contains 13 drainages and two separate wetlands that are also associated with some of these drainages. Two of the drainages have names (Los Osos Creek and Warden Creek), as does one of the associated wetlands (Warden Creek wetland); the remaining 11 drainages are unnamed tributaries or sub-tributaries to Warden Creek. The unnamed associated wetland has been designated as the Los Osos Valley Road Seasonal Wetland. Nine of these drainages are relatively permanent waters (RPWs) which have an Ordinary High Water Mark (OHWM) and a defined bed and bank. These include the two principal drainages within the study area, Los Osos Creek and Warden Creek. These RPWs have hydrologic connectivity to downstream navigable waters (Morro Bay and the Pacific Ocean, both of which are Traditional Navigable Waters [TNWs]). The remaining four drainages are ephemeral, non-RPWs. All drainages and associated wetlands may be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (CDFG).

USACE jurisdiction includes 0.72 acre (6,030 linear feet) of non-wetland waters of the U.S. and 15.73 acres (12,567 linear feet) of wetland waters within the project site.

RWQCB jurisdiction includes 16.45 acre (18,597 linear feet) of waters of the State within the project site.

CDFG jurisdiction includes 23.48 acres of jurisdictional streambed and associated riparian vegetation within the project site.

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## SECTION 2: JURISDICTIONAL METHODOLOGY

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### 2.1 - Methodology Statement

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This jurisdictional delineation was conducted in accordance with regulations set forth in 33 CFR part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Manual).
- USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, 2001 (Arid Southwest Guidelines).
- USACE Minimum Standards for Acceptance of Preliminary Wetlands Delineations, November 30, 2001 (Minimum Standards).
- USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006 (Arid West Supplement).
- USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. April 2008.
- USACE Jurisdictional Determination Form Instructional Guidebook, May 30, 2007 (JD Form Guidebook).

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### 2.2 - Pre-Survey Investigation

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Prior to the field visit, a 200-scale (1 inch = 200 feet) aerial photograph of the site was procured and compared with the Morro Bay South, California, and the San Luis Obispo, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes or visible drainage patterns. The National Wetland Inventory was also reviewed to determine whether any wetland areas had been documented within the vicinity of the site. The United States Department of Agriculture (USDA) Soil Survey Map was reviewed to identify the soil series that occur on the site.

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### 2.3 - Field Investigation

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Field investigations were performed by MBA Regulatory Specialist Tom Mullen and MBA Biologist Karl Osmundson on April 23, April 24, and May 20, 2008. Data was collected using a Magellan Explorist 600 Global Positioning System (GPS) unit with an accuracy of  $\pm 7$  feet, and the drainage features were mapped onto recent aerial photographs. Other materials utilized in the field included a 30-meter tape measure, shovel, digital camera, and a Munsell color chart to identify soil types.

The survey was conducted on foot. Potential jurisdictional features were systematically inspected to record existing conditions and to determine their jurisdictional limits. The site was carefully assessed to identify surface flow indicators (such as the presence of hydrophytic vegetation, staining, cracked soil, ponding, etc.). Flow regimes and corresponding hydrogeomorphic features were subsequently identified. The lateral extent of USACE jurisdiction was measured at the OHWM. Where appropriate, multiple measurements were recorded at various representative locations along the length of each feature.

CDFG jurisdiction was based on the presence of a bed and bank, and the presence of riparian vegetation and/or wildlife resources. The lateral extent of CDFG jurisdiction was measured from bank to bank at the top of the channel, or to the drip-line of the associated riparian vegetation where it extends beyond the bank of the channel.

Width and length measurements were entered into Geographical Information System (GIS) ArcView software to plot the location and dimensions of jurisdictional areas. The ArcView application was then used to compute federal and state jurisdictional areas in acres. Acreage computations were verified using a 200-scale aerial photograph and field data.

## SECTION 3: ENVIRONMENTAL SETTING

### 3.1 - Location of the Property

The study area includes portions of the community of Los Osos, the Los Osos Valley Road, and properties located east of the community of Los Osos within unincorporated San Luis Obispo County. The site consists of a series of components which together provide a complete proposed wastewater treatment facility with a pipeline collection system for sewage, a treatment plant, an effluent disposal pipeline system, and effluent disposal sites.

The Broderson site is located in the western portion of the community of Los Osos, and includes Broderson Avenue; the Mid-town site is located within the community; the adjacent Giacomazzi, Branin, and Cemetery properties are located east of the community of Los Osos and just north of Los Osos Valley Road; the Tonini property is located east of the community of Los Osos and west of Turri Road. The site also includes Los Osos Valley Road (between Broderson Avenue to the west and Turri Road to the east), and Turri Road (between Los Osos Valley Road to the south and the entrance to the Tonini property to the north) (Exhibit 1).

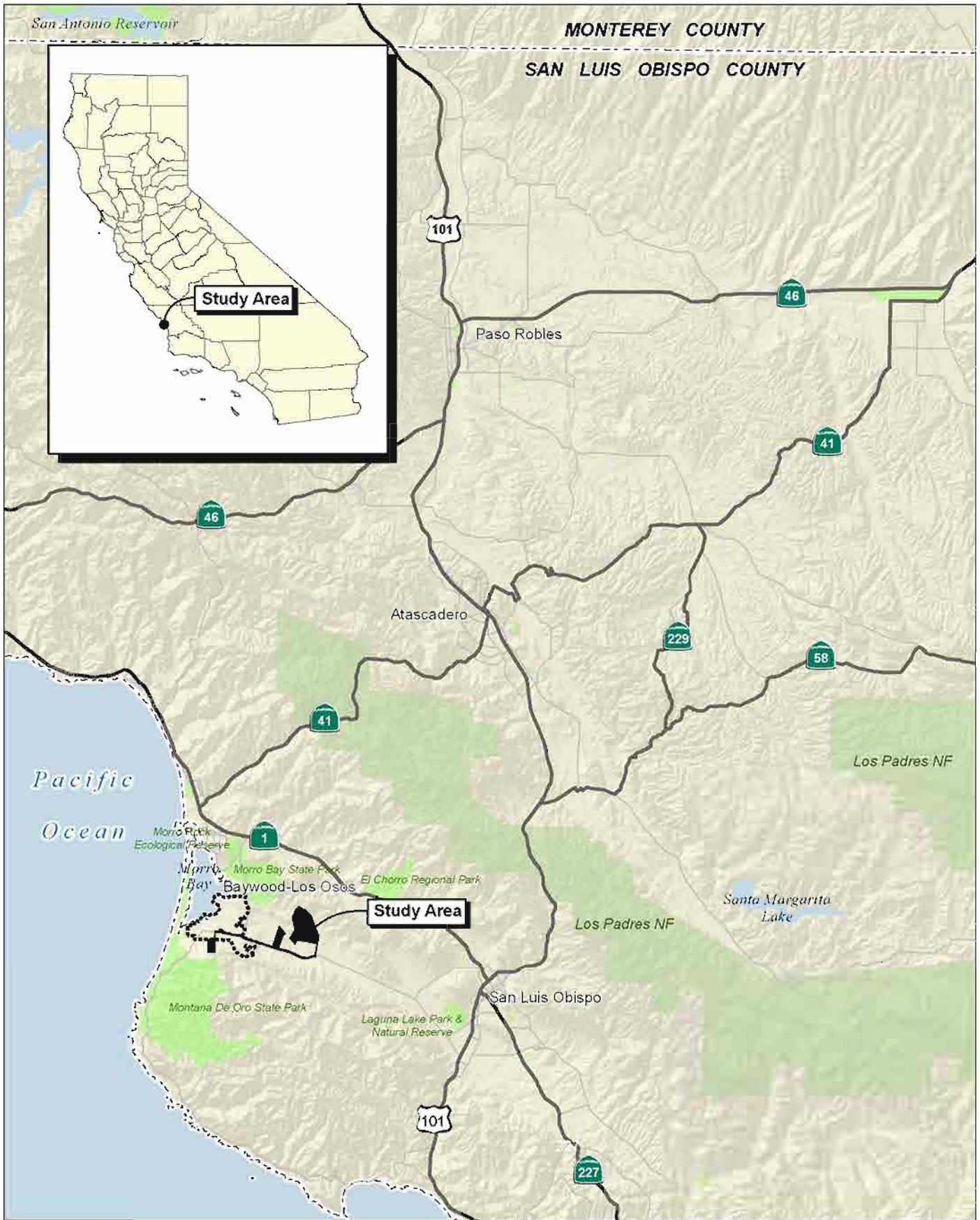
The site is depicted in unsectioned portions of Township 30 South, Range 11 East on the Morro Bay South, California, and the San Luis Obispo, California, USGS 7.5-minute topographic quadrangle maps (Exhibit 2 and Exhibit 3). The centers of the principal locations on the site are approximately identified by the following coordinates:

Cemetery, Giacomazzi, Branin .....	35° 18' 34" N; 120° 48' 06" W
Tonini .....	35° 18' 44" N; 120° 46' 44" W
Mid-Town Collection Point.....	35° 18' 47" N; 120° 50' 19" W
Broderson .....	35° 18' 23" N; 120° 50' 44" W

#### 3.1.1 - Directions to the Property

The different regions that comprise the entire site are generally located along, and adjacent to, Los Osos Valley Road, both within the developed region of the community of Los Osos as well as within the outskirts of the community. To drive to the Tonini site, take the Turri Road exit to the north of Los Osos Valley Road, and drive for 0.45 mile to the entrance to the Tonini property on the west side of the road. The Cemetery, Giacomazzi, and Branin properties are located north of Los Osos Valley Road and adjacent to and west of the Clark Valley Road (which is located 1.4 miles west of the intersection of Turri Road and Los Osos Valley Road). The Mid-town site is located north of Los Osos Valley Road between Palisades Avenue (to the east) and Ravenna Avenue (to the west). The Broderson leach field site is located south of Los Osos Valley Road and west of Broderson Avenue. From the intersection of the two roads, drive south along Broderson Avenue for 0.35 mile to arrive at the eastern site boundary.

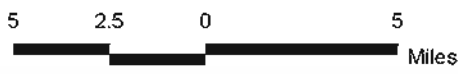




Source: Census 2000 Data, The CaSIL, MBA GIS 2008.

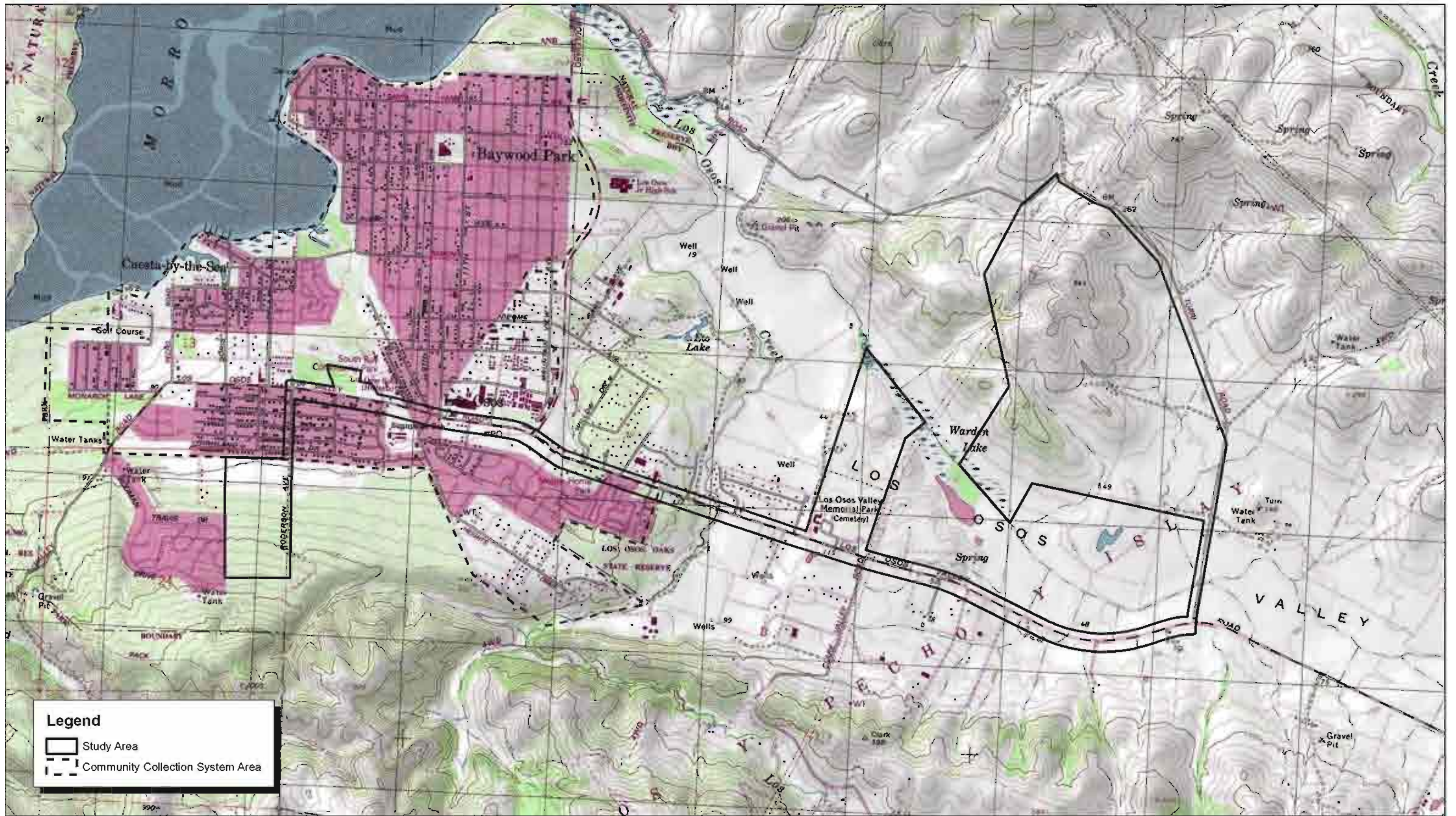


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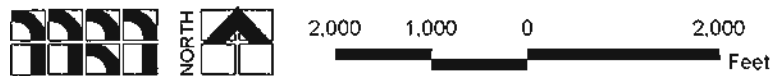


## Exhibit 1 Regional Location Map

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: TOPO! USGS Morro Bay South (2002) 7.5' DRG.



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Exhibit 2

Local Vicinity Map  
Topographic Base

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



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## **3.2 - Land Uses**

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The Broderson site is a sloping, undeveloped site that includes native shrubs and groves of eucalyptus trees.

The proposed Mid-town collection site is undeveloped and contains grasses and shrubs. The land immediately to the north and west is undeveloped. Residential developments are located east and south of the site.

The Cemetery, Giacomazzi, and Branin sites include mixed uses. The Cemetery site includes open space with ruderal weeds, as well as the Los Osos Valley Memorial Park cemetery to the south. The Giacomazzi site includes a disked field that is fallow, and the Branin site includes a portion of the Warden Creek wetland, as well as what appear to be small agricultural plots. Agricultural fields are located west of the Giacomazzi and Branin properties, while open space and the Warden Creek wetland are located to their east. There are agricultural fields and low-density residences west of the Cemetery property, and a disked field with electrical transmission towers to the east of the site.

The Tonini site is predominantly used for agriculture. Crops include those used to produce a hay mix (barley, oat, and wheat) as well as peas on the southern portion of the site. The northwest portion is used for cattle grazing.

The corridor parallel to Los Osos Valley Road includes grassy swales, season wetlands within the existing County Road right-of-way, adjacent agricultural fields and residential developments that are bisected by jurisdictional drainages.

### **3.2.1 - Activities Relating to Interstate or Foreign Commerce**

Surface waters within the study area are generally tributary to Los Osos Creek, which flows northwest into Morro Bay. Although Morro Bay harbor includes one of California's largest commercial fishing fleets, and sales of locally caught fish relates to interstate commerce, neither Los Osos Creek nor its tributaries are associated with the sale of fish or shellfish related to interstate or foreign commerce. However, the project site does include agricultural activities that may relate to interstate or foreign commerce. Therefore, a nexus to commerce may be evident within the project site.

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## **3.3 - Topography**

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The highest elevations of the site are located within the northwest portion of the Tonini property (approximately 541-feet above mean sea level (AMSL), according to the USGS 7.5-minute quadrangle). The second highest elevation is located at the Broderson site (approximately 300-feet AMSL at the westernmost portion of the study area). Los Osos Valley Road slopes gradually uphill from east to west (with minor undulations) until it is adjacent to the Mid-town site (approximately 120 feet AMSL), at which point it begins to slope downhill toward the coastline.

The site is located just north of the Irish Hills and both southwest of, as well as within, the Santa Lucia Mountains. Two general topographical drainage patterns are associated with the site. Although regional flows emanate from the Santa Lucia Mountains (specifically, Park Ridge) and generally move northeast to southwest to Warden Creek, flows from these mountains within the project site move northwest to southeast within and adjacent to the Tonini property. The other major drainage pattern associated with the study area is from south to north from the Irish Hills. Both sets of flows join Warden Creek (or its tributaries), or Los Osos Creek.

### 3.3.1 - Pertinent Hydrogeomorphic Features

Field work performed for this study identified nine RPWs and four non-RPWs. The RPWs include Los Osos Creek, Warden Creek, and several tributary and sub-tributary drainages to Warden Creek (listed in Table 1). These features are classified as RPWs because they flow for more than three months of the year. Both Los Osos Creek and Warden Creek are de facto RPWs because they are listed on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as well as within the Central Coast RWQCB Water Quality Control Plan (Basin Plan).

The non-RPW features include four drainages. Drainage W-1 and Drainage W-2 flow within the Branin property and are tributary to Warden Creek. Drainage T-1.a and Drainage T-1.b are minor tributaries to Drainage T-1 (the principal drainage feature on the Tonini property). These features are classified as non-RPWs because they are ephemeral and do not maintain continuous flow for extended periods of time (three months or more). During the survey periods, Drainage W-1 was dry, Drainage W-2 included pockets of water, Drainage T-1.a was dry, and Drainage T-1.b included pockets of standing water.

**Table 1: Jurisdictional Drainages Within the Project Site**

Drainage	Project Location	Average Width (Feet) USACE / CDFG	RPW / Non-RPW	Downstream Reference Point	Distance to TNW - Morro Bay (River Miles)	Distance to TNW - Morro Bay (Linear Miles)
Los Osos Creek	Los Osos Valley Road	26 / 100	RPW	Northern end of bridge crossing along Los Osos Valley Road	3.6	2.4
Warden Creek	Branin; Turri Road	400 / 400: 25 / 40	RPW	Intersection with Turri Road	4.6	3.8
Drainage W-1	Giacomazzi	2.5 / 17.5	Non-RPW	Confluence with Warden Creek wetland	3.1	2.6
Drainage W-2	Giacomazzi	2 / 14	Non-RPW	Confluence with Drainage W-1	3.2	2.6

**Table 1 (Cont.): Jurisdictional Drainages Within the Project Site**

Drainage	Project Location	Average Width (Feet) USACE / CDFG	RPW / Non-RPW	Downstream Reference Point	Distance to TNW - Morro Bay (River Miles)	Distance to TNW - Morro Bay (Linear Miles)
Drainage W-3	Los Osos Valley Road	9 / 30	RPW	Confluence with Warden Creek	3.9	3.3
Drainage W-4	Los Osos Valley Road	22 / 22	RPW	Confluence with Warden Creek	4.1	3.5
Drainage W-5	Los Osos Valley Road	6 / 6	RPW	Confluence with Warden Creek	4.3	3.6
Drainage W-5.a	Los Osos Valley Road	6 / 15	RPW	North side of Los Osos Valley Road	4.5	3.7
Drainage W-5.b	Los Osos Valley Road	6 / 6	RPW	North side of Los Osos Valley Road	4.5	3.8
Drainage T-1	Tonini; Turri Road	15 / 20; 15 / 30	RPW	Confluence with Drainage T-2	4.9	3.5
Drainage T-1.a	Tonini	1.5 / 3	Non-RPW	Confluence with T-1	5.5	3.2
Drainage T-1.b	Tonini	3 / 3	Non-RPW	Confluence with T-1	5.3	3.4
Drainage T-2	Tonini	12 / 25	RPW	Confluence with Drainage T-1	4.9	3.5

Source: Michael Brandman Associates, 2008.

### 3.3.2 - Watershed Description

The study area is located within the 11,400-square-mile Central California Coastal Watershed USGS accounting unit 18060006). Within this watershed, Los Osos Creek is located within the Estero Bay Sub-Hydrologic Unit number 310.23, which encompasses 17,937 acres (28.03 square miles).

Creeks within the region of the community of Los Osos generally flow either southwest from the Santa Lucia Mountains (including the hills that comprise Park Ridge, such as Hollister Peak), or northward from the Irish Hills. These flows enter Los Osos Creek directly, or through the Warden Creek tributary that is located east of Los Osos Creek within the Los Osos Valley. Warden Creek includes both Warden Lake and Warden Creek wetland (Warden Lake is located within Warden Creek wetland). Warden Creek runs from southeast to northwest until converging with Los Osos Creek at a point approximately 1.5 miles northwest of the northern border of the Branin property.

Both Los Osos Creek and Warden Creek are subject to flooding during, and following, 100-year storm events.

**3.3.3 - Connectivity to Downstream Resources**

All creeks within the project site (including RPWs and non-RPWs) eventually flow into Los Osos Creek, which flows into Morro Bay (TNW), which is part of the Pacific Ocean (TNW). The distances from each tributary to Morro Bay is expressed in both linear and river miles in Table 1, above.

**3.3.4 - Water Quality Issues**

Waterbodies within, and downstream of, the project site are susceptible to impacts from specific pollutants. Both Los Osos Creek and Warden Creek are listed on the Clean Water Act Section 303(d) list of Water Quality Limited Segments. Impairments to both of these drainages are listed in Table 2.

Properties surrounding the relevant reaches of drainages within the project site have mixed uses that predominantly include agriculture, livestock grazing, open space, and residential use. The application (including potential past uses) of pesticides and fertilizers/nutrients in the agricultural regions adjacent to the drainages on the Tonini site, and adjacent to Warden Creek on the Giacomazzi and Branin properties, may result in impacts to the water quality of the drainage systems (although no data presently exists to specify such impacts).

Although the source of fecal coliform is listed as unknown, substantial livestock grazing takes place along the northwest portion of the Tonini site and contributes significant pathogens directly into Drainage T-1, which is tributary to the 303(d) listed Warden Creek.

**Table 2: CWA Section 303(d) Water Quality Limited Segments Within Project Site**

Water Body	Calwater Watershed Number	Pollutant / Stressor	Potential Sources
Los Osos Creek	31023012	Fecal Coliform	Source Unknown
		Low Dissolved Oxygen	Agriculture Natural Sources Pasture Grazing - Riparian and/or Upland Urban Runoff/Storm Sewers
		Nitrate	Source Unknown
		Nutrients	Agricultural Return Flows Agriculture Agriculture - storm runoff Irrigated Crop Production
		Sedimentation/Siltation	Agriculture Agricultural storm runoff

**Table 2 (Cont.): CWA Section 303(d) Water Quality Limited Segments Within Project Site**

Water Body	Calwater Watershed Number	Pollutant / Stressor	Potential Sources
		<i>cont.</i>	Channel Erosion Channelization Dredging Erosion/Siltation Habitat Modification Hydromodification Irrigated Crop Production Natural Sources Nonpoint Sources Range Grazing - Riparian and/or Upland Removal of Riparian Vegetation Streambank Modification/Destabilization
Warden Creek	31023010	Fecal Coliform	Source Unknown
		Low Dissolved Oxygen	Source Unknown
Source: California State Water Resources Control Board.			

### 3.4 - Field Conditions

#### 3.4.1 - Seasonal Climate Variation

The region surrounding the community of Los Osos is subject to both seasonal and annual variations in temperature and precipitation. Annual average precipitation in the region (Morro Bay Fire Department, 1971-2000; source Natural Resources Conservation Service [NRCS]) is 17.62 inches, with highest average rainfall in February (3.69 inches), and lowest rainfall in July (0.03 inches). Rainfall increases further inland (the average annual precipitation at San Luis Obispo Polytech gauge, located approximately 7 miles to the southeast, is 23.3 inches).

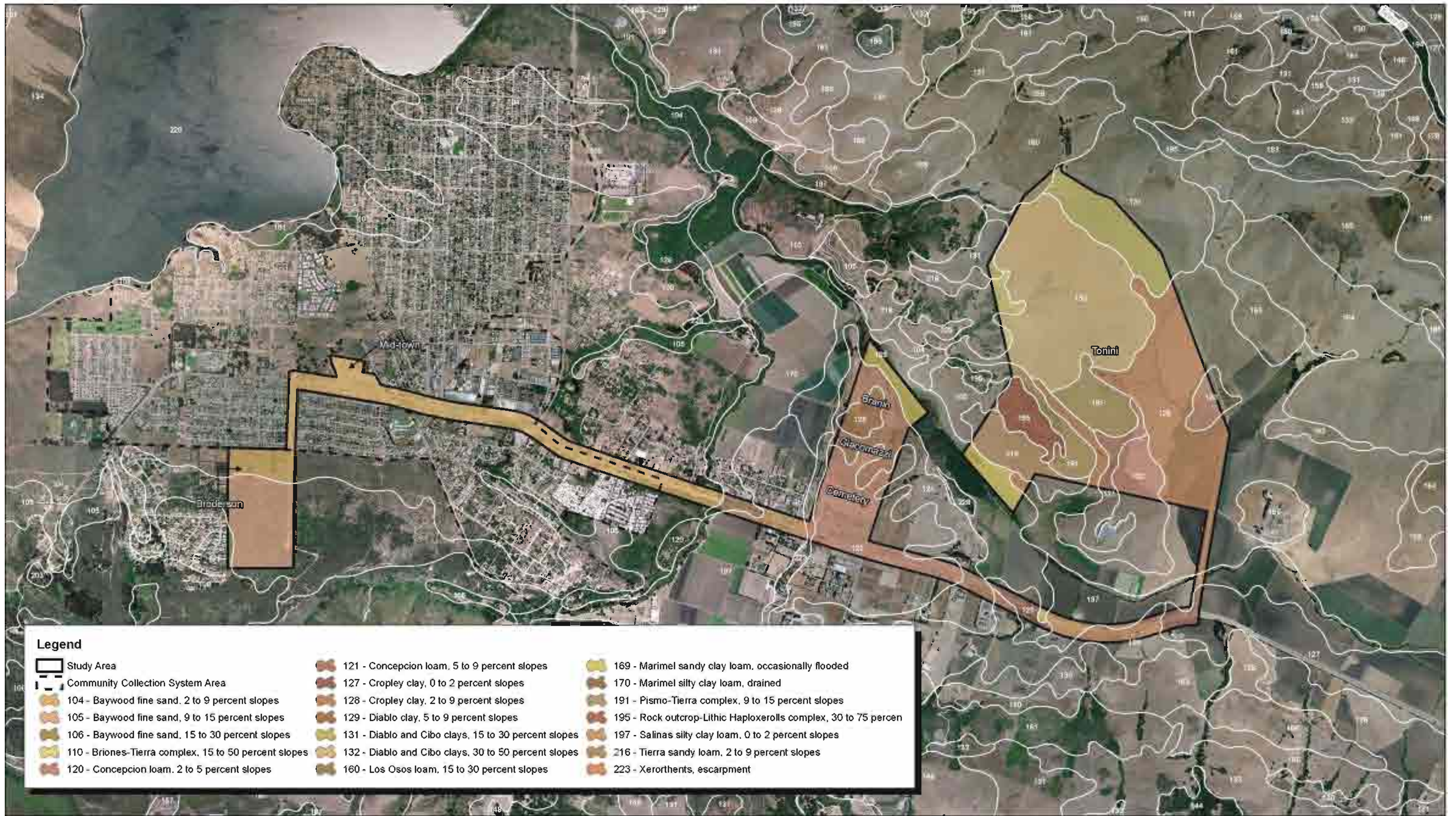
#### 3.4.2 - Conditions at time of Field Investigation

The delineation of jurisdictional waters and wetlands took place on April 23, April 24, and May 20, 2008. During the April survey, the temperature was 61 degrees Fahrenheit (F), winds were 0 to 2 miles per hour (mph) and the conditions were partly cloudy with minor, intermittent precipitation. During the May survey, the temperature was in the mid-70 degrees F range, winds were moderate (5 to 15 mph), and the conditions were clear and sunny.

### 3.5 - Soils

Exhibit 4 shows the different soil series within the study area. Percentage cover of soils and drainage characteristics are highlighted in Table 3, below.





Source: AirPhoto USA and San Luis Obispo County GIS.

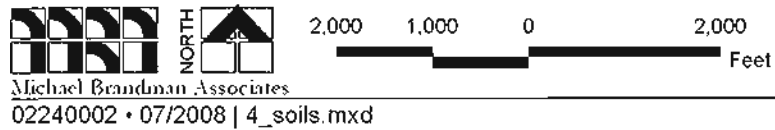


Exhibit 4  
USDA Soils Map

A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These soil series were checked against the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) National Hydric Soils List.

**Table 3: Summary of USDA / NRCS Soil Descriptions**

Map Unit Symbol	Soil Series	Percentage Cover	NRCS Hydric	Drainage
104	Baywood fine sand, 2 to 9 percent slopes	14.9	No	Somewhat excessively drained
105	Baywood fine sand, 9 to 15 percent slopes	0.4	No	Somewhat excessively drained
110	Briones-Tierra Complex	0.4	No	Somewhat excessively drained
120	Concepcion loam, 2 to 5 percent slopes	10.9	No	Moderately well drained
121	Concepcion loam, 5 to 9 percent slopes	6.9	No	Moderately well drained
127	Cropley clay, 0 to 2 percent slopes	2.2	Yes	Moderately well drained
128	Cropley clay, 2 to 9 percent slopes	19.2	No	Moderately well drained
129	Diablo clay, 5 to 9 percent slopes	1.2	No	Well drained
131	Diablo and cibo clays, 15 to 30 percent slopes	7.4	No	Well drained
132	Diablo and cibo clays, 30 to 50 percent slopes	19.5	No	Well drained
160	Los Osos loam, 15 to 30 percent slopes	0.4	No	Well drained
169	Marimel sandy clay loam, occasionally flooded	3.0	Yes	Somewhat poorly drained
170	Marimel silty clay, loam, drained	0.6	Yes	Well drained
191	Pismo Tierra complex, 9 to 15 percent slopes	4.8	No	Somewhat excessively drained
195	Rock outcrop - Lithic Haploxerolls complex, 30 to 75 percent slopes	2.5	No	Excessively drained
197	Salinas silty clay loam, 0 to 2 percent slope	2.5	Yes	Well drained
216	Tierra sandy loam, 2 to 9 percent slopes	3.1	No	Moderately well drained
223	Xerothents, escarpment	0.1	No	

Source: Natural Resources Conservation Service.

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### 3.6 - Vegetation

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Descriptions of plant communities are provided with each drainage description in Section 4.2 of this report. A more detailed description is provided in the Biological Resources Assessment technical report (MBA July 2008), published as an appendix to the County of San Luis Obispo Los Osos Wastewater Draft Environmental Impact Report (Draft EIR).

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### 3.7 - Coastal Zone Evaluation

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The study area is located within the coastal zone, as defined by the California Coastal Act. Therefore, a Coastal Zone Management Act consistency determination is required. Such a consistency determination with the Coastal Zone Land Use Ordinance (which forms part of the Elements of the San Luis Obispo County Plan) is included in the EIR for the County of San Luis Obispo Los Osos Wastewater Project that is being prepared by MBA.

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### 3.8 - Critical Habitat

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The study area is located within portions of United States Fish and Wildlife Service (USFWS) designated critical habitat for two species. The Broderson property is located entirely within critical habitat for the Morro shoulderband snail (*Helminthoglypta walkeriana*). All of Los Osos Creek within the Los Osos Hydrologic Subarea (#331023) is within critical habitat for South-Central California Coast steelhead (*Oncorhynchus mykiss irideus*).

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### 3.9 - Biological Resources

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#### 3.9.1 - Biological Resources Surveys and Reports

Biological resources associated with the study area are described in the technical attachments of the Biological Resources Assessment (MBA July 2008), which is included in the County of San Luis Obispo Los Osos Wastewater Draft EIR.

The Biological Resources Assessment's technical attachments include:

- Attachment A Floral and Faunal Compendia
- Attachment B: Special Status Species Tables
- Attachment C: Site Photographs
- Attachment D: California Natural Diversity Database Search Results
- Attachment E: Regulatory Framework
- Attachment F: California Red-legged Frog Protocol Survey Report
- Attachment G: Delineation of Jurisdictional Waters and Wetlands

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### **3.10 - Environmental Documentation**

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Proposed development within the study area is being analyzed as required by the California Environmental Quality Act (CEQA). MBA is preparing an EIR for the County of San Luis Obispo Los Osos Wastewater Project.

## SECTION 4: JURISDICTIONAL DELINEATION RESULTS

The following section provides a detailed discussion of jurisdictional areas within the project site including findings related to vegetative communities, topography, soils, hydrology, and wetlands for each of the listed hydrogeomorphic features (Exhibit 5 and Exhibit 6).

### 4.1 - Summary of Jurisdictional Areas

#### 4.1.1 - USACE Jurisdiction

The study area includes nine RPWs and four non-RPWs and two separate wetlands that are associated with RPWs that were determined to be jurisdictional waters of the United States (Table 4).

**Table 4: USACE Jurisdictional Evaluation**

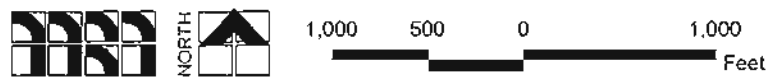
Hydrogeomorphic Feature	USACE JURISDICTION	
	Non-wetland Waters Acres (LF)	Wetland Waters Acres (LF)
Los Osos Creek	0.27 (931)	0.00 (0)
Warden Creek	0.00 (0)	0.12 (214)
Drainage W-1	0.09 (1,148)	0.42 (499)
Warden Creek Wetland	0.00 (0)	13.34 (1,965)
Drainage W-2	0.03 (612)	0.00 (0)
Drainage W-3	0.09 (410)	0.00 (0)
Drainage W-4	0.00 (0)	0.11 (256)
Drainage W-5	0.00 (0)	0.02 (137)
Drainage W-5.a	0.00 (0)	0.07 (524)
Drainage W-5.b	0.00 (0)	0.10 (748)
Los Osos Valley Road Seasonal Wetland	0.00 (0)	0.23 (1,893)
Drainage T-1	0.08 (566)	1.22 (5,733)
Drainage T-1.a	0.003 (80)	0.00 (0)
Drainage T-1.b	0.06 (1,198)	0.00 (0)
Drainage T-2	0.10 (1,480)	0.08 (212)
<b>Total</b>	<b>0.723 (6,425)</b>	<b>15.71 (12,181)</b>
Source: Michael Brandman Associates, 2008.		

#### 4.1.2 - RWQCB Jurisdiction

The study area includes nine RPWs and four non-RPWs and two separate wetlands that are associated with RPWs that were determined to be jurisdictional waters of the United States. They are therefore also considered to be jurisdictional waters of the State (Table 5).



Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates  
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Exhibit 5  
USACE/RWQCB Jurisdictional Areas

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: AirPhoto USA and San Luis Obispo County GIS.

**Table 5: RWQCB Jurisdictional Evaluation**

Hydrogeomorphic Feature	RWQCB Jurisdiction	
	Non-wetland Waters Acres (LF)	Wetland Waters Acres (LF)
Los Osos Creek	0.27 (931)	0.00 (0)
Warden Creek	0.00 (0)	0.12 (214)
Warden Creek Wetland	0.00 (0)	13.34 (1,965)
Drainage W-1	0.09 (1,148)	0.42 (499)
Drainage W-2	0.03 (612)	0.00 (0)
Drainage W-3	0.09 (410)	0.00 (0)
Drainage W-4	0.00 (0)	0.11 (256)
Drainage W-5	0.00 (0)	0.02 (137)
Drainage W-5.a	0.00 (0)	0.07 (524)
Drainage W-5.b	0.00 (0)	0.10 (748)
Los Osos Valley Road Seasonal Wetland	0.00 (0)	0.23 (1,893)
Drainage T-1	0.08 (566)	1.22 (5,733)
Drainage T-1.a	0.003 (80)	0.00 (0)
Drainage T-1.b	0.06 (1,198)	0.00 (0)
Drainage T-2	0.10 (1,480)	0.08 (212)
<b>Total</b>	<b>0.723 (6,425)</b>	<b>15.71 (12,181)</b>
Source: Michael Brandman Associates, 2008.		

#### 4.1.3 - CDFG Jurisdiction

The CDFG asserts jurisdiction over streambeds and associated riparian communities/systems. Thirteen drainages and two separate but associated wetlands within the study area were determined to be subject to CDFG jurisdiction (Table 6).

**Table 6: CDFG Jurisdictional Evaluation**

Hydrogeomorphic Feature	CDFG Jurisdiction acres (Including Riparian Areas)
Los Osos Creek	1.55
Warden Creek	0.21
Warden Creek Wetland	13.34
Drainage W-1	1.44
Drainage W-2	0.42
Drainage W-3	0.79
Drainage W-4	0.11



**Table 6 (Cont.): CDFG Jurisdictional Evaluation**

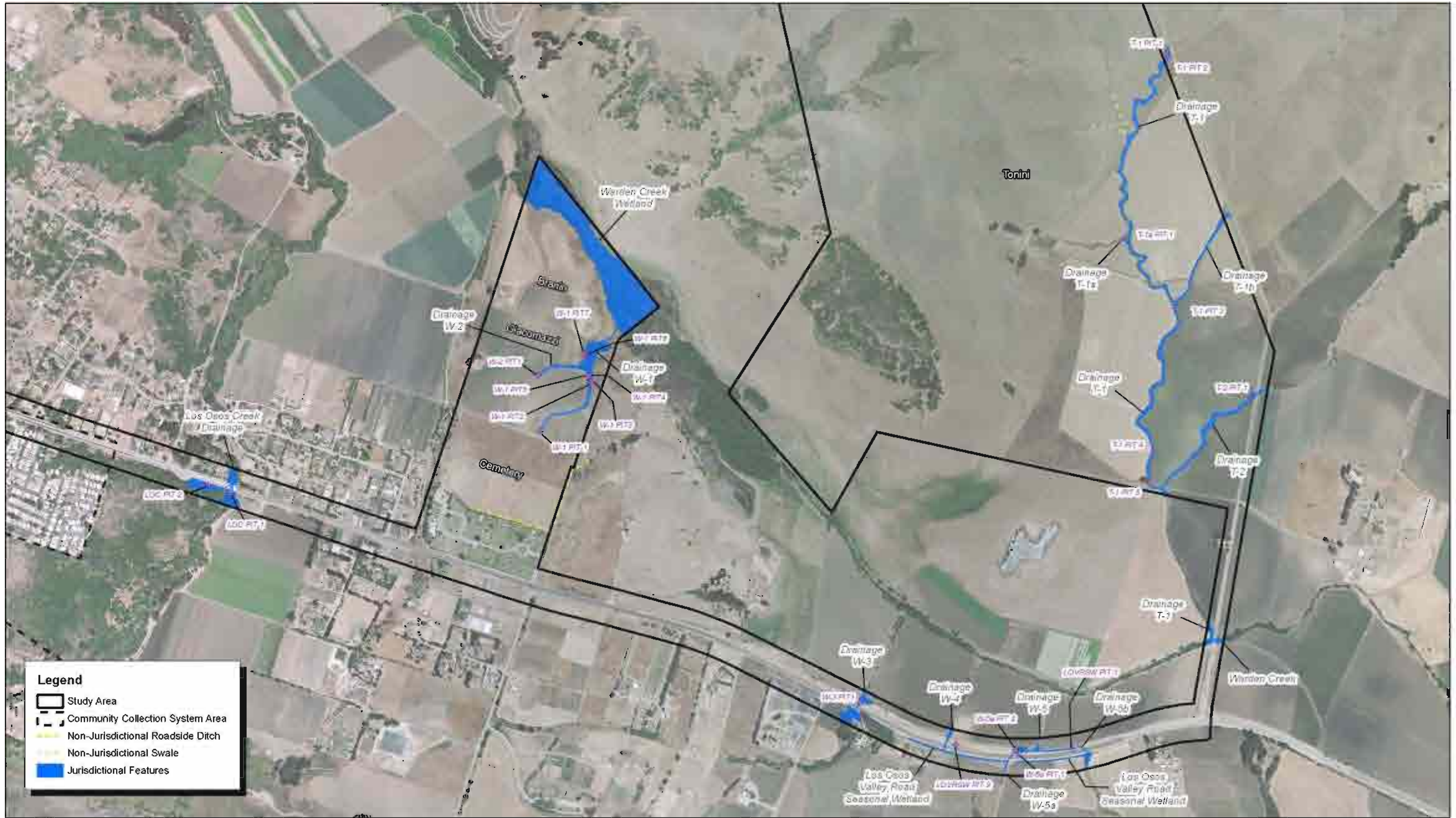
Hydrogeomorphic Feature	CDFG Jurisdiction acres (Including Riparian Areas)
Drainage W-5	0.05
Drainage W-5.a	0.20
Drainage W-5.b	0.21
Los Osos Valley Road Seasonal Wetland	0.23
Drainage T-1	3.31
Drainage T-1.a	0.05
Drainage T-1.b	0.48
Drainage T-2	1.12
<b>Total</b>	<b>23.51</b>
Source: Michael Brandman Associates, 2008.	

## 4.2 - Rationale for Jurisdictional Determination

A detailed discussion of the rationale for supporting the jurisdictional determination for each type of hydrogeomorphic feature found on the site follows. This is based on the field evaluation that included an assessment of hydrological conditions, an analysis of vegetation types, and the excavation of soil pits to assess wetland characteristics (Exhibit 7 and Exhibit 8).

### 4.2.1 - Los Osos Creek

Los Osos Creek originates in the Clark Valley within the Irish Hills. It flows northwest out of the hills, then meanders northeast until it crosses Los Osos Valley Road. The creek then flows generally north before entering Morro Bay (TNW). Los Osos Creek is the principal drainage within the project site and is joined by the tributary Warden Creek, into which all other on-site drainages flow. After exiting below the southern edge of Los Osos Valley road, it flows 2.7 river miles to the confluence with Warden Creek. It then flows an additional 0.9 river miles west to enter Morro Bay. Within the relevant reach of the project, Los Osos Creek is a third order stream. Los Osos Creek is an intermittent RPW and maintains an average width (OHWM) of 22 feet in the reach between Los Osos Valley Road and the confluence with Warden Creek. The drainage is incised 25 feet deep in locations north of Los Osos Valley Road. The drainage base is comprised of varying percentages of sand, soil, and rock throughout the site. At the location where the creek passes below Los Osos Road, the channel has an OHWM that varies from 24 to 28 feet in width (26 feet average width). Note that the project boundaries adjacent to Los Osos Valley Road have been arbitrarily defined as being 200 feet on either side of the road centerline. The drainage has downstream connectivity to Morro Bay (TNW) and the Pacific Ocean (TNW).



Source: AirPhoto USA and San Luis Obispo County GIS.



## Exhibit 7 Data Point Locations

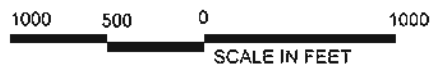


Source: AirPhoto USA and San Luis Obispo County GIS.



Michael Brandman Associates

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## Exhibit 8 Photo Location Map

A wetland pit excavated within the drainage (designated as LOC, Pit 2; see Attachment D, Photograph 3) indicates that hydrophytic vegetation, wetland hydrology (indicated by the presence of a high water table, saturation, riverine water marks, sediment and drift deposits, and drainage patterns), and hydric soils (10YR4/1 loam redox) are present. According to the USACE three-parameter assessment, wetlands are therefore associated with this drainage.

The drainage includes Central Coast Live Oak Riparian Forest habitat. The stand that exists on the project site continues further upstream and to the south along Los Osos Creek, and integrates with Coast Live Oak Forest habitat occupying upland areas to the immediate southwest and west, and Central Coast Arroyo Willow Riparian Forest and Arroyo Willow - Black Cottonwood series riparian habitat further downstream. The habitat onsite contains a dense closed-canopy that is co-dominated by coast live oak trees (upland species, or UPL) and arroyo willow trees (*Salix lasiolepis*, facultative wet species, or FACW). Little understory growth exists within onsite areas that are characterized by this community, and especially within the bare active channel and adjacent channel margins of Los Osos Creek itself. Dominate understory species observed within limited areas include poison oak (*Toxicodendron* FACW), mugwort (*Artemisia douglasiana* FACW), Himalaya blackberry (*Rubious discolor* FACW), and horsetail (*Equisetum hyemale*, FACW).

#### **USACE Jurisdiction**

The onsite portion of Los Osos Creek includes 0.27 acre (931 linear feet) of non-wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.27 acre (931 linear feet) of waters of the State.

#### **CDFG Jurisdiction**

Los Osos Creek includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 1.55 acre.

#### **4.2.2 - Warden Creek**

Warden Creek originates from several drainages that flow from the Irish Hills to the south and from the Santa Lucia Mountains located within and north of the project site. The drainage flows northwest through the Los Osos Valley until it joins Los Osos Creek, of which it is a tributary. With the exception of Los Osos Creek, all other on-site drainages flow either directly or indirectly into Warden Creek. Water was present within the creek during both the April and May site surveys and it is likely the creek maintains flows for at least three continuous months (see Section 3.4.1 regarding peak rainfall). This creek is therefore an RPW that intersects with the project site at two locations. The eastern location is along Turri Road (4.6 river miles and 3.8 linear miles southeast of Morro Bay). The western location is at the northern end of the Branin property (3.1 river miles and 2.6 linear miles southeast of Morro Bay). Warden Creek is contained within Warden Creek wetland at this western location. Within the relevant reach of the site, Warden Creek is a fourth order stream.

At the point where Warden Creek passes below Turri Road, the drainage has an OHWM of approximately 25 feet. At the location where Warden Creek wetland passes through Branin property, the wetland extends to the north outside of the project site.

A wetland pit excavated within Warden Creek wetland (designated WCW Pit 1) indicates that hydrophytic vegetation, wetland hydrology (indicated by the presence of surface water, saturation, drainage patterns, and saturation visible on aerial imagery), and hydric soils (10YR3/6 loam with redox) are present. According to the USACE three-parameter assessment, wetlands are therefore associated with this drainage.

The drainage includes Central Coast Arroyo Willow Riparian Forest habitat. This is located within the Warden Creek wetlands and at the Turri Road crossing. The dominant species observed onsite includes arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum, mulefat (*Baccharis salicifolia*, FACW) and coyote bush (a facultative species, or FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (a facultative uplands species, or FACU) within the herbaceous stratum.

#### **USACE Jurisdiction**

The onsite portion of Warden Creek includes 0.12 acre (214 linear feet) of wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.12 acre (214 linear feet) of waters of the State.

#### **CDFG Jurisdiction**

Warden Creek includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.21 acre.

#### **4.2.3 - Warden Creek Wetland**

The Warden Creek wetland forms part of Warden Creek, but is discussed separately from the drainage in this document because of its size. The wetland extends for more than 5,000 linear feet along its southeast to northwest trending axis, and is up to 700 feet in width. This wetland is a part of Warden Creek (RPW) and is located along the northern periphery of the Branin property (3.1 river miles and 2.6 linear miles southeast of Morro Bay). Within the site, the wetland is approximately 13.34 acres in area, and approximately 1.956 feet in length.

A wetland pit excavated within this wetland is described under Section 4.2.2, above.

The wetland can be classified as a freshwater marsh, and is intermixed with elements of riparian forest within the northern portions of the Branin property. Dominant species present include broad-leaved cattail (*Typha latifolia*, (an obligate species, or OBL) and arroyo willow (FACW). Habitat

quality within the Freshwater Marsh onsite is considered high for a number of common and sensitive terrestrial and aquatic species.

#### **USACE Jurisdiction**

The onsite portion of Warden Creek wetland includes 13.34 acre (1,965 linear feet) of wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 13.34 acre (1,965 linear feet) of waters of the State.

#### **CDFG Jurisdiction**

Warden Creek wetland is considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 13.34 acre.

#### **4.2.4 - Drainage W-1**

Drainage W-1 is an ephemeral non-RPW that originates on the Cemetery property and flows northward through the Giacomazzi and Branin properties into Warden Creek wetland, at a location approximately 3.1 river miles (2.6 linear miles) to the east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-1 is a first and second order stream. The channel has an average OHWM of approximately 2.5 feet, while the bank-to-bank channel varies from 10 to 25 feet in width (17.5 feet average width).

Several wetland pits were excavated within and adjacent to this drainage. One pit (designated as W-1, Pit 4; see Attachment D, Photograph 7) includes hydrophytic vegetation, wetland hydrology (indicated by the presence of water marks, sediment and drift deposits, and water stained leaves), and hydric soils (10YR2/2 sandy loam). According to the USACE three-parameter assessment, wetlands are therefore associated with this drainage. The results found at a second pit (designated as W-1, Pit 6; see Attachment D, Photograph 9) confirmed this assessment.

This drainage contains Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echoides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

The drainage also includes Central Coast Arroyo Willow Riparian Forest habitat. The dominant species observed onsite include arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum,

mulefat (*Baccharis salicifolia*, FACW) and coyote bush (FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (FACU) within the herbaceous stratum.

Because the drainage is a non-RPW, a significant nexus evaluation is included below to determine whether this feature should be considered jurisdictional by the USACE.

### **Significant Nexus Evaluation**

#### ***Hydrological Factors***

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage W-1 is a tributary to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 15-acres. The land is partially disced for agriculture, and contains other fields that are either remnants of past agricultural activities or were fallow at the time of the survey. The land is largely permeable. An rainfall map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where  $Q$  is peak flow,  $C$  is coefficient of runoff,  $I$  is rainfall intensity, and  $A$  is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Attachment H). The peak flow is approximately 5.15 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of a discernible OHWM throughout a portion of the study area, and the proximity of the drainage to an RPW (Warden Creek), makes it reasonable to assume that flow from the study area will be conveyed downstream 3.1 river miles via Warden Creek to Morro Bay (TNW).

#### ***Ecological Factors***

Drainage W-1 serves as an ephemeral conduit through which minerals and organic nutrients from fields and open lands within the Cemetery and Branin properties are flushed downstream toward Morro Bay (TNW) via Warden Creek (RPW). The drainage may also convey pollutants from surrounding land uses within the relevant reach (these land uses include agriculture). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek (into which this tributary discharges) is a CWA Section 303(d) listed 'water quality limited segment' that is impaired for fecal coliform, and low dissolved oxygen. The contribution of any such pollutants by Drainage W-1 would have an immediate impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate the addition of such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

A summary of the hydrological and ecological characteristics that may result in discharge from the drainage having a more than speculative or insubstantial effect on the nearest downstream TNW (Morro Bay) are highlighted in Table 7.

**Table 7: Significant Nexus Determination - Drainage W-1**

Factors	More than Speculative or Insubstantial Effect
<b>Hydrological Factors</b>	
Volume, duration, and frequency of flow. This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring).	Yes
Proximity to the TNW. If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative.	Yes
Contextual hydrological factors. These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack.	No
Presence of tributary or wetland within the flood plain. A significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain.	Yes
<b>Ecological Factors</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW.	Yes
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW.	Yes
Ability of adjacent wetlands to trap and filter pollutants or store flood water.	Yes
Ability to maintain water quality.	No
Source: Michael Brandman Associates, 2008.	

Based on the factors discussed above, it is reasonable to assume the flows within Drainage W-1 may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage W-1 and the nearest TNW, and therefore Drainage W-1 should be considered jurisdictional by the USACE.

The USACE and US Environmental Protection Agency (EPA), however, will make a final significant nexus determination.



### **USACE Jurisdiction**

The onsite portion of Drainage W-1 includes 0.09 acre (1,148 linear feet) of non-wetland and 0.42-acre (449) of wetland waters of the United States.

### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.42 acre (499 linear feet) of waters of the State.

### **CDFG Jurisdiction**

Drainage W-1 is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 1.44 acre.

### **4.2.5 - Drainage W-2**

Drainage W-2 is an ephemeral non-RPW that originates on the Giacomazzi property and that is tributary to Drainage W-1 within that same property. The confluence of this drainage with Drainage W-1 is at a location 3.2 river miles (2.6 linear miles) southeast of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-2 is a first order stream. The channel has an average OHWM of approximately 2 feet, while the bank to bank channel varies from 3 to 25 feet in width (14 feet average width).

A wetland pit (designated as W-2, Pit 1; see Attachment D, Photograph 11) was excavated within the drainage. The pit showed no indicators of hydrophytic vegetation, wetland hydrology, or hydric soils (the dominant soil was a 10YR3/1 loam). Therefore, according to the USACE three parameter assessment, wetlands are not associated with the drainage.

This drainage contains Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echoides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

Because the drainage is a non-RPW, a significant nexus evaluation is included below to determine whether this feature should be considered jurisdictional by the USACE.

### **Significant Nexus Evaluation**

#### **Hydrological Factors**

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as USGS Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square

miles). Drainage W-2 is a tributary to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 15 acres (approximately equal to the tributary area for Drainage W-1). The land is mostly disked for agriculture and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Attachment H). The peak flow is approximately 4.48 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 0.14 river miles from the confluence of Drainage W-2 and Drainage W-1), makes it reasonable to assume that flow from the study area will be conveyed 3.5 river miles downstream via Warden Creek to Morro Bay (TNW).

### ***Ecological Factors***

Drainage W-2 serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields within the Branin property are flushed downstream toward Morro Bay (TNW) via Drainage W-1 and Warden Creek (RPW). The drainage may also convey pollutants from surrounding land uses within the relevant reach (the land use is predominantly agricultural). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek is a CWA Section 303(d) listed 'limited water quality segment' that is impaired for fecal coliform, and low dissolved oxygen. The contribution of any such pollutants by Drainage W-2 would have an immediate impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

A summary of the hydrological and ecological characteristics that may result in discharge from the drainage having a more than speculative or insubstantial effect on the nearest downstream TNW (Morro Bay) are highlighted in Table 8.

**Table 8: Significant Nexus Determination - Drainage W-2**

Factors	More than Speculative or Insubstantial Effect
<b>Hydrological Factors</b>	
Volume, duration, and frequency of flow. This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring).	Yes
Proximity to the TNW. If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative.	Yes
Contextual hydrological factors. These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack.	No
Presence of tributary or wetland within the flood plain. A significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain.	Yes
<b>Ecological Factors:</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW.	Yes
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW	Yes
Ability of adjacent wetlands to trap and filter pollutants or store flood water.	Yes
Ability to maintain water quality.	No
Source: Michael Brandman Associates, 2008.	

Based on the factors discussed above, it is reasonable to assume the flows within Drainage W-2 may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage W-2 and the nearest TNW, and therefore Drainage W-2 should be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

**USACE Jurisdiction**

The onsite portion of Drainage W-2 includes 0.03 acre (612 linear feet) of non-wetland waters of the United States.

**RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.03 acre (612 linear feet) of waters of the State.

### **CDFG Jurisdiction**

Drainage W-2 is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.42 acre.

#### **4.2.6 - Drainage W-3**

Drainage W-3 is an RPW that originates in the Irish Hills and flows north beneath Los Osos Valley Road to connect with Warden Creek (RPW) at a location slightly east of Jacaranda Lane located approximately 3.9 river miles (3.3 linear miles) east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-3 is a second order stream. The channel has an average OHWM of approximately 9 feet, while the bank to bank channel is approximately 30 feet in width.

A wetland pit (designated as W-3, Pit 1; see Attachment D, Photograph 13) was excavated within the drainage. Although the pit indicates that hydrophytic vegetation and wetland hydrology (indicated by the presence of non-riverine water marks, sediment deposits and drainage patterns) are present, the drainage lacks hydric soils (the dominant soil is a 10YR3/2 coarse sandy alluvium). Therefore, according to the USACE three parameter assessment, wetlands are not associated with the drainage.

The drainage includes Central Coast Arroyo Willow Riparian Forest habitat. The dominant species observed onsite includes arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum, mulefat (*Baccharis salicifolia*, FACW) and coyote bush (FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (FACU) within the herbaceous stratum.

### **USACE Jurisdiction**

The onsite portion of Drainage W-3 includes 0.09 acre (410 linear feet) of non-wetland waters of the United States.

### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.09 acre (410 linear feet) of waters of the State.

### **CDFG Jurisdiction**

Drainage W-2 is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.79 acre.

#### **4.2.7 - Drainage W-4**

Drainage W-4 is an RPW that originates in the Irish Hills and flows north beneath Los Osos Valley Road to connect with Warden Creek (RPW) at a location that is approximately 4.1 river miles (3.5 linear miles) east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-4 is a first order stream. The channel has an average OHWM of approximately 22 feet, while the bank to bank channel is also approximately 22 feet in width.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on-site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as rigput brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echioides*, FAC).

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as rigput brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echioides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

The drainage also includes Central Coast Arroyo Willow Riparian Forest habitat. The dominant species observed onsite includes arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum, mulefat (*Baccharis salicifolia*, FACW) and coyote bush (FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (FACU) within the herbaceous stratum.

#### **USACE Jurisdiction**

The onsite portion of Drainage W-4 includes 0.11 acre (256 linear feet) wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.11 acre (256 linear feet) of waters of the State.

#### **CDFG Jurisdiction**

Drainage W-2 is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.11 acre.

#### **4.2.8 - Drainage W-5**

Drainage W-5 is an RPW that originates north of Los Osos Valley Road at the confluence of two tributaries (W-5.a and W-5.b) and flows north to connect with Warden Creek (RPW) at a location that is approximately 4.3 river miles (3.6 linear miles) east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-5 is a second order stream. The channel has an average OHWM of approximately 6 feet, while the bank to bank channel is approximately 6 feet in width.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on-site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as rigput brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echioides*, FAC).

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as rigput brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echioides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

The drainage also includes Central Coast Arroyo Willow Riparian Forest habitat adjacent to Los Osos Valley Road. The dominant species observed onsite includes arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum, mulefat (*Baccharis salicifolia*, FACW) and coyote bush (FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (FACU) within the herbaceous stratum.

#### **USACE Jurisdiction**

The onsite portion of Drainage W-2 includes 0.02 acre (137 linear feet) of wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.02 acre (137 linear feet) of waters of the State.

#### **CDFG Jurisdiction**

Drainage W-2 is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.05 acre.

#### **4.2.9 - Drainage W-5.a**

Drainage W-5.a is an RPW that originates in the Irish Hills and flows north beneath Los Osos Valley Road to connect with Warden Creek (RPW) at a location that is approximately 4.5 river miles (3.7 linear miles) east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-5.a is a second order stream. The channel has an average OHWM of approximately 6 feet. The drainage is

one of two short tributaries (the other tributary being Drainage W-5.b) that join to form Drainage W-5.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on-site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echoides*, FAC).

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echoides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

A wetland pit excavated within the drainage (designated as W-5.a, Pit 1; see Attachment D, Photograph 17 and 18 of the drainage) indicates that hydrophytic vegetation, wetland hydrology (indicated by the presence of water marks, sediment and drift deposits and water stained leaves), and hydric soils (10YR3/1 loam) are present. Therefore, according to the USACE three-parameter assessment, wetlands are associated with this drainage.

### **USACE Jurisdiction**

The onsite portion of Drainage W-5.a includes 0.07 acre (524 linear feet) of wetland waters of the United States.

### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.07 acre (524 linear feet) of waters of the State.

### **CDFG Jurisdiction**

Drainage W-5.a is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.20 acre.

#### 4.2.10 - Drainage W-5.b

Drainage W-5.b is an RPW that originates in the Irish Hills and flows north beneath Los Osos Valley Road to connect with Warden Creek (RPW) at a location that is approximately 4.5 river miles (3.8 linear miles) east of Morro Bay (TNW). Within the relevant reach of the project, Drainage W-5.b is a first order stream. The channel has an average OHWM of approximately 6 feet, while the bank to bank channel is also approximately 6 feet in width on average. The drainage is one of two short tributaries (the other tributary being Drainage W-5.a) that join to form Drainage W-5.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on-site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echoides*, FAC).

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echoides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

Although a wetland pit was not excavated within Drainage W-5.b, a field inspection, combined with results from excavating a pit within tributary Drainage W-5.a. (see discussion above), indicates that this drainage also includes wetland waters.

#### USACE Jurisdiction

The onsite portion of Drainage W-5.b includes 0.10 acre (748 linear feet) of wetland waters of the United States.

#### RWQCB Jurisdiction

RWQCB jurisdiction totals 0.10 acre (748 linear feet) of waters of the State.

#### CDFG Jurisdiction

Drainage W-5.b is ephemeral and includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.21 acre.



#### 4.2.11 - Los Osos Valley Road Seasonal Wetland

This series of wetlands is located south of, and parallel to, Los Osos Valley Road from a point approximately 400 feet west of Drainage W-4 to the intersection with Drainage W-5.b in the east. This wetlands has an average width of approximately 6 feet, while the bank to bank channel is also approximately 6 feet in width on average.

A wetland pit excavated within this drainage (designated as LOVRSW Pit 2) indicates that hydrophytic vegetation, wetland hydrology (as indicated by the presence of water marks, sediment deposits, drainage patterns, surface water, presence of a water table and saturation), and hydric soils (including a 5YR4/6 redox loam) are present. Therefore, the USACE three parameter assessment confirms the presence of these wetlands.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs within these wetlands is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as rigput brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echioides*, FAC).

#### USACE Jurisdiction

The onsite portion of Los Osos Valley Road Seasonal Wetland includes 0.23 acre (1,893 linear feet) of wetland waters of the United States.

#### RWQCB Jurisdiction

RWQCB jurisdiction totals 0.23 acre (1,893 linear feet) of waters of the State.

#### CDFG Jurisdiction

The Los Osos Valley Road Seasonal Wetland is considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.23 acre.

#### 4.2.12 - Drainage T-1

Drainage T-1 originates from precipitation that falls on peaks within the Santa Lucia Range and forms various minor ephemeral drainages, all of which travel generally south to converge within the Tonini property. The drainage is an RPW that flows off the Tonini property to the south to join Warden Creek (RPW) as a tributary approximately 4.9 river miles (3.5 linear miles) southeast of Morro Bay (TNW). Within the relevant reach of the project, Drainage T-1 is a second order stream. Cattle walk within, and graze adjacent to, this drainage in the northwestern portion of the Tonini property in a region separated from the rest of the property by a north-south running fence. The drainage has been highly disturbed by cattle grazing activities. The drainage encompasses wetlands throughout its length, with the exception of a few hundred feet located along its lower (southern) portion where it

exits the Tonini property. These wetlands are up to 25 feet in width. The drainage also includes several pools that are up to 70 feet in length and 30 feet in width. The channel has an average OHWM of approximately 15 feet. During the survey in April, many of these pools were filled with standing water. The groundwater table is generally high in this region.

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs on-site is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echioides*, FAC).

Several wetland pits were excavated within, and near, the drainage. One pit (designated as T-1, Pit 1; see Attachment D, Photograph 27) indicates that hydrophytic vegetation, wetland hydrology (indicated by the presence of a high water table and saturation), and hydric soils (10YR4/6 redox) are present. Therefore, according to the USACE three parameter assessment, wetlands are associated with this drainage. Two other pits (designated as T-1, Pit 3 and T-1, Pit 4; see Attachment D, Photograph 29 and 30) confirm this assessment.

#### **USACE Jurisdiction**

The onsite portion of Drainage T-1 includes 0.08 acre (566 linear feet) of non-wetland waters of the United States and 1.22 acre (5,733 linear feet) of wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.08 acre (566 linear feet) of non-wetland waters of the State and 1.22 acre (5,733 linear feet) of wetland waters of the United States.

#### **CDFG Jurisdiction**

Drainage T-1 includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 3.31 acre.

#### **4.2.13 - Drainage T-1.a**

Drainage T-1.a is a non-RPW that originates near the existing farmhouse on the Tonini property and flows eastward for approximately 0.16 mile before joining Drainage T-1 (RPW). Flows originate from precipitation, nuisance flow from buildings at the Tonini farmhouse, and agricultural runoff. The drainage is incised with vertical banks one to four feet high. The drainage joins Drainage T-1 at a location approximately 5.5 river miles (3.2 vertical miles) from Morro Bay (TNW). Within the relevant reach of the project, Drainage T-1.a is a first order stream. The channel has an average OHWM of approximately 1.5 feet, while the bank to bank channel is approximately 3 feet in width on average.

A wetland pit excavated within the drainage (designated as T-1.a, Pit 1; see Attachment D, Photograph 32) indicates that hydrophytic vegetation, wetland hydrology, and hydric soils (the dominant soil being a 10YR2/2 loam with no redox) are not present. Therefore, according to the USACE three parameter assessment, no wetlands are associated with the drainage.

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echioides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

Because the drainage is a non-RPW, a significant nexus evaluation is included below to determine whether this feature should be considered jurisdictional by the USACE.

### **Significant Nexus Evaluation**

#### **Hydrological Factors**

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage T-1.a is tributary, via Drainage T-1, to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 42 acres. The hilly land is used for agriculture or as open space and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Attachment H). The peak flow is approximately 16.60 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 1.1 river miles from the confluence of Drainage T-1.a and Drainage T-1), makes it reasonable to assume that flows from the study area will be conveyed 4.8 river miles downstream via Warden Creek to Morro Bay (TNW).

#### **Ecological Factors**

Drainage T-1.a serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields and from farmhouses and barns within the Tonini properties are flushed downstream toward Morro Bay (TNW) via Drainage T-1 and Warden Creek (RPW). The drainage

may also convey pollutants from surrounding land uses within the relevant reach (the land use is predominantly agricultural). These potential pollutants may include pathogens, nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek, into which the tributary discharges via Drainage T-1, is a CWA Section 303(d) listed ‘limited water quality segment’ that is impaired for fecal coliform and low dissolved oxygen. The contribution of any such pollutants by Drainage T-1.a would have a relatively rapid impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

A summary of the hydrological and ecological characteristics that may result in discharge from the drainage having a more than speculative or insubstantial effect on the nearest downstream TNW (Morro Bay) are highlighted in Table 9.

**Significant Nexus Determination**

The factors for determining significant nexus for Drainage T-1.a are provided in the table below.

**Table 9: Significant Nexus Determination - Drainage T-1.a**

Factors	More than Speculative or Insubstantial Effect
<b>Hydrological Factors</b>	
Volume, duration, and frequency of flow. This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring).	Yes
Proximity to the TNW. If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative.	Yes
Contextual hydrological factors. These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack.	Yes
Presence of tributary or wetland within the flood plain. Note that a significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain.	Yes
<b>Ecological Factors</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW.	Yes

**Table 9 (Cont.): Significant Nexus Determination - Drainage T-1.a**

Factors	More than Speculative or Insubstantial Effect
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW.	Yes
Ability of adjacent wetlands to trap and filter pollutants or store flood water.	Yes
Ability to maintain water quality.	No
Source: Michael Brandman Associates, 2008.	

Based on the factors discussed above, it is reasonable to assume the flows within Drainage T-1.a may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage T-1.a and the nearest TNW, and therefore Drainage T-1.a should be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

**USACE Jurisdiction**

The onsite portion of Drainage T-1.a includes 0.003 acre (80 linear feet) of non-wetland and no wetland waters of the United States.

**RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.003 acre (80 linear feet) of waters of the State.

**CDFG Jurisdiction**

Drainage T-1.a includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.05 acre.

**4.2.14 - Drainage T-1.b**

Drainage T-1.b is a non-RPW that originates in fields northeast of Turri Road and which, after crossing below Turri Road through a 5 foot diameter culvert, flows for approximately 0.22 miles to the southwest before joining Drainage T-1 (RPW). The drainage joins Drainage T-1 at a location approximately 5.3 river miles (3.4 vertical miles) from Morro Bay (TNW). Within the relevant reach of the project, drainage T-1.b is a first order stream. Flows originate from precipitation and agricultural runoff. The channel has an average OHWM of approximately 3 feet, while the bank to bank channel is also approximately 3 feet in width on average. No wetland waters are associated with this drainage. The drainage is indented with hoof marks and is polluted with pathogens from grazing cattle. The drainage has a rocky bottom and is incised 6 feet deep at locations.

This drainage includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica rapa*, UPL), bristly ox-tongue (*Picris echioides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

Because the drainage is a non-RPW, a significant nexus evaluation is included below to determine whether this feature should be considered jurisdictional by the USACE.

### **Significant Nexus Evaluation**

#### **Hydrological Factors**

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage T-1.b.a is tributary, via Drainage T-1, to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 37 acres. The hilly land is used for agriculture or is open space and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Attachment H). The peak flow is approximately 13.80 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 0.9 river mile from the confluence of Drainage T-1.b and Drainage T-1), makes it reasonable to assume that flow from the study area will be conveyed 5.1 river miles downstream via Warden Creek to Morro Bay (TNW).

#### **Ecological Factors**

Drainage T-1.b serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields and from farmhouses and barns within the Tonini properties are flushed downstream toward Morro Bay (TNW) via Drainage T-1 and Warden Creek (RPW). The drainage may also convey pollutants/nutrients from surrounding land uses within the relevant reach (the land use is predominantly agricultural, but includes the use of tractors and vehicles that park at the farmhouse). These potential pollutants may include pathogens, nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek, into which the tributary discharges via Drainage T-1, is a CWA Section 303(d) listed 'limited water quality segment' that is impaired for

fecal coliform and low dissolved oxygen. The contribution of any such pollutants by Drainage T-1.b would have an immediate impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

A summary of the hydrological and ecological characteristics that may result in discharge from the drainage having a more than speculative or insubstantial effect on the nearest downstream TNW (Morro Bay) are highlighted in Table 10.

**Table 10: Significant Nexus Determination - Drainage T-1.b**

Factors	More than Speculative or Insubstantial Effect
<b>Hydrological Factors</b>	
Volume, duration, and frequency of flow. This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring).	Yes
Proximity to the TNW. If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative.	No
Contextual hydrological factors. These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack.	Yes
Presence of tributary or wetland within the flood plain. A significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain.	Yes
<b>Ecological Factors</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW.	Yes
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW.	Yes
Ability of adjacent wetlands to trap and filter pollutants or store flood water.	Yes
Ability to maintain water quality.	No
Source: Michael Brandman Associates, 2008.	

Based on the factors discussed above, it is reasonable to assume the flows within Drainage T-1.b may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established

between Drainage T-1.b and the nearest TNW, and therefore Drainage T-1.a should be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

### **USACE Jurisdiction**

The onsite portion of Drainage T-1.b includes 0.06 acre (1,198 linear feet) of non-wetland and no-wetland waters of the United States.

### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.06 acre (1,198 linear feet) of waters of the State.

### **CDFG Jurisdiction**

Drainage T-1.b includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 0.48 acre.

### **4.2.15 - Drainage T-2**

Drainage T-2 is a tributary drainage to Drainage T-1 within the Tonini property that includes one wetland (located at the upstream crossing with Turri Road). The drainage is an RPW that flows south of the Tonini property to join Warden Creek (RPW) as a tributary at a location approximately 4.9 river miles (3.5 linear miles) from Morro Bay (TNW). Within the relevant reach of the project, Drainage T-2 is a second order stream. The drainage flows through a gully approximately 25 feet deep in locations. The base is primarily lined with rocks and gravel. The channel has an average OHWM of approximately 12.5 feet,

The dominant plant species observed within the majority of the Vernal Marsh habitat that occurs onsite is the perennial rhizomatous herb, spikerush (*Eleocharis macrostachya*, OBL). Other plant species observed within this habitat onsite include species typical of wetland habitats such as perennial ryegrass (*Lolium multiflorum*, FAC), curly dock (*Rumex crispus*, FACW), yellow sweet clover (*Melilotus officinalis*, FAC), and blue-eyed grass (*Sisyrinchium bellum*, FAC), and species typical of upland habitats such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), wild oats (*Avena fatua*, UPL), and bristly ox-tongue (*Picris echioides*, FAC).

This drainage also includes Disturbed Habitat, which typically occurs within portions that are currently fallow or used as dirt access roads. Many of these areas exist at the margins of existing developed areas and areas historically and/or routinely disturbed as a result of agricultural activities. Common plant species observed within the Disturbed Habitat include non-native annual grasses such as ripgut brome (*Bromus diandrus*, UPL), soft chess (*Bromus hordeaceus*, UPL), and wild oats (*Avena fatua*, UPL), and annual forbs such as filaree (*Erodium cicutarium*, UPL), pineapple weed (*Chamomilla suaveolens*, FACU), wild radish (*Raphanus sativus*, UPL), field mustard (*Brassica*



*rapa*, UPL), bristly ox-tongue (*Picris echioides*, FAC), poison hemlock (*Conium maculatum*, FACW), and fennel (*Foeniculum vulgare*, FACU).

The drainage also includes Central Coast Arroyo Willow Riparian Forest habitat at isolated stands located near the Turri Road culvert. The dominant species observed onsite includes arroyo willow (*Salix lasiolepis*, FACW) within the tree stratum, mulefat (*Baccharis salicifolia*, FACW) and coyote bush (FAC) within the shrub stratum, and poison hemlock (FACW), curly dock (FACW), and fennel (FACU) within the herbaceous stratum.

A wetland pit excavated within this drainage (designated as T-2, Pit 1; see Attachment D, Photograph 33) indicates that hydrophytic vegetation, wetland hydrology (indicated by the presence of a high water table, saturation, drift deposits, and drainage patterns), and hydric soils (10YR4/6 loam redox) are present at the northernmost extent of the drainage within the property site (adjacent to Turri Road). Therefore, according to the USACE three parameter assessment, wetlands are associated with this drainage.

#### **USACE Jurisdiction**

The onsite portion of Drainage T-2 includes 0.10 acre (1,480 linear feet) of non-wetland waters of the United States and 0.08 acre (212 linear feet) of wetland waters of the United States.

#### **RWQCB Jurisdiction**

RWQCB jurisdiction totals 0.10 acre (1,480 linear feet) of non-wetland waters of the State and 0.08 acre (212 linear feet) of wetland waters of the State.

#### **CDFG Jurisdiction**

Drainage W-2 includes a discernible bed and bank, and is therefore considered jurisdictional according to the CDFG. Total CDFG jurisdiction equals 1.12 acre.

## **SECTION 5: REFERENCES**

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## **Attachment A: Regulatory Compliance**

## REGULATORY COMPLIANCE

Regulatory permitting for dredge and fill activities involves a compliance framework requiring interaction with federal, state and local agencies, often involving a diverse number of statutes and regulations.

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### Federal Statutes and Regulations - USACE

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#### Clean Water Act Section 404

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the U.S. Regulated activities include but are not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. In general, any activity, which proposes to carry out an activity, which will temporarily or permanently affect areas delineated as waters of the US, including wetlands, typically requires prior authorization from the USACE, pursuant to Section 404 of the Clean Water Act (CWA). Successful applications will put forth projects with a valid purpose, which generally comply with the avoidance, minimization and mitigation (“no net loss”) goals of the USACE.

#### Nationwide Permits v. Individual Permits

Nationwide permits (NWP) are a type of general permit issued by the Chief of Engineers and are designed to expedite the regulatory process for those types of projects/activities expected to have minimal impacts on jurisdictional areas.

The nationwide permitting program is reauthorized every five years. The current NWP program became effective on March 19, 2007 and includes 49 different nationwide permit categories including “*Linear Transportation Projects*” (NWP 14), “*Residential Developments*” (NWP 29), “*Commercial and Institutional Developments*” (NWP 39) and “*Stormwater Management Facilities*” (NWP 43) among others. Each NWP establishes thresholds, which trigger the need for submitting a pre-construction notification (PCN) to the Corps and which set upper limits to accepted impacts based on the total acreage and/or linear feet of impacts, which result from project. Exceeding these limits will require processing an Individual Permit (IP), which may involve a significantly longer processing time.

#### Federal Jurisdiction over Waters and Wetlands

The USACE will assert jurisdiction over waters that are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The definition of “Waters of the U.S.,” are set forth in the Code of Federal Regulations (CFR) 328.3. The term “waters of the United States” means:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
  - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and
  - (iii) Which are used or could be used for industrial purpose by industries in interstate commerce.
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
- (5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;
- (6) The territorial seas;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section. (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States), and
- (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Subsequent to the U.S. Supreme Court decision in *Rapanos, et al v. United States* (2006) the Environmental Protection Agency (EPA) and the USACE (the agencies) issued a joint memorandum (*Clean Water Act Jurisdiction Following Rapanos v. United States*, (June 5, 2007)), which integrates the *Rapanos* standards with the process presented in 33 CFR 328.3(a).

Pursuant to the memorandum, federal jurisdiction will be asserted over the following categories of water bodies:

- (TNWs): TNW, including territorial seas;
- Wetlands adjacent to TNWs;
- (RPWS): Non-navigable tributaries of TNWs with relatively permanent water flow that are flow directly or indirectly to TNWs. “Relatively permanent” means water flowing for at least three months of the year. (Usually, perennial streams and some intermittent streams); and
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.

In addition, the agencies will assert jurisdiction over the following categories of water bodies only if, based on fact-specific analysis, the water body is determined to have a significant nexus with a TNW:

- (Non-RPWs): Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (Usually ephemeral and some intermittent streams);
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; and
- Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

“A significant nexus exists if the tributary, in combination with all of its adjacent wetlands has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW.”

The agencies will not assert jurisdiction over the following geomorphic features:

- “Swales or erosional features (e.g., gullies small washes characterized by low volume, infrequent or short duration flows),” and
- “Ditches (including roadsides ditches) excavated wholly in and draining only uplands that do not carry relatively permanent water flows.”

The agencies now require that all determinations for non-navigable waters, isolated-waters and/or wetlands be evaluated by the USACE and EPA before making a final jurisdictional determination.

In the absence of wetlands the lateral extent of federal jurisdiction over non-tidal waters of the U.S. is defined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR 328.3, as *“that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”*

In June 2001, the USACE South *Pacific* Division issued *Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest*. The purpose of this document was to aid delineators in assessing the physical characteristics of dry land drainage systems in the Arid West. With respect to jurisdictional determinations, the factors for determining waters of the U.S include *evaluating* the flow regime geomorphic feature, and general indicators of flow. These methods are consistent with the criteria set forth in 328.3(a) and 328.3(e), but are also subject to guidance set forth in the *Rapanos* guidance, including “significant nexus determinations,” as appropriate.

Subject to *Rapanos* limitations, Federal Jurisdiction will extend to “adjacent” wetlands. “Adjacent” means “bordering *contiguous* or neighboring.” According to the USACE Wetlands Delineation Manual, Technical Report, (1987) three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual. The Interim Regional *Supplement* for the Arid West was published in December 2006. Similarly Draft guidance for Western Mountains, Valleys and Coast Regions” was published in April, 2007. In performing its delineations, MBA applies these supplemental guidance as appropriate.

Resulting from the 2001 US Supreme Court in *Solid Waste Agency of North Cook County v. USACE* (SWANCC) case, federal jurisdiction will not reach wholly intra-state wetlands, which are not “adjacent” to a *jurisdictional* stream course. Similarly, as previously established, the *Rapanos* decision may further limit jurisdiction, on a case-specific basis, where a significant nexus determination is required.

### **Primary General Conditions (GC) of 404 Permits**

#### **GC # 4: Compliance with the Migratory Bird Treaty Act**

The MBTA protects all common wild birds found in the US except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.



The primary responsibility for complying with the Migratory Bird Treaty Act (MBTA) is that of the project proponent (permittee) and is independent of Department of the Army permitting processes (404). It should be noted, however, that the nationwide permitting program (General Condition 4) does require that breeding areas for migratory birds in waters of the United States must be avoided to the maximum extent practicable.

**GC # 17: Compliance with Federal Endangered Species Act**

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a) (2) of the Federal Endangered Species Act (ESA), which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) “to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.” As a result, the presence of federally listed species must be determined prior to submittal of the Section 404 application. In the nationwide permitting program compliance with the ESA is set forth in general condition (GC 17)

The USFWS administers the Federal Endangered Species Act. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A “threatened” species is a species that is likely to become endangered. A “proposed” species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Section 9 of the ESA prohibits “take” of threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in take of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize take when it is incidental to, but not the purpose of, an otherwise lawful act.

**GC # 18: Compliance with National Historic Preservation Act**

In processing a Section 404 permit, the USACE is required to comply with section 106 of the National Historic Preservation Act (NHPA). Section 106 consultation is triggered when historic or archaeological sites are potentially affected by the proposed project. In the nationwide permitting program compliance with the NHPA is set forth in general condition (GC 18). The USACE will initiate section 106 consultation with the appropriate state agency (SHPO in California) with federal oversight (ACHP). The process usually requires one month from the date the USACE triggers consultation with the state agency.

### **GC # 21: Compliance with Section 401 of the Clean Water Act**

In connection with notification to the USACE under Section 404 of the Clean Water Act (CWA), pursuant to 33 CFR Part 330, a written request for Section 401 water quality certification must be submitted to the RWQCB to ensure that no degradation of water quality will result from the proposed project. Subject to CWA section 401(a)(1), the Army Corps of Engineers cannot issue a section 404 dredge/fill permit until such time as a CWA section 401 Water Quality Certification (WQC) has been approved by the applicable RWQCB. In the nationwide permitting program compliance with the Section 401 is set forth in general condition (GC 21).

In order to meet the requirements of the RWQCB for issuance of a 401-water quality certification, the project proponent must provide assurances that the project will not adversely affect the water quality of receiving water bodies. A written request for 401 water quality certification must be prepared and submitted to the RWQCB for review. The request will include a detailed project description, a description of *proposed* impacts, identification and discussion of beneficial uses of affected receiving waters (as described within the appropriate Basin Plan), a water quality plan identifying project-specific Best Management practices (BMPs), discussion of other approvals and certifications being obtained, a conceptual restoration plan, and a completed notification form.

**CEQA Compliance:** Pursuant to Title 23, Section 3856(f) of the California Code of Regulations (CCR), the *Regional Water Quality Control Board* (RWQCB) may not issue a Clean Water Act (Section 401) Water Quality Certification (WQC) for a project before being provided with (and having had ample time to review) a copy of the final CEQA documentation prepared for the project. Upon formal request for certification, water quality certification should be forthcoming within 90-120 days of completion of the CEQA process.

**Fee Structure:** Subject to California Code of Regulations (CCR), Title 23, §3833, a section 401 application must be accompanied by an initial deposit of not less than \$500.00. If the initial deposit does not cover the agency's application review costs, the RWQCB may require an additional (one-time) amount using the calculus set forth in section 2200(e), Title 23, of the California Code of Regulations.

### **GC # 22: Compliance with the Coastal Zone Management Act**

In administering the Section 404 permitting program, the USACE is required to abide by Section 307(c)(1) of the Coastal Zone Management Act (CZMA). This requirement is set forth in General Condition No. 22 of *the NWP* (2007) program and detailed in 33 CFR 330.4(d). This condition requires the USACE to provide a consistency determination and receive state agreement prior to the authorization of activities affecting land, water, or natural resources within the coastal zone.

The California "Coastal zone" means that land and water area within the State extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and

recreational areas it *extends* inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, *including* any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

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## State Statues and Regulations - RWQCB

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The State of California has concurrent jurisdiction with the Federal government over §401 Water Quality Certification over jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the State will exert independent jurisdiction via the Porter Cologne Water Quality Act.

### Porter-Cologne Water Quality Act

Section 13260(a) of the California Water Code (“Water Code,” or “Porter Cologne”) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge (ROWD). The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State (Defined in Water Code §13050(e)).

Typically, the State of California relies upon its authority under section 401 of the Federal Clean Water Act (CWA (33 U.S.C. §1341) to regulate discharges of dredged or fill material to California waters that are also within the jurisdiction of the United States Army Corps of Engineers (USACE). Given the water quality certification (WQC) process employed under section 401, waste discharge requirements under Porter Cologne are typically waived for those projects requiring a water quality certification. In 2001 the U.S. Supreme decision in *Sold Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (*SWANCC*) invalidated the Army Corp’s use of the “Migratory Bird Rule” to establish federal jurisdiction over isolated waters. Since 2001, the State of California has reasserted its authority under state law to assert jurisdiction over isolated waters for water quality purposes by requiring a ROWD.

### Regulation of Isolated Waters

Dredging, filling, or excavation of “isolated” waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of the State Porter Cologne Water Quality Act (Water Code).

### Scope of Regulation

With respect to isolated waters, discharges and/or dredging of wetlands, active channels or beds of waterbodies are regulated. Discharges to riparian or areas in proximity to a waterbody are regulated

when such activity will directly or indirectly result a change to water quality. Such changes may include discharge of stormwater pollutants and runoff; change in the nature of vegetation that could affect water quality (e.g., affecting pollutant removal, stream shading or bank stability); or change to the hydrological or geomorphic characteristics of the waterbody.

### **Application of Regulation**

Whenever the USACE issues a jurisdictional disclaimer (concurrs with a finding of no federal jurisdiction), the respective RWQCB is notified of the disclaimer. Typically, the RWQCB will issue a letter notifying the project proponent that a ROWD must be filed. A ROWD must be submitted in one of two forms, depending on the anticipated impacts.

**(1) General Waste Discharge Requirement (GWDR):** The GWDR program is substantively set forth in SWRCB Water Quality Order No. 2004-0004-DWQ. GWDRs are generally prescribed for a category of discharges (either temporary or permanent) involving earth, rock, or similar solid materials if the discharge will not be greater than 0.2 acres and 400 linear feet (for fill or excavation) or 50 cubic yards (for dredging). The type of projects that may be covered under these General WDRs include land development, detention basins, disposal of dredged material, bank stabilization, revetment, channelization, and other similar projects. GWDRs do not apply to discharges that adversely impact, either directly or through habitat modification, any plants or animals identified as candidate, sensitive, or special status species in local or regional plans, or by the CDFG (including NCCPs), or USFWS (including HCPs). Similarly, GWDRs do not apply to discharges impacting significant historical, archaeological or paleontological resources.

### **Requirements**

The GWDR typically requires submittal of the following items: (1) A Notice of Intent (NOI), (2) Any CEQA documents that have been prepared for the project, (3) A fee pursuant to Title 23, section 2200 of the CCR, (4) A Mitigation Plan demonstrating that the discharger will sequentially avoid, minimize, and compensate for the adverse impacts to the affected water bodies, and beneficial uses (as set forth in the applicable Basin Plan), and (5) Any other relevant information requested by the SWRCB or RWQCB. A copy of the application must be submitted to both the applicable RWQCB and to the SWANC-ROWD, Water Quality Certification Unit in Sacramento.

### **Timing**

Pursuant to the requirements of the California Permit Streamlining Act, RWQCB has 30 days to deem the application complete. Upon receipt of a complete submittal, the RWQCB has 45 days in which to issue a Notice of Applicability (NOA) (authorizing the activity) or a Notice of Exclusion (NOE) (denying authorization. The discharge activity is operationally authorized if no NOE is issued within the 45-day evaluation period, provided that the proposed activity is not a prohibited activity.

*(2) Individual Waste Discharge Requirements (IWDR):* Projects not qualifying for the GWDRs will need to satisfy individual waste discharge requirements, typically requiring submittal of 401 Water

Quality Certification forms and supporting documentation as set forth by the respective RWQCB. Such submittals are subject to fees as set forth in California Code of Regulations Title 23 Section 2200(a)(2). Pursuant to the Water Code the project proponent is required to file with the appropriate Regional Water Quality Control Board (RWQCB) a Report of Waste Discharge describing the proposed discharge at least 140 days before it occurs (Water Code §§13260, 13264).

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## State Statutes and Regulations - CDFG

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### Section 1600/1602 of the California Fish and Game Code

In the public interest of protection and conservation of fish and wildlife resources of the state (§1600), Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. CDFG's jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by:

1. The presence of hydrophytic vegetation.
2. The location of definable bed and banks.
3. The presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

### CDFG Regulated Activities

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. When a project requires such activities, a Section 1602 Streambed Alteration Notification will be prepared and submitted to the CDFG for review. The request will include a detailed project description, a description of proposed impacts, a conceptual mitigation plan, and completed notification forms. Typically, CDFG will be able to complete the agreement within 60-90 days of the completion of the CEQA process.

**CEQA Compliance:** It should be noted that CDFG must also comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, §21000, et seq.) before it may issue a final Lake or Streambed Alteration Agreement. Issuance of a final Lake or Streambed Alteration

Agreement occurs after the Department receives a draft Lake or Streambed Alteration Agreement from the applicant and the Department signs it. In many instances, the Department will receive a signed draft Lake or Streambed Alteration Agreement from an applicant before the lead agency has fully complied with CEQA. In those instances, the Department must wait for the lead agency to fully comply with CEQA before it may sign the draft Lake or Streambed Alteration Agreement, thereby making it final.

**Fee Structure:** Pursuant to California Code of Regulations (CCR), Title 14 §699.3, CDFG assesses a fee to cover the cost of reviewing §1602 applications. The fee calculus is based on the sum cost of the proposed activities within the streambed or riparian community.

### **Sensitive Plant and Wildlife Species**

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

### **California Endangered Species Act**

The CDFG administers the California Endangered Species Act (CESA). The State of California considers an “endangered” species one whose prospects of survival and reproduction are in immediate jeopardy. A “threatened” species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A “rare” species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term “species of special concern” is an informal designation used by CDFG for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection under CESA, but signifies that these species are recognized as sensitive by CDFG.

### **California Native Plant Society**

The CNPS is a California resource conservation organization that has developed an inventory of California’s sensitive plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California’s vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

### **Section 3503 and 3511 of the California Fish and Game Code**

The CDFG administers the California Fish and Game Code. Code 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Code 3503.5 further protects all birds in the orders *Falconiformes* and *Strigiformes* (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. Section 3511 of the Code lists fully protected bird species, where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

### **California Coastal Commission**

The mission of the California Coastal Commission is to protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations. The Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, broadly defined by the California Coastal Act of 1976 to include, among others, construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The community of Los Osos utilizes the San Luis Obispo County Local Coastal Program (LCP) as a planning tool to guide development in the coastal zone, in partnership with the California Coastal Commission. The LCP contains the ground rules for future development and the protection of coastal resources. The elements of the General Plan include the LCP, which applies to those areas within the Coastal Zone. For the purposes of preparing the LCP, the County is divided into four segments. Los Osos is located within the region covered by the Estero Area Plan.

A section that is particularly relevant to the implementation of this project is Section 30603 of the Act, which stipulates that the Coastal Commission retains appeal authority after certification of the Local Coastal Plan for any development by the county within 100 feet of any stream.

Another section that is particularly relevant to this project is in Chapter 8 (Public Works), that states in Section 30412 (c) that "Any development within the coastal zone...that constitutes a treatment work shall be reviewed by the Commission..."

## **Attachment B: Jurisdictional Wetlands and Significant Nexus Determination**



## CRITERIA FOR WETLAND DETERMINATIONS

### USACE

As defined in 33 CFR part 328.3(a)(7) and as established by current case law, the USACE will currently assert jurisdiction over wetlands adjacent to waters of the U.S., except for those wetlands adjacent to other wetlands.

The term “wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence or vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR part 328.3(b)).

Typically, the term “adjacent” means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent (33 CFR part 328.3(c)). Similarly, the wetland must be adjacent to either a navigable in-fact water way or tributary thereof. Where “adjacency” cannot be established, the wetlands will be determined to be an “isolated” non-jurisdictional feature unless an independent nexus to interstate or foreign commerce can be established as per 33 CFR part 328.3(a)(3). (Also see *SWANCC v. US*, 2001).

Based on the standards established in *Rapanos v. U.S.*, the USACE will not assert jurisdiction over wetlands where: (1) the wetlands are adjacent to non-navigable tributaries that lack relatively permanent flows, or (2) wetlands are adjacent to but not abutting non-navigable tributaries with relatively permanent water, unless in both cases the relevant portion (reach) of the drainage, together with all of its wetlands, have a significant nexus to a TNW.

According to the USACE *Wetlands Delineation Manual, Technical Report* (1987), three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. **Hydrophytic Vegetation:** A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. **Hydric Soils:** Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils), and
3. **Wetland Hydrology:** Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual *The Interim Regional Supplement for the Arid West*, that was published in December 2006. Similarly, Draft

guidance for Western Mountains, Valleys and Coast Regions” was published in April 2007. In performing its delineations, MBA applies these supplemental guidance as appropriate.

As established in both the USACE 87 Manual and the “Arid West” regional guidance, the following criteria apply.

### **Hydrophytic Vegetation**

Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen because of excessive water content. The USFWS has published the “National List of Vascular Plant Species That Occur in Wetlands,” (1996 National Summary, hereafter NLVPS) and divided plants into 5 groups based on their “wetland indicator status:”

1. Obligate wetland plants (OBL) that occur almost always in wetlands under natural conditions;
2. Facultative wetland plants (FACW) that usually occur in wetlands but occasionally are found in upland areas;
3. Facultative plants (FAC) that are equally likely to occur in wetlands as well as upland;
4. Facultative upland plants (FACU) that usually occur in upland areas but occasionally are found in wetlands; and
5. Upland plants (UPL) that occur almost always in upland areas under natural conditions.

Plus (+) and minus (-) values, used in identifying indicator status in the NLVPS are not applied when evaluating plants in the arid west region. In the arid west, an area is deemed to have hydrophytic vegetation when either it: (1) passes the dominance test; (2) has a prevalence index  $\leq 3$ ; (3) morphological adaptations are present; or (4) the area is a “problem area.” (See, “Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region,” December 2006.)

### **Dominance Test**

An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of dominant plant species (using the 50/20 rule) from all strata are obligate wetland (OBL), facultative wetland (FACW) and/or facultative species (FAC). If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required. If the plant community fails the dominance test, and indicators of hydric soil and/or wetland are absent then hydrophytic vegetation is absent unless the site meets requirements for a problematic wetland situation.

### **Prevalence Test**

In areas failing the dominance test yet having indicators of hydric soil and wetland hydrology, the vegetation must be re-evaluated using the “prevalence index” (PI). The prevalence index takes into account all plant species in the community, not just a few dominants. The index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL =1, FACW =2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (percent cover). The sum of the weighted indicator values are then divided by the sum of the percent cover values for each indicator type. Where the PI value is  $\leq 3$ , the area is considered positive for hydrophytic vegetation. Generally, the index is a more comprehensive analysis of the hydrophytic status of the community than one based on just a few dominant species. The index is particularly useful: (1) in communities only one or two dominants; (2) in highly diverse communities where many species may be present at roughly equal coverage; and (3) when strata differ greatly in total plant cover. The prevalence index is used on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

### **Morphological Adaptations**

In areas failing both the dominance test and prevalence test, yet having indicators of hydric soil and wetland hydrology, hydrophytic vegetation will still be deemed present when the morphological adaptations are present. In the arid west the most common morphological adaptations are adventitious roots and shallow root systems developed on or near the soil surface on FACU species. If more than 50 percent of the FACU species have morphological adaptations, then these species are classified as FAC species and the dominance test and/or prevalence index are recalculated. The vegetation is hydrophytic if either test is positive.

### **Hydric Soils**

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. “Long enough” generally means 1 week during the growing season and soils that are saturated for this period usually support hydrophytic vegetation. The criteria for establishing the presence of hydric soils vary among different types of soils and between normal circumstances, disturbed areas, and problem areas. Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential, causing a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction is typically reflected by the presence of iron or manganese concretions, gleying or mottling. Other field indicators of hydric soils include the presence of sulfidic material, an aquic or peraquic moisture regime, or a spodic horizon. (All organic soils, with the exception of Folists, are classified as hydric soils.)

## Wetland Hydrology

Wetland hydrology is permanent or periodic inundation, or soil saturation for a significant period during the growing season. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. At certain times of the year in most wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils may be observed. Yet, in many instances, especially along the uppermost boundary of wetlands, hydrology is not readily apparent. Despite this limitation, hydrologic indicators can be useful for confirming that a site with hydrophytic vegetation and hydric soils still exhibits wetland hydrology. While hydrologic indicators are sometimes diagnostic of the presence of wetlands, they are generally either operationally impracticable (e.g. in the case of recorded data) or technically inaccurate (e.g., in the case of some field indicators) for delineating wetland boundaries.

The following hydrologic indicators, while not necessarily indicative of hydrologic events during the growing season or in wetlands alone, do provide evidence that inundation or soil saturation has occurred at some time: visual observation of inundation, visual observation of soil saturation, oxidized channels (rhizospheres) associated with living roots and rhizomes, water marks, drift lines, waterborne sediment deposits, water-stained leaves, surface scoured areas, morphological plant adaptations, and hydric soil characteristics.

## Problem Areas and Atypical Situations

In the arid west some wetlands may periodically lack indicators of hydrophytic vegetation, hydric soils or wetland hydrology due to normal (natural) seasonal or annual variability. Similarly, indicators in some areas may be affected by atypical situations brought about by recent human activities or unusual natural events. The Arid West Regional Guidance sets forth a number of procedures to identify and analyze problem areas. Examples of problem areas and atypical situations may include:

### Problematic Vegetation:

- *Temporal Shifts in Vegetation:* plant communities in playas, vernal pools, seepas and springs change in response to seasonal climatic fluctuations. These changes may result from:
  - Seasonal shifts in plant communities between normal wet/dry season
  - *Drought Conditions* lasting more than one growing season.
- *Sparse and Patchy Vegetation:* A seasonal pond must have at least 5 percent plant cover to be considered vegetated. To be considered jurisdictional, unvegetated areas may be considered as other waters of the U.S. if they exhibit Ordinary High Water (OHW) indicators as set forth in 33 CFR 328.3
- *Riparian Areas:* Where there is high variability in wetland vegetation indicator status between the different strata. (Usually the tree strata has wetter indicator status than other strata.)

- *Areas Affected by Grazing:*
- *Managed Plant Communities:* horticulture, tilling/disking.
- *Areas Affected by Fires, Floods and Other Natural Disturbances:*
- *Vigor and Stress Response to Wetland Conditions:* horticulture is either robust or impeded by hydric soils, and/or wetland hydrology.

#### **Problematic Hydric Soils:**

- *Moderately to Very Strong Alkaline Soils:* Redox concentrations and depletions are not always evident in soils with pH of 7.9 or higher.
- *Volcanic Ash:* Soils of volcanic origin are high in silica content and low in redoximorphic minerals such as iron, manganese, and sulfur.
- *Vegetated Sand and Gravel Bars within Flood Plains:* Flood plains may lack hydric soil indicators because seasonal flooding deposits new layers of soil material or the deposited material may lack redoximorphic minerals.
- *Recently Developed Wetlands:* may include mitigation sites, wetland management areas, unintentionally produced wetlands (flood irrigation, leaking water pipes, etc).
- *Seasonally Ponded Soils:* depressional wetlands, usually with perched systems above a restrictive soil layer (hardpan or clay) where the saturation depth or saline conditions prohibit hydric soil indicators.
- *Soils with Relict or Induced hydric Soil Indicators:* in some areas redoximorphic features in hydric soils were formed in the recent or distant past when conditions were substantially wetter than at present. Hydric soil indicators may persist in low land areas which were historically flooded (such as in California's Central Valley) even though the area has been drained for agricultural purposes. Alternatively, hydric soils indicators in upland areas may have formed historically from flood irrigation or like agricultural activities which no longer persist.

#### **Problematic Wetland Hydrology:**

- *Site Visits During the Dry Season:* Hydrophytic vegetation may be absent or diminished during the dry-season (when evapo-transpiration exceeds precipitation). When possible the site should be visited (or re-visited) during the normal wet season.
- *Periods with Below Normal Rainfall:* Rainfall in the 3-month period prior to the site visit should be compared to historical averages from the National Water and Climate Center (NRCS). Rainfall should be between the high and low 30 percent probability values.
- *Drought Years:* Areas subject to drought conditions particularly lasting several years may affect wetland hydrology indicators. The Palmer Drought Severity Index (PDSI) (known

operationally as the Palmer Drought Index (PDI)) attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months. Since weather patterns can change almost literally overnight from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly. PDSI values range between -6 and +6 with negative values indicating dry periods and positive values indicating wet periods:

- (-4 to -6) - Extreme Drought;
  - (-3) - Severe Drought;
  - (-2) - Moderate Drought; and
  - (-1) - Mild Drought.
- *Years with Unusually Low Winter Snowpack*: the hydrology of areas with water-sheds in adjacent mountain regions may be affected by annual variability in the liquid equivalent of the snow pack.
  - *Reference Sites*: If indicators of hydric soil and hydrophytic vegetation are present on a site that lacks wetland hydrology indicators, the site may be considered to be a wetland if the landscape setting, topography, soils, and vegetation are substantially the same as those on nearby reference areas.
  - *Hydrology Tools*: A collection of methods can be used to determine whether wetland hydrology is present on a potential wetland site that lacks indicators due to disturbances or other reasons (particularly in agricultural areas).
  - *Long-term Hydrological Monitoring*: Areas may be monitored over long periods of time.

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## California Department of Fish & Game

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The California Wildlife Protection Act as codified in the Fish & Game code defines “wetlands” as “lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools.” (Fish & Game Code §2785(g))

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## Significant NEXUS Determination

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A significant nexus determination is required when the following water bodies are present:

(1) Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (usually ephemeral and some intermittent streams); (2) Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; or (3) Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

The determination begins by first identifying the relative reach of the applicable tributary. With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching down stream from the project site to the confluence with the next tributary, and upstream to any a similar confluence.

To have a significant nexus a tributary and its adjacent wetlands must have more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. A significant nexus determination requires evaluation of hydrological and ecological factors, which may contribute to the maintenance of water quality, aquatic life, commerce, navigation, recreation, and public health in the TNW.

- Hydrological Factors:
  - Volume, duration, and frequency of flow: including consideration of certain characteristics of the tributary, including historic records of flow, flood predictions, gauge data and personal observations (OHWM, Shelving, water staining, sediment sorting and scouring);
  - Proximity to the TNW: If a tributary is too far from the TNW it’s remoteness is more likely to make the impact on the TNW speculative;
  - Contextual hydrological factors: including (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack, and
  - The presence of tributary or wetland within the flood plain: It should be noted, however that a significant nexus determination cannot be based solely on presence of the water body within or outside the flood plain.
  
- Ecological Factors:
  - The ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to TNW;
  - The Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW;
  - The ability of adjacent wetlands to trap and filter pollutants or store flood water, and
  - The ability to maintain water quality.

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## **Coastal Zone**

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Jurisdictional assessments in the California coastal zone must also evaluate potential wetland areas using the criteria established in the California Coastal Act and set forth in the California Code of Regulations.

The California “Coastal zone” means that land and water area within the State extending seaward to the state’s outer limit of jurisdiction, including all offshore islands, and extending inland generally

1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

The California Coast Act section 30121 defines the term “wetland” as, “*Lands within the coastal zone which be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mud flats, and fens.*”

The Coastal Act is administered in the State by the California Coastal Commission (CCC). Coastal Commission regulations (California Code of Regulations Title 14 (14CCR)) establish a “one parameter definition” that only requires evidence of a single parameter to establish wetland conditions:

Wetland shall be defined as land where the water table is at near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats. (14 CCR 13577)

The Commission’s one parameter definition is similar to the USFWS wetlands classification system, which states that wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly un drained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.



## **Attachment C: Glossary of Terms**

**GLOSSARY OF TERMS**

Term	Source	Page	Definition
<i>Abutting</i>	6	69	With respect to jurisdictional determinations, wetlands that are not separated from the tributary by an upland feature, such as a berm or dike, is “abutting.”
<i>Adjacent</i>	7	N/A	The term “adjacent” means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands.”
<i>Aerial Miles</i>	6	53	With respect to jurisdictional determinations, “aerial miles” is the straight line (linear) distance between the water bodies in question.
<i>Best Management Practices (BMPs)</i>	4	11196	Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.
<i>Clean Water Act (CWA) of 1972</i>	NA	NA	Also known as the Federal Water Pollution Control Act (FWPCA) 33U.S.C.A §§1251 to 1387 (alternatively cited as §§101 - 607). The primary goal as defined in §1251(a) is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Jurisdiction to regulate “waters of the United States,” vested under this Act include: §303 (Water Quality Standards and implementation Plans), §311 (Spill Program and Oil Pollution Act), §401 (State Water Quality Certification), §402 (National Pollutant Discharge Elimination System - NPDES), §404 (Permits for dredge or fill material).
<i>Clean Water Act (CWA) §303</i>	NA	NA	Section 303 Water Quality Standards Program: Under this program, State and authorized Indian Tribes establish water quality standards for navigable waters to “ <i>protect the public health or welfare</i> ” and “ <i>enhance the quality of water,</i> ” “ <i>taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agriculture, industrial, and other purposes, and also taking into consideration their use and value for navigation.</i> ”
<i>Clean Water Act (CWA) §311</i>	NA	NA	Section 311 Spill Program and the Oil Production Act (OPA): Under this program, the CWA addresses pollution from both oil and hazardous substance releases. Together with the Oil Pollution Act, it provides EPA and the U.S. Coast Guard with the authority to establish a program for preventing, preparing for, and responding to, spills that occur in navigable waters of the United States.
<i>Clean Water Act (CWA) §401</i>	NA	NA	Section 401 State Water-Quality Certification: Provides that no Federal permit or license for activities that might result in a discharge to navigable waters may be issued unless a CWA Section 401 water quality certification is obtained from or waived by States or authorized Tribes.

Term	Source	Page	Definition
<i>Clean Water Act (CWA) §402</i>	NA	NA	Section 402 National Pollutant Discharge Elimination Program (NPDES): This program established a permitting system to regulate point source discharges of pollutants (other than dredged or fill material) into waters of the United States.
<i>Clean Water Act (CWA) §404</i>	NA	NA	Section 404 Dredged and Fill Material Permit Program: This program established a permitting system to regulate discharges of dredged or fill material into waters of the United States.
<i>Compensatory Mitigation</i>	4	11196	The restoration, establishment (creation), enhancement, or reservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.
<i>Currently Serviceable</i>	4	11196	Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
<i>Discharge</i>	4	11196	The term “discharge” means any discharge of dredged or fill material and any activity that causes or results in such a discharge.
<i>Enhancement</i>	4	11196	The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.
<i>Ephemeral Stream</i>	4	11196	An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.
<i>Establishment (Creation)</i>	4	11196	The manipulation of the physical, chemical, or biological characteristics preseSan Luis Obispo County - Los Osos Wastewater Project Delineation of Jurisdictional Waters and Wetlandsnt to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.
<i>Facultative Plants (FAC)</i>	1	14	Plants with a similar likelihood (estimated probability of 33 percent to 67 percent) of occurring in both wetlands and non-wetlands.
<i>Facultative Wetland Plants (FACW)</i>	1	14	Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.
<i>Facultative Upland Plants (FACU)</i>	1	14	Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in non-wetlands.

Term	Source	Page	Definition
<i>High tide line</i>	7	N/A	The term “high tide line” means the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
<i>Historic Property</i>	4	11196	Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization which meet the National Register criteria (36 CFR part 60).
<i>Hydrological Units</i>	8	1-3	As prescribed by the USGS, refers to the four levels of subdivisions, used for the collection and organization of hydrological data. The hierarchy of hydrological units include: (1) Regions (2) Subregions (3) Accounting Units, and (4) Cataloging Units. The identifying codes associated with these units are “hydrological unit codes.”
<i>Hydrological Units - “Regions”</i>	8	3	The first level of USGS hydrological classification, which divides the Nation into 21 Major geographic areas. These geographic areas (hydrologic areas based on surface topography) contain either the drainage area of a major river, or the combined drainage areas of a series of rivers. Most of California is located within region “18”. Notable exceptions include the Tahoe basin (Great Basin Region 16) and the Colorado River (Lower Colorado Region 15). All smaller hydrological units with the region begin with the region number (18).
<i>Hydrological Units - “Subregions”</i>	8	3	The second level of USGS hydrological classification, divides the 21 regions into 222 subregions (nationally). A subregion includes the area drained by a river system a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area. Within Region 18, the state of California includes 10 sub-regions.
<i>Hydrological Units - “Accounting Units”</i>	8	3	The third level of USGS hydrological classification, subdivides many of the subregions in accounting units. These 352 hydrologic accounting units nest within, or are equivalent to, the subregions. The accounting units are used by the Geological Survey for designing and managing the National Water Data Network. Within Region 18, the state of California includes 16 Accounting Units.

Term	Source	Page	Definition
<i>Hydrological Units - "Cataloging Units"</i>	8	3	The fourth level of USGS hydrological classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geologic area representing part of all of a surface drainage basin, a combination of drainage basins, or a distinct hydrological feature. There are 2,150 cataloging units in the United States. Within Region 18, the state of California includes 135 cataloging units.
<i>Independent utility</i>	4	11196	A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.
<i>Intermittent stream</i>	4	11196	An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
<i>Loss of Waters of the United States</i>	4	11196	Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a water body, or change the use of a water body. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an Nationwide Permit (NWP); it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.
<i>Non-tidal wetland</i>	4	11196	A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).
<i>Obligate Wetland Plants (OBL)</i>	1	14	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.

Term	Source	Page	Definition
<i>Obligate Upland Plants (UPL)</i>	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
<i>Open Water</i>	4	11196	For purposes of the NWP, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.
<i>Ordinary High Water Mark</i>	7	N/A	The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
<i>Ordinary High Water Mark</i>	4	11196	An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).
<i>Perennial Stream</i>	4	11197	A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.
<i>Practicable</i>	4	11197	Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
<i>Pre-construction notification</i>	4	11197	A request submitted by the project proponent to the USACE for confirmation that a particular activity is authorized by a NWP. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a NWP, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by a NWP.
<i>Preservation</i>	4	11197	The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Term	Source	Page	Definition
<i>Re-establishment</i>	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.
<i>Rehabilitation</i>	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
<i>Relatively Permanent Water (RPW)</i>	5,	5,69	In the context of CWA jurisdiction post- <i>Rapanos</i> , a water body is “relatively permanent” if it flows year round or its flow is continuous at least “seasonally,” (e.g., typically 3 months). Wetlands adjacent to a “relatively permanent” tributary are also jurisdictional if those wetlands directly abut such a tributary.
<i>Relevant Reach</i>	6	40	With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching down stream from the project site to the confluence with the next tributary or upstream to a similar confluence.
<i>Restoration</i>	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.
<i>Riffle and pool complex</i>	4	11197	Riffle and pool complexes are special aquatic sites under the CWA Section 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a streaming flow, a smooth surface, and a finer substrate.
<i>Riparian area</i>	4	11197	Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects water bodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20, in the NWP.)
<i>River Miles</i>	6	53	The flowing distance between the water bodies in question. Typically not a straight line; rather, the measurement is based on how far the water will travel from water body A to water body B. For example, the water in a meandering tributary will flow further than water flowing in a channelized tributary provided the two water bodies are the same distance apart in the landscape.

Term	Source	Page	Definition
<i>Shellfish seeding</i>	4	11197	The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.
<i>Significant Nexus</i>	5	40	In the context of CWA jurisdiction post- <i>Rapanos</i> , a water body is considered to have a “significant nexus” with a traditional navigable water if its flow characteristics and functions in combination with the ecological and hydrological functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.
<i>Single and complete project</i>	4	11197	The term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a “single and complete project” is all crossings of a single water of the United States (i.e., a single water body) at a specific location. For linear projects crossing a single water body several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate water bodies, and crossings of such features cannot be considered separately.
<i>Stormwater management</i>	4	11197	Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.
<i>Stormwater management facilities</i>	4	11197	Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.
<i>Stream bed</i>	4	11197	The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the ordinary high water marks, are not considered part of the streambed.
<i>Stream channelization</i>	4	11197	The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.
<i>Stream Order</i>	NA	NA	A method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order, the stream receiving the tributary is called second order, and so on.



Term	Source	Page	Definition
<i>Structure</i>	4	11197	An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.
<i>Tidal waters</i>	7	N/A	The term “tidal waters” means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.
<i>Tidal wetland</i>	7	N/A	A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channel-ward of the high tide line, which is defined at 33 CFR 328.3(d).
<i>Traditional Navigable Waters (TNW)</i>	6	68	A “traditional navigable water” includes all the “navigable waters of the United States,” defines in 33 CFR §329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. Per 33 CFR §329: Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity. The USACE is currently drafting new regulations defining TNWs.
<i>Tributary</i>	6	69	A “tributary,” as defined in the <i>Rapanos</i> guidance document, means a natural, man-altered, or man-made water body that carries directly or indirectly into a traditional navigable water. For the purposes of determining significant nexus with a traditional navigable water, a “tributary” is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).
<i>Upland Plants (UPL)</i>	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.

Term	Source	Page	Definition
<i>Vegetated shallows</i>	4	11197	Vegetated shallows are special aquatic sites under the CWA Section 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as sea grasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.
<i>Waterbody</i>	4	11197	For purposes of the NHPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent—meaning bordering, contiguous, or neighboring—to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.
<i>Waters of The United States</i>	7	N/A	The term “waters of the United States” means: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the United States under the definition; (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section, (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition] are not waters of the United States.) and (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.

Term	Source	Page	Definition
Wetlands	1,2,7	N/A	The term “wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The criteria for determining wetlands is set forth in the USACE Wetlands Delineation Manual (1987) and relevant Regional Supplements (Arid West, December 2006)

Sources:

1. USACE Wetlands Delineation Manual, January 1987
2. USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001
3. USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006
4. FEDERAL REGISTER: Department of Defense; Department of the Army, Corps of Engineers, Re-issuance of Nationwide Permits; Notice, March 12, 2007
5. EPA/USACE Joint Memorandum: Clean Water Act Jurisdiction Following the U.S. Supreme Court’s Decision in *Rapanos v. United States and Carabell v. United States*, (June 5, 2007)
6. USACE Jurisdictional Delineation Form Instructional Guidebook, May 30, 2007
7. Code of Federal Regulations (CFR): 33 CFR 328.3 Definitions of Waters of the United States and/or 33 CFR 329 Definitions of Navigable Waters of the United States.
8. USGS Hydrologic Unit Maps, U.S. Geological Survey Water-Supply Paper 2294 (1994), by Paul R. Seaber, F. Paul Kapinos, and George L Knapp.

## **Attachment D: Site Photographs**



Photograph 1: Los Osos Creek taken downstream of Los Osos Valley Road overcrossing, facing south. Note sandy alluvial substrate and dense riparian canopy.



Photograph 2: View of Los Osos Creek Pit 1, facing north and downstream toward the Los Osos Valley Road overcrossing.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 1 and 2

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 3: View of Los Osos Creek Pit 2 adjacent to Los Osos Valley Road, facing north.



Photograph 4: View of Drainage W-1 Pit 1 at headwaters, facing north.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 3 and 4



Photograph 5: View of Drainage W-1 Pit 2 taken within thalweg and upstream edge of riparian canopy, facing northeast.



Photograph 6: View of Drainage W-1 Pit 3, and upland reference sample taken outside riparian canopy for W-1, facing northwest.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 5 and 6



Photograph 7: View of Drainage W-1 Pit 4, taken within thalweg of W-1 and beneath riparian canopy, facing south and upstream.



Photograph 8: View of Drainage W-1 Pit 5, and upland reference sample taken at the edge of the riparian canopy for W-1, facing northeast.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 7 and 8





Photograph 9: View of Drainage W-1 Pit 6, taken within adjacent wetland for W-1, facing southeast.



Photograph 10: View of Drainage W-1 Pit 7, upland reference sample taken at edge of wetland, facing southeast.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 9 and 10

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 11: View of Drainage W-2 Pit 1, taken at headwaters, facing northeast and downstream.



Photograph 12: Typical view of Drainage W-3, facing north and downstream. Note sandy alluvial substrate and sparse riparian canopy.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 11 and 12



Photograph 13: View of Drainage W-3 Pit 1, taken immediately downstream of Los Osos Valley Road culvert, facing north and downstream.



Photograph 14: Overview of Drainage W-4 immediately downstream and north of Los Osos Valley Road culvert, looking northwest from adjacent uplands.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 13 and 14

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 15: View of twin culverts within Drainage W-4, facing south across Los Osos Valley Road.



Photograph 16: View of W-5 taken immediately north of Los Osos Valley Road, facing north and downstream.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

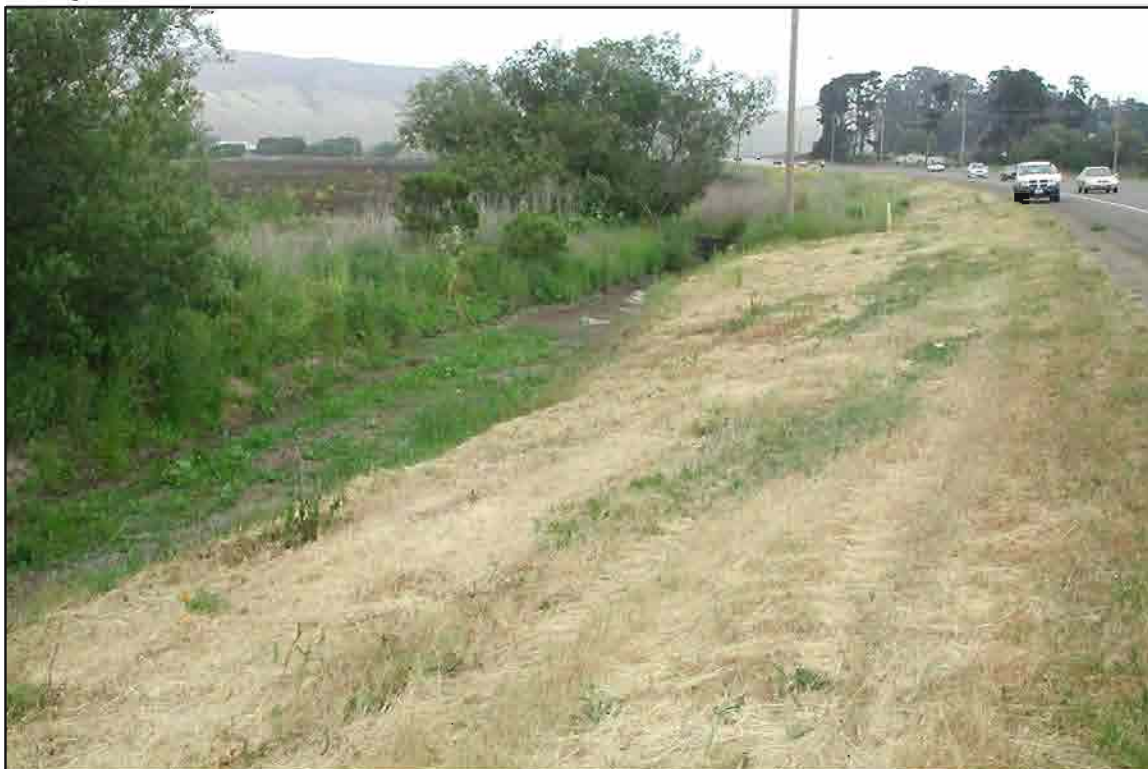
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## Appendix D Site Photographs 15 and 16

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 17: Drainage W-5.a, from culverts, facing west along north side of Los Osos Valley Road



Photograph 18: View of Drainage W-5.a, facing east along north side of Los Osos Valley Road.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 17 and 18

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 19: View of Drainage W-5.a. Facing west along north side of Los Osos Valley Road.



Photograph 20: View of Drainage W-5.a Pit 1, facing southwest toward culvert exiting northern side of Los Osos Valley Road.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 19 and 20

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 21: View of Drainage W-5.a Pit 2, an upland reference sample, facing west.



Photograph 22: Typical view of thalweg for Drainage W-5.b.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 21 and 22

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 23: View of Drainage W-5.b, facing east along north side of Los Osos Valley Road.



Photograph 24: Drainage W-5.b Pit 1, facing west along northern side of Los Osos Valley Road.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 23 and 24

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS





Photograph 25: Typical view of Warden Creek taken from Turri Road overcrossing, facing east and upstream.



Photograph 26: Overview of Warden Creek at Turri Road overcrossing, facing west and downstream. Note standing water and perennial stream flows.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 25 and 26



Photograph 27: Drainage T-1 Pit 1, facing southeast from near to northern property boundary.



Photograph 28: Drainage T-1 Pit 2, facing northeast toward Turri Road.

Source: Michael Brandman Associates, 2008.



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## Appendix D Site Photographs 27 and 28

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 29: Drainage T-1 Pit 3, facing south.



Photograph 30: View of Drainage T-1 Pit 4, taken within downstream limit of T-1 wetlands, facing south.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 29 and 30



Photograph 31: View of Drainage T-1 Pit 5, sample taken within thalweg of drainage, facing south. Note sandy alluvial substrate and lack of riparian vegetation.



Photograph 32: Drainage T-1.a Pit 1, taken at confluence with T-1, facing northwest.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photographs 31 and 32

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Photograph 33: View of Drainage T-2 Pit 1, sample within riparian canopy immediately west and downstream of Turri Road culvert, facing west and downstream.

Source: Michael Brandman Associates, 2008.



Michael Brandman Associates

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## Appendix D Site Photograph 33

## **Attachment E: Jurisdictional Determination Form**

**Approved JD Form**

**Drainage T-1.a**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 80 linear feet: 1.5 feet width and/or 0.003 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 120 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.



**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 42 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 5-10 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows east to join Drainage T-1, which flows south to join Warden Creek. From confluence with Drainage T-1, water flows west for 5.9 river miles (3.4 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: XXXX feet

Average depth: 1 to feet

Average side slopes: **3:1** .

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 4.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 16.60 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

#### *Hydrological Factors*

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage T-1.a is tributary, via Drainage T-1, to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage approximately 42 acres. The hilly land is used for agriculture or as open space and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Appendix H). The peak flow is approximately 16.60 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 1.1 river miles from the confluence of Drainage T-1.a and Drainage T-1) makes it reasonable to assume that flows from the study area will be conveyed 4.8 river miles downstream via Warden Creek to Morro Bay (TNW).

#### *Ecological Factors*

Drainage T-1.a serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields and from farmhouses and barns within the Tonini properties are flushed downstream toward Morro Bay (TNW) via Drainage T-1 and Warden Creek (RPW). The drainage may also convey pollutants from surrounding land uses within the relevant reach (the land use is predominantly agricultural). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek, into which the tributary discharges via Drainage T-1, is a CWA Section 303(d) listed 'limited water quality segment' that is impaired for fecal coliform, low dissolved oxygen, nitrate, nutrients, sedimentation/siltation, and pathogens. The contribution of any such pollutants by Drainage T-1.a would have a relatively rapid impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability

to attenuate such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

*Significant Nexus Determination*

**Table 1: Significant Nexus Determination – Drainage T-1.a**

Factors	More than speculative or insubstantial effect
<b>Hydrological Factors:</b>	
Volume, duration, and frequency of flow  This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring)	YES
Proximity to the TNW  If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative	YES
Contextual hydrological factors  These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack	YES
Presence of tributary or wetland within the flood plain  Note that a significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain	YES
<b>Ecological Factors:</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW	YES
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW	YES
Ability of adjacent wetlands to trap and filter pollutants or store flood water	YES
Ability to maintain water quality	NO

Based on factors discussed above, it is reasonable to assume the flows within Drainage T-1.a may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage T-1.a and the nearest TNW, and therefore Drainage T-1.a will be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
  
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **80** linear feet **1.5 feet** width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**



**Approved JD Form**

**Drainage T-1.b**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: \_\_\_\_\_ County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: \_\_\_\_\_

Field Determination. Date(s): \_\_\_\_\_

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: \_\_\_\_\_

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 1,198 linear feet: 3 width and/or 0.06 acres.

Wetlands: \_\_\_\_\_ acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 98 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: \_\_\_\_\_

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 37 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1-2 river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1-2 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows southwest to join Drainage T-1, which flows south to join Warden Creek. From confluence with Drainage T-1, water flows west for 5.7 river miles (3.6 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced in the past and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: XXXX feet

Average depth: 1 to feet

Average side slopes: **3:1** .

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/20% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 4.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 13.80 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

#### *Hydrological Factors*

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage T-1.b.a is tributary, via Drainage T-1, to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 37 acres. The hilly land is used for agriculture or is open space and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Appendix H). The peak flow is approximately 13.80 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 0.9 river mile from the confluence of Drainage T-1.b and Drainage T-1) makes it reasonable to assume that flow from the study area will be conveyed 5.1 river miles downstream via Warden Creek to Morro Bay (TNW).

#### *Ecological Factors*

Drainage T-1.b serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields and from farmhouses and barns within the Tonini properties are flushed downstream toward Morro Bay (TNW) via Drainage T-1 and Warden Creek (RPW). The drainage may also convey pollutants/nutrients from surrounding land uses within the relevant reach (the land use is predominantly agricultural, but includes the use of tractors and vehicles which park at the farmhouse). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek, into which the tributary discharges via Drainage T-1, is a CWA Section 303(d) listed 'limited water quality segment' that is impaired for fecal coliform, low dissolved oxygen, nitrate, nutrients, and sedimentation/siltation. The contribution of any such pollutants by Drainage T-1.b will have an immediate impact on Warden

Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate such pollutants before their discharge into Morro Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

**Significant Nexus Determination**

**Table 1: Significant Nexus Determination – Drainage T-1.b**

Factors	More than speculative or insubstantial effect
<b>Hydrological Factors:</b>	
Volume, duration, and frequency of flow This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring)	YES
Proximity to the TNW If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative	NO
Contextual hydrological factors These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack	YES
Presence of tributary or wetland within the flood plain Note that a significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain	YES
<b>Ecological Factors:</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW	YES
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW	YES
Ability of adjacent wetlands to trap and filter pollutants or store flood water	YES
Ability to maintain water quality	NO

Based on factors discussed above, it is reasonable to assume the flows within Drainage T-1.b may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage T-1.b and the nearest TNW, and therefore Drainage T-1.a will be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

**1. TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.

**2. RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **1,198** linear feet **3 feet** width (ft) 0.10 acre.  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.



- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage T-1**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: \_\_\_\_\_ County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 566 linear feet: 15 feet width and/or 0.08 acres.

Wetlands: 1.22 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 80 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 420 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: T-1 flows south to join Warden Creek. From confluence with Drainage T-1, water flows west for 4.8 river miles (3.4 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 15 feet  
Average depth: 1 to feet  
Average side slopes: **3:1**.

**Primary tributary substrate composition (check all that apply):**

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

**Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:** .

**Presence of run/riffle/pool complexes. Explain:** .

**Tributary geometry:** **Meandering**

**Tributary gradient (approximate average slope):** 1.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 157 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):**

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 1.22 acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: .

Surface flow is: **Discrete and confined**

Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: **0.08** linear feet **15** width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters:

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

<sup>8</sup>See Footnote # 3.



- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **1.22** acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.  
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

#### **SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: .

Corps navigable waters' study: .

U.S. Geological Survey Hydrologic Atlas: .

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: .

State/Local wetland inventory map(s): .

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): .

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage T-2**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California  
California

County/parish/borough: Riverside

City: Community of Los Osos, San Luis Obispo County,

Center coordinates of site (lat/long in degree decimal format): Lat. 35      **N**, Long. 120      ° **W**.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 1,480 linear feet: 13 feet width and/or 0.10 acres.

Wetlands: 0.08 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 80 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 610 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows west to join Drainage T-1, which flows south to join Warden Creek. From confluence with Drainage T-1, water flows west for 5.1 river miles (3.6 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 13 feet  
Average depth: 1 to 8 feet  
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 227 cfs for 50-year, 6-hour storm event.

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Yes.** Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

(iv) **Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: .

Surface flow is: **Discrete and confined**

Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: 0.10 linear feet 13 width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters:



**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet **feet** width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.08** acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .  
 Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: \_\_\_\_\_.

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. \_\_\_\_\_.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_.

Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet, \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_.

Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: \_\_\_\_\_.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: \_\_\_\_\_.

Corps navigable waters' study: \_\_\_\_\_.

U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_.

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: \_\_\_\_\_.

State/Local wetland inventory map(s): \_\_\_\_\_.

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): \_\_\_\_\_.

Previous determination(s). File no. and date of response letter: \_\_\_\_\_.

Applicable/supporting case law: \_\_\_\_\_.

Applicable/supporting scientific literature: \_\_\_\_\_.

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD: \_\_\_\_\_.**

**Approved JD Form**

**Drainage W-1**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: \_\_\_\_\_ County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, CA  
Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 1,148 linear feet: 2.5 feet width and/or 0.09 acres.

Wetlands: 0.42 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 45 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 15 acres

Average annual rainfall: 19.0 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: Drainage flows north to join Warden Creek wetland (part of Warden Creek), which flows northwest for 3.3 river miles (2.5 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that has been used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: XXXX feet  
Average depth: 2 to 5 feet  
Average side slopes: **2:1**.

**Primary tributary substrate composition (check all that apply):**

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/50% cover:  
 Other. Explain: .

**Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:** .

**Presence of run/riffle/pool complexes. Explain:** .

**Tributary geometry:** **Meandering**

**Tributary gradient (approximate average slope):** 2.5 %

(c) Flow:

**Tributary provides for:** **Ephemeral flow**

**Estimate average number of flow events in review area/year:** **6-10**

**Describe flow regime:**

**Other information on duration and volume:** Rational Method used to calculate flow as 5.15 cfs for 50-year, 6-hour storm event.

**Surface flow is:** **Discrete and confined.** Characteristics: .

**Subsurface flow:** **Yes.** Explain findings: .

Dye (or other) test performed: .

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):**

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:.
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain:

Surface flow is: **Overland sheetflow**

Characteristics:

Subsurface flow: **Unknown**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain:

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

#### *Hydrological Factors*

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage W-1 is a tributary to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater as precipitation and agricultural runoff.

The drainage tributary area is approximately 15-acres. The land is partially disced for agriculture, and contains other fields that are either remnants of past agricultural activities or were fallow at the time of the survey. The land is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where Q is peak flow, C is coefficient of runoff, I is rainfall intensity, and A is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Appendix XXX). The peak flow is approximately 5.15 cubic feet per second (cfs). This flow, combined with the presence of a discernible OHWM throughout a portion of the study area, and the fact that drainage discharges directly into an RPW(Warden Creek), makes it reasonable to assume that flow from the study area will be conveyed downstream 3.3 river miles via Warden Creek to Morro Bay (TNW).

#### *Ecological Factors*

Drainage W-1 serves as an ephemeral conduit through which minerals and organic nutrients from fields and open lands within the Cemetery and Branin properties are flushed downstream toward Morro Bay (TNW) via Warden Creek (RPW). The drainage may also convey pollutants from surrounding land uses within the relevant reach (these land uses include agriculture). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek (into which this tributary discharges) is a CWA Section 303(d) listed 'water quality limited segment' that is impaired for fecal coliform, low dissolved oxygen, nitrate, nutrients, and sedimentation/siltation. The contribution of any such pollutants by Drainage W-1 will have an immediate impact on Warden Creek. The fact that the creek is already impaired by these substances will reduce its capability to attenuate such pollutants before their discharge into Morro



Bay, and increase the likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay will ultimately influence the ecology of that water body.

**Table 1: Significant Nexus Determination – Drainage W-1**

FACTORS	More than speculative or insubstantial effect
<b>Hydrological Factors:</b>	
Volume, duration, and frequency of flow  This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring).	YES
Proximity to the TNW  If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative	YES
Contextual hydrological factors  These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack	NO
Presence of tributary or wetland within the flood plain  Note that a significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain	YES
<b>Ecological Factors:</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW	YES
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW	YES
Ability of adjacent wetlands to trap and filter pollutants or store flood water	YES
Ability to maintain water quality	NO

Based on factors discussed above, it is reasonable to assume the flows within Drainage W-1 may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage W-1 and the nearest TNW, and therefore Drainage W-1 will be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: linear feet width (ft), Or, acres.
  - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .

- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **1,148** linear feet **1.5** width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetland is within the Drainage W-1. .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.42** acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters:
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008
  - or  Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**Approved JD Form**

**Drainage W-2**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 612 linear feet: 2 feet width and/or 0.03 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 45 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 15 acres

Average annual rainfall: 19.0 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.

Project waters are **1 (or less)** river miles from RPW.

Project waters are **2-5** aerial (straight) miles from TNW.

Project waters are **1 (or less)** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows east to join Drainage W-1, which flows north to join Warden Creek wetland (part of Warden Creek), which flows northwest for 3.5 river miles (2.6 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: XXXX feet

Average depth: 1 to 52feet

Average side slopes: **3:1** .

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/50% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 2.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 4.48 cfs for 50-year, 6-hour storm event.

Surface flow is: **Discrete and confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)



Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

#### *Hydrological Factors*

Los Osos/Baywood Park is located within the Central California Coastal Watershed (identified as United States Geological Survey (USGS) Region 18, Accounting Unit 180600, which has an area of approximately 11,400 square miles). Drainage W-2 is a tributary to Warden Creek (RPW), which is tributary to Morro Bay (TNW). The drainage conveys stormwater that originates as precipitation and agricultural runoff.

The tributary area to the drainage is approximately 15 acres (approximately equal to the tributary area for Drainage W-1). The land is mostly disc'd for agriculture and is largely permeable. An isopluvial map of the region shows that most of the project site is subject to an annual rainfall of approximately 19.0 inches. The Rational Method ( $Q = CIA$ , where  $Q$  is peak flow,  $C$  is coefficient of runoff,  $I$  is rainfall intensity, and  $A$  is area) is used to calculate approximate peak flow for the 50-year, 6-hour storm event (see Appendix H). The peak flow is approximately 4.48 cubic feet per second (cfs). The relative magnitude of this flow, combined with the presence of an OHWM that is discernible throughout a portion of the drainage, and the proximity of the drainage to an RPW (Warden Creek is less than 0.14 river miles from the confluence of Drainage W-2 and W-1) makes it reasonable to assume that flow from the study area will be conveyed 3.5 river miles downstream via Warden Creek to Morro Bay (TNW).

#### *Ecological Factors*

Drainage W-1 serves as an ephemeral conduit through which minerals and organic nutrients from agricultural fields within the Branin properties are flushed downstream toward Morro Bay (TNW) via Drainage W-1 and Warden Creek (RPW). The drainage may also convey pollutants from surrounding land uses within the relevant reach (the land use is predominantly agricultural). These potential pollutants may include nitrogen/nitrates/ammonia, total dissolved solids, pesticides, and fertilizers. Warden Creek is a CWA Section 303(d) listed 'limited water quality segment' that is impaired for fecal coliform, low dissolved oxygen, nitrate, nutrients, and sedimentation/siltation. The contribution of any such pollutants by Drainage W-2 would have an immediate impact on Warden Creek. The fact that the creek is already impaired by these substances would reduce its capability to attenuate such pollutants before their discharge into Morro Bay, and increase the

likelihood and degree of their impact on the quality of bay waters. The discharge of such pollutants into the bay would ultimately influence the ecology of that water body.

**Table 1: Significant Nexus Determination – Drainage W-2**

Factors	More than speculative or insubstantial effect
<b>Hydrological Factors:</b>	
Volume, duration, and frequency of flow  This includes consideration of certain tributary characteristics, historic records of flow, flood predictions, gauge data, and personal observations (OHWM, shelving, water staining, sediment sorting, and scouring)	YES
Proximity to the TNW  If a tributary is far from a TNW, the impact on the TNW is more likely to be speculative	YES
Contextual hydrological factors  These include (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack	NO
Presence of tributary or wetland within the flood plain  Note that a significant nexus determination cannot be based solely on the presence of a water body within or outside the flood plain	YES
<b>Ecological Factors:</b>	
Ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to a TNW	YES
Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW	YES
Ability of adjacent wetlands to trap and filter pollutants or store flood water	YES
Ability to maintain water quality	NO

Based on factors discussed above, it is reasonable to assume the flows within Drainage W-2 may be capable of at least partially flushing sediment, organic compounds, and / or nutrients downstream to Morro Bay (TNW). Though diluted and reduced in quantity from the project site where they originate, such substances could have a more than insubstantial or speculative effect on the chemical, physical, and biological integrity of a TNW. Therefore, a significant nexus can be established between Drainage W-2 and the nearest TNW, and therefore Drainage W-2 will be considered jurisdictional by the USACE.

The USACE and EPA, however, will make a final significant nexus determination.

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
  
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.

**2. RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
- Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **612** linear feet **2 feet** width (ft). XXX to XXX ft
- Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetland is within Drainage W-2.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**Approved JD Form**

**Drainage W-3**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: \_\_\_\_\_ County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: \_\_\_\_\_

Field Determination. Date(s): \_\_\_\_\_

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: \_\_\_\_\_

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 410 linear feet: 9 feet width and/or 0.09 acres.

Wetlands: \_\_\_\_\_ acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 30 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: \_\_\_\_\_

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 220 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: Drainage flows northeast to join Warden Creek, which flows northwest for 4.2 river miles (3.4 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 9 feet  
Average depth: 1 to 5 feet  
Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 68.9 cfs for 50-year, 6-hour storm event.

Surface flow is: **Discrete and confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
  
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
  
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
  
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: **410** linear feet **9** width (ft).
- Other non-wetland waters: acres.  
 Identify type(s) of waters:

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

<sup>8</sup>See Footnote # 3.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet **feet** width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

#### **SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: .

Corps navigable waters' study: .

U.S. Geological Survey Hydrologic Atlas: .

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: .

State/Local wetland inventory map(s): .

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): .

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage W-4**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California  
California

County/parish/borough: Riverside

City: Community of Los Osos, San Luis Obispo County,

Center coordinates of site (lat/long in degree decimal format): Lat. 35      **N**, Long. 120      ° **W**.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 256 linear feet: 22 feet width and/or 0.11 acres.

Wetlands:                  acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 40 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 75 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: Drainage flows north to join Warden Creek, which flows northwest for 4.4 river miles (3.8 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 22 feet  
Average depth: 1 to 5 feet  
Average side slopes: **2:1**.

**Primary tributary substrate composition (check all that apply):**

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

**Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:** .

**Presence of run/riffle/pool complexes. Explain:** .

**Tributary geometry:** **Relatively straight**

**Tributary gradient (approximate average slope):** 1.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 23.5 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):**

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
  
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
  
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs:        linear feet        width (ft), Or,        acres.  
 Wetlands adjacent to TNWs:        acres.
  
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
  - Other non-wetland waters:        acres.
- Identify type(s) of waters: .

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

<sup>8</sup>See Footnote # 3.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

#### **SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: .

Corps navigable waters' study: .

U.S. Geological Survey Hydrologic Atlas: .

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: .

State/Local wetland inventory map(s): .

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): .

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage W-5.a**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 524 linear feet: 6 feet width and/or 0.07 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 45 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 18 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

---

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows north and then east to join Drainage W-5.a, which flows north to join Warden Creek. From the confluence with Drainage W-5, the distance is 4.7 river miles (3.9 linear miles) to Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is:

Natural

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture

and has been disced and modified and passes below Los Osos Valley Road through a culvert.

Tributary properties with respect to top of bank (estimate):

Average width: 6 feet

Average depth: 1 to 4 feet

Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

Silts

Sands

Concrete

Cobbles

Gravel

Muck

Bedrock

Vegetation. Type/30% cover:

Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 1.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 5.4 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics:

Subsurface flow: **Yes**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM<sup>6</sup> (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.<sup>7</sup> Explain:

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup> Ibid.



Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: 524 linear feet width 6 (ft), Or, 0.07acres.
- Wetlands adjacent to TNWs:            acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters:            .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .  
 Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams):      linear feet      width (ft).
- Lakes/ponds:      acres.
- Other non-wetland waters:      acres. List type of aquatic resource: .
- Wetlands:      acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):      linear feet,      width (ft).
- Lakes/ponds:      acres.
- Other non-wetland waters:      acres. List type of aquatic resource: .
- Wetlands:      acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage W-5.b**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 748 linear feet: 6 feet width and/or 0.10 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 55 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 18 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

---

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage flows north and then west to join Drainage W-5.a, which flows north to form Drainage W-5, which enters Warden Creek to the north. From the north side of Los Osos Valley Road, the distance is 4.7 river miles (3.9 linear miles) to Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).  
 Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 6 feet  
 Average depth: 1 to 4 feet  
 Average side slopes: **2:1**.

**Primary tributary substrate composition (check all that apply):**

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 1.5 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 5.9 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics:

Subsurface flow: **Yes**. Explain findings:

Dye (or other) test performed:

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain:

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):**

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: 748 linear feet width 6 (ft), Or, 0.10 acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .  
 Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Drainage W-5**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 °N, Long. 120 °W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 137 linear feet: 6 feet width and/or 0.02 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 45 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 35 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Drainage W-5 is formed north of Los Osos Valley Road from the confluence of Drainage W-5.b and Drainage W-5.a. Warden Creek flows a distance of 4.5 river miles (3.7 linear miles) to Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 6 feet  
Average depth: 1 to 4 feet  
Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 0.3 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 11.0 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics:

Subsurface flow: **Yes**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): .

Wetland fringe. Characteristics: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/30 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: 748 linear feet width 6 (ft), Or, 0.10 acres.
- Wetlands adjacent to TNWs:            acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters:            .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .  
 Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Los Osos Creek**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 18' 21.7 " N, Long. 120 48' 40.4" ° W.  
Universal Transverse Mercator:

Name of nearest waterbody: Warden Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 931 linear feet: 22 feet width and/or 0.27 acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 80 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: 2500 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

---

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Los Osos Creek is spanned by the Los Osos Valley Road bridge. From the northern edge of the bridge it flows approximately 3.7 river miles (2.4 linear miles) into Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 22 feet

Average depth: 1 to 10 feet

Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/85% cover:  
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 0.7 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 745 cfs for 50-year, 6-hour storm event.

Surface flow is: **Discrete**. Characteristics: Also includes overland sheet flow.

Subsurface flow: **Yes**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known: Land has been used for agriculture; specific pollutants may include pesticides and nutrients..

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:.
  - Aquatic/wildlife diversity. Explain findings:

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

**(c) Wetland Adjacency Determination with Non-TNW:**

- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/30 percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **80** linear feet **1.5 feet** width (ft).  
 Other non-wetland waters:          acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area:          acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:          acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:          acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:          linear feet          width (ft).  
 Other non-wetland waters:          acres.  
Identify type(s) of waters: .  
 Wetlands:          acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Los Osos Valley Road Seasonal Wetland**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California  
California

County/parish/borough: Riverside

City: Community of Los Osos, San Luis Obispo County,

Center coordinates of site (lat/long in degree decimal format): Lat. 35      **N**, Long. 120      ° **W**.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet:      feet width and/or      acres.

Wetlands: 0.23 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 50 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW: .

Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 11,400 **square miles**

Drainage area: 35 **acres**

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.

Project waters are **1 (or less)** river miles from RPW.

Project waters are **5-10** aerial (straight) miles from TNW.

Project waters are **1 (or less)** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: The wetland abuts Drainage W-5.b, which flows north below Los Osos Valley Road and then joins Drainage W-5, which flows approximately 4.7 river miles (3.9 linear miles) northwest to enter Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: feet

Average depth: to feet

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/30% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume: Flow was not calculated as this is a wetland associated with Drainage W-4 and Drainage W-5.a

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Ephemeral flow**. Explain: .

Surface flow is: **Discrete**

Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

**(d) Proximity (Relationship) to TNW**

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/80 percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet **feet** width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.23** acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams):      linear feet      width (ft).
- Lakes/ponds:      acres.
- Other non-wetland waters:      acres. List type of aquatic resource: .
- Wetlands:      acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):      linear feet,      width (ft).
- Lakes/ponds:      acres.
- Other non-wetland waters:      acres. List type of aquatic resource: .
- Wetlands:      acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps:2008 online version.
- 100-year Floodplain Elevation is: 39 feet AMSL (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2008  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

**Approved JD Form**

**Warden Creek Wetland**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California  
California

County/parish/borough: Riverside

City: Community of Los Osos, San Luis Obispo County,

Center coordinates of site (lat/long in degree decimal format): Lat. 35      **N**, Long. 120      ° **W**.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: feet width and/or acres.

Wetlands: 13.34 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 25 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 11,400 square miles

Drainage area: acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: Warden Creek wetland is part of Warden Creek. Flow leaves the wetland to the northwest and flows Drainage flows east to join Drainage T-1, which flows south to join Warden Creek. From confluence with

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Drainage T-1, water flows west for 2.7 river miles (2.1 linear miles) to enter Morro Bay (TNW), which is a bay of the Pacific Ocean.

Tributary stream order, if known: .

(b) **General Tributary Characteristics (check all that apply):**

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: feet  
Average depth: to feet  
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known:.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:.
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 13.34 acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain:

Surface flow is: **Discrete**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **50 - 100-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/30 percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Warden Creek Wetland (Y) 13.34 acres

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.

Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .  
 Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: \_\_\_\_\_.

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. \_\_\_\_\_.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_.

Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet, \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_.

Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: \_\_\_\_\_.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: \_\_\_\_\_.

Corps navigable waters' study: \_\_\_\_\_.

U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_.

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: \_\_\_\_\_.

State/Local wetland inventory map(s): \_\_\_\_\_.

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): \_\_\_\_\_.

Previous determination(s). File no. and date of response letter: \_\_\_\_\_.

Applicable/supporting case law: \_\_\_\_\_.

Applicable/supporting scientific literature: \_\_\_\_\_.

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD: \_\_\_\_\_.**

**Approved JD Form**

**Warden Creek**

**Los Osos Wastewater Treatment Plant  
Community of Los Osos, San Luis Obispo County, California**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

Los Angeles District

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: Riverside City: Community of Los Osos, San Luis Obispo County, California

Center coordinates of site (lat/long in degree decimal format): Lat. 35 18' 08.6" N, Long. 120 46' 34.9" W.  
Universal Transverse Mercator:

Name of nearest waterbody: Los Osos Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Morro Bay

Name of watershed or Hydrologic Unit Code (HUC): 31023010

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: feet width and/or acres.

Wetlands: 0.12 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): 48 feet above mean sea level (AMSL).

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: 11,400 square miles

Drainage area: 2100 acres

Average annual rainfall: 19 inches

Average annual snowfall: 0.0 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 1 (or less) aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: Warden Creek flows west from Turri Road, then flows northwest and flows toward Morro Bay (TNW), which is a bay of the Pacific Ocean (TNW).

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: The drainage passes over land that is used for agriculture and has been disced and modified.

**Tributary properties with respect to top of bank (estimate):**

Average width: 25 feet  
Average depth: 1 to 6 feet  
Average side slopes: **2:1**.

**Primary tributary substrate composition (check all that apply):**

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/70% cover:  
 Other. Explain: .

**Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:** .

**Presence of run/riffle/pool complexes. Explain:** .

**Tributary geometry:** **Meandering**

**Tributary gradient (approximate average slope):** 0.01 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime:

Other information on duration and volume: Rational Method used to calculate flow as 626 cfs for 50-year, 6-hour storm event.

Surface flow is: **Confined**. Characteristics: Also includes overland sheet flow.

Subsurface flow: **Yes**. Explain findings: .

Dye (or other) test performed: .

**Tributary has (check all that apply):**

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):**

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: Land has been used for agriculture; specific pollutants may include pesticides and nutrients..

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.



(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:.
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/30 percent cover. Explain:

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:.

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: 214 linear feet 25 width (ft).
  - Other non-wetland waters: acres.
- Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: **80** linear feet **1.5 feet** width (ft).  
 Other non-wetland waters:            acres.

Identify type(s) of waters:            .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .  
  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:            acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain:            .  
 Other factors. Explain:            .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).  
 Other non-wetland waters:            acres.  
Identify type(s) of waters:            .  
 Wetlands:            acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: \_\_\_\_\_ .

Other: (explain, if not covered above):

The drainage lacks continuous OHWM and lacks hydrologic connectivity to a downstream water of the United States. The drainage is an ephemeral roadside ditch draining wholly uplands. \_\_\_\_\_ .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_ .

Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet, \_\_\_\_\_ width (ft).

Lakes/ponds: \_\_\_\_\_ acres.

Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_ .

Wetlands: \_\_\_\_\_ acres.

#### **SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: \_\_\_\_\_ .

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: \_\_\_\_\_ .

Corps navigable waters' study: \_\_\_\_\_ .

U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_ .

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name Morro Bay South 7.5 minute series quadrangle.

USDA Natural Resources Conservation Service Soil Survey. Citation: Online data base.

National wetlands inventory map(s). Cite name: \_\_\_\_\_ .

State/Local wetland inventory map(s): \_\_\_\_\_ .

FEMA/FIRM maps:2008 online version.

100-year Floodplain Elevation is: 39 feet AMSL (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): Google Earth 2008

or  Other (Name & Date): \_\_\_\_\_ .

Previous determination(s). File no. and date of response letter: \_\_\_\_\_ .

Applicable/supporting case law: \_\_\_\_\_ .

Applicable/supporting scientific literature: \_\_\_\_\_ .

Other information (please specify): Calculations of Rational Method included with submittal of jurisdictional delineation.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** \_\_\_\_\_ .

## **Attachment F: Wetlands Data Sheets**

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/24/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOC PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Marimel silty clay loam, drained NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'21.22"N, 120^48'42.12"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample within Los Osos Creek, a tributary RPW to Pacific Ocean (TNW).

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	<u>60</u>	<u>YES</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b><u>60</u></b>				
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____ x1= _____	
3. _____	_____	_____	_____	FACW species <u>60</u> x2= <u>120</u>	
4. _____	_____	_____	_____	FAC species _____ x3= _____	
5. _____	_____	_____	_____	FACU species _____ x4= _____	
<b>Total Cover:</b>	_____			UPL Species _____ x5= _____	
<u>Herb Stratum</u>				Column Totals: <b><u>60</u></b> (A) <b><u>120</u></b> (B)	
1. _____	_____	_____	_____	Prevalence Index = B/A = <b><u>2.0</u></b>	
2. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>	
3. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%	
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
5. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
8. _____	_____	_____	_____	_____	
<b>Total Cover:</b>	_____			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	<u>40</u>	% Cover of Biotic Crust:	_____		

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR4/2	100					sand, gravel	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: No Hydric Indicator. Sample is within coarse sand gravelly active channel of Los Osos Creek.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches) 12  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicator A3. Secondary Hydrology Indicators B1, B2, B3 and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/24/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOC PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/24/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOC PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Baywood fine sand, 2 to 9 percent slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'21.69"N, 120^48'44.28"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample within small RPW tributary to Los Osos Creek along, a tributary RPW to Pacific Ocean (TNW).

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix goodingii</u>	<u>50</u>	<u>YES</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>Quercus agrifolia</u>	<u>25</u>	<u>NO</u>	<u>UPL</u>	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
<b>Total Cover:</b>	<b><u>75</u></b>				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____ x1= _____	
3. _____				FACW species <u>55</u> x2= <u>110</u>	
4. _____				FAC species <u>15</u> x3= <u>45</u>	
5. _____				FACU species _____ x4= _____	
<b>Total Cover:</b>				UPL Species <u>25</u> x5= <u>75</u>	
				Column Totals: <b><u>95</u></b> (A) <b><u>230</u></b> (B)	
				Prevalence Index = B/A = <b><u>2.42</u></b>	
<b><u>Herb Stratum</u></b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Toxicodendron diversilobum</u>	<u>15</u>	<u>YES</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Equisetum hyemale</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<b>Types of Problematic Vegetation:</b>	
6. _____				_____	
7. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
8. _____					
<b>Total Cover:</b>	<b><u>20</u></b>				
<b><u>Woody Vine Stratum</u></b>				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1. _____					
2. _____					
<b>Total Cover:</b>					
% Bare Ground in Herb Stratum:	<u>5</u>	% Cover of Biotic Crust:			

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR2/1	100					loam	
6-18	10YR4/1	50	10YR5/6	50	RM	M	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced

<sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:

Depth (inches):

Hydric Soils Present?

Yes  No

**REMARKS:** Hydric Indicator F3, low chroma within 100% of upper 6", and redox greater than 10" thick below 6". Sample is wetland within OHWM of small tributary.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

- Surface Water Present?  Yes  No Depth (inches)
- Water Table Present?  Yes  No Depth (inches) 2
- Saturation Present?  Yes  No Depth (inches) 0  
(Includes Capillary Fringe)

Wetland Hydrology Present?

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**Remarks:** Primary Hydrology Indicators A2 and A3. Secondary Hydrology Indicators B1, B2, B3 and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/24/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOC PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/50/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOVRSW PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E

Landform (hillside, terrace, fan, etc.): Roadside Swale Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 percent slopes NWI Classification: \_\_\_\_\_

Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^17'56.16"N, 120^47'00.66"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample at culvert outflow (adjacent to Los Osos Valley Road) within Drainage W-5.a.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>															
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC: _____ (A)															
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)															
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)															
4. _____	_____	_____	_____																
<b>Total Cover:</b>	_____																		
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>															
1. _____	_____	_____	_____	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>75</u></td> <td>x1= <u>75</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x2= <u>20</u></td> </tr> <tr> <td>FAC species _____</td> <td>x3= _____</td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> </tr> <tr> <td>Column Totals: <b>85</b> (A)</td> <td><b>95</b> (B)</td> </tr> </table>		<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>75</u>	x1= <u>75</u>	FACW species <u>10</u>	x2= <u>20</u>	FAC species _____	x3= _____	FACU species _____	x4= _____	UPL Species _____	x5= _____	Column Totals: <b>85</b> (A)	<b>95</b> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																		
OBL species <u>75</u>	x1= <u>75</u>																		
FACW species <u>10</u>	x2= <u>20</u>																		
FAC species _____	x3= _____																		
FACU species _____	x4= _____																		
UPL Species _____	x5= _____																		
Column Totals: <b>85</b> (A)	<b>95</b> (B)																		
2. _____	_____	_____	_____	Prevalence Index = B/A = <b>1.11</b>															
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>															
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%															
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>															
6. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)															
7. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)															
8. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>															
<b>Total Cover:</b>	<b>85</b>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.															
<b><u>Woody Vine Stratum</u></b>				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No															
1. _____	_____	_____	_____																
2. _____	_____	_____	_____																
<b>Total Cover:</b>	_____																		
% Bare Ground in Herb Stratum:	<u>15</u>	% Cover of Biotic Crust:	_____																

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR3/1	95	10YR5/6	5	RM	M	loam	coarse aggr inc

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

**REMARKS:** Hydric Indicator F3, low chroma within 95% of upper 6", and redox greater than 2" within upper 6". Sample is seasonal wetland.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |   |  |
|---|--|
| <input type="checkbox"/> Surface Water (A1)                           | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                        | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                              | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)         | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                     | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)    | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                    |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**Remarks:** Primary Hydrology Indicators B1 and B3. Secondary Hydrology Indicators B10. Sample is within a swale with no OHWM.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOVRSW  
PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOVRSW PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E

Landform (hillside, terrace, fan, etc.): Roadside Swale Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 percent slopes NWI Classification: \_\_\_\_\_

Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^17'56.65"N, 120^47'08.25"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Remarks</b> Sample is an WET sample (adjacent to Los Osos Valley Road) within seasonal wetland adjacent to W-4, a trib RPW to Warden Creek.	

## (2) VEGETATION

Tree Stratum (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	Dominance Test Worksheet:																	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	1 (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	100 (A/B)																
4. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Sapling/Shrub Stratum</b>																					
1. _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x1= _____</td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x2= <u>50</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x3= <u>210</u></td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> </tr> <tr> <td>Column Totals: <b>95</b> (A)</td> <td><b>260</b> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <b>2.73</b></td> </tr> </table>		<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____	x1= _____	FACW species <u>25</u>	x2= <u>50</u>	FAC species <u>70</u>	x3= <u>210</u>	FACU species _____	x4= _____	UPL Species _____	x5= _____	Column Totals: <b>95</b> (A)	<b>260</b> (B)	Prevalence Index = B/A = <b>2.73</b>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																				
OBL species _____	x1= _____																				
FACW species <u>25</u>	x2= <u>50</u>																				
FAC species <u>70</u>	x3= <u>210</u>																				
FACU species _____	x4= _____																				
UPL Species _____	x5= _____																				
Column Totals: <b>95</b> (A)	<b>260</b> (B)																				
Prevalence Index = B/A = <b>2.73</b>																					
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Herb Stratum</b>																					
1. <u>Sisyrinchium bellum</u>	50	YES	FAC																		
2. <u>Rumex crispus</u>	25	NO	FACW																		
3. <u>Lolium multiflorum</u>	10	NO	FAC																		
4. <u>Melilotus officinalis</u>	10	NO	FAC																		
5. _____	_____	_____	_____																		
6. _____	_____	_____	_____																		
7. _____	_____	_____	_____																		
8. _____	_____	_____	_____																		
<b>Total Cover:</b>	<b>95</b>																				
<b>Woody Vine Stratum</b>																					
1. _____	_____	_____	_____																		
2. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
% Bare Ground in Herb Stratum:	5	% Cover of Biotic Crust:	_____																		

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptions<sup>1</sup> (Provide supporting data in remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
**Types of Problematic Vegetation:**  
 \_\_\_\_\_  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---

**Remarks:** Passes the Dominance Test and Prevalence Test.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR2/1	95	5YR4/6	5	RM	RC	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Hydric Indicator F3 with low chroma of 95% at least 2" thick in upper 6".

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                              | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                           | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                                 | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)               | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                        | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)       | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                       |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators B1 and B2. Secondary Indicators B10. Sample is within a roadside swale and adjacent seasonal wetland.



**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: LOVRSW  
PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1.a PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'50.81"N, 120^46'48.14"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Remarks</b> Sample is a WET sample within lower reach of T-1.a, a non-RPW tributary to the upper reach of Drainage T-1, a tributary RPW to Warden Creek.	

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	0 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	1 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	0 (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	<u>Total % Cover of:</u>	<u>Multiply by:</u>
2. _____	_____	_____	_____	OBL species _____	x1= _____
3. _____	_____	_____	_____	FACW species _____	x2= _____
4. _____	_____	_____	_____	FAC species <u>25</u>	x3= <u>75</u>
5. _____	_____	_____	_____	FACU species _____	x4= _____
<b>Total Cover:</b>	_____			UPL Species <u>50</u>	x5= <u>250</u>
				Column Totals: <b>75</b> (A)	<b>325</b> (B)
				Prevalence Index = B/A = <b>4.33</b>	
<b><u>Herb Stratum</u></b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. Avena fatua	50	YES	UPL	<input type="checkbox"/> Dominance Test is >50%	
2. Picris echioides	25	NO	FAC	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
6. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>75</b>				
<b><u>Woody Vine Stratum</u></b>				<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	25	% Cover of Biotic Crust:	_____		

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR3/1	100					loam	no redox

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: No Hydric Indicators observed. Low chroma but no redox features or sign of hydric conditions.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: No Hydrology Indicators. Sample is within a erosion feature and tributary to T-1 that has limited upstream reach and hydrology regime.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1.a PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^19'10.50"N, 120^46'43.30"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample within upper reach of Drainage T-1, a tributary RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
<b><u>Sapling/Shrub Stratum</u></b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
<b><u>Herb Stratum</u></b>				
1. <u>Eleocharis macrostachya</u>	70	YES	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. <u>Bromus diandrus</u>	15	NO	UPL	
5. <u>Bromus hordeaceus</u>	15	NO	UPL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
<b><u>Woody Vine Stratum</u></b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
% Bare Ground in Herb Stratum:		_____		
		% Cover of Biotic Crust:	_____	

<b>Dominance Test Worksheet:</b>	
Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
Total Number of Dominant Species Across All Strata:	1 (B)
Percent of Dominant Species That are OBL, FACW, or FAC:	100 (A/B)
<b>Prevalence Index Worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>70</u>	x1= <u>70</u>
FACW species _____	x2= _____
FAC species _____	x3= _____
FACU species _____	x4= _____
UPL Species <u>30</u>	x5= <u>150</u>
Column Totals: <b>100</b> (A)	<b>220</b> (B)
Prevalence Index = B/A = <b>2.2</b>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input checked="" type="checkbox"/> Dominance Test is >50%	
<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Types of Problematic Vegetation:</b>	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	

<b>Hydrophytic Vegetation Present?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR3/1	90	10YR4/6	10	RM	RC		

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Hydric Indicator F3 with 90% of chroma 1 in excess of 2" in the upper 6" and redox.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No      Depth (inches)

Water Table Present?  Yes  No      Depth (inches) 2

Saturation Present?  Yes  No      Depth (inches) 0  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators A2 and A3. Sample is within a wetland within the OHWM for upper reach of T-1.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	Vegetation is disturbed as a result of active cattle grazing.
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^19'10.49"N, 120^46'43.60"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

**Remarks** Sample is an UPL reference sample adjacent to upper reach of Drainage T-1, a tributary RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1= _____
3. _____	_____	_____	_____	FACW species _____	x2= _____
4. _____	_____	_____	_____	FAC species _____	x3= _____
5. _____	_____	_____	_____	FACU species _____	x4= _____
<b>Total Cover:</b>	_____			UPL Species <u>100</u>	x5= <u>500</u>
				Column Totals: <b>100</b> (A)	<b>500</b> (B)
				Prevalence Index = B/A = <b>5.00</b>	
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	_____	_____	_____	<input type="checkbox"/> Dominance Test is >50%	
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <u>Plantago erecta</u>	<u>20</u>	<u>NO</u>	<u>UPL</u>	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
4. <u>Bromus diandrus</u>	<u>40</u>	<u>YES</u>	<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. <u>Bromus hordeaceus</u>	<u>40</u>	<u>YES</u>	<u>UPL</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>100</b>				
<u>Woody Vine Stratum</u>				<b>Types of Problematic Vegetation:</b>	
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	_____	% Cover of Biotic Crust:	_____		

**Remarks:** Dominance of non-hydrophytes.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--



### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR2/2	100					loam	dark clay parent
6+								shovel refusal

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced

<sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:

Depth (inches):

Hydric Soils Present?

Yes  No

**REMARKS:** No Hydric Indicators observed. Parent soils of Cropley clay dark with low chroma and value. No redox features or sign of hydric conditions.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No Depth (inches)

Water Table Present?  Yes  No Depth (inches)

Saturation Present?  Yes  No Depth (inches)

(Includes Capillary Fringe)

Wetland Hydrology Present?

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**Remarks:** No Hydrology Indicators.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	Vegetation is disturbed as a result of active cattle grazing.
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT4  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5  
 Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'27.63"N, 120^46'44.08"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample (downstream wetland limit) within lower reach of Drainage T-1, a tributary RPW to Warden Creek.

## (2) VEGETATION

Tree Stratum (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	Dominance Test Worksheet:																	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	1 (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	100 (A/B)																
4. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Sapling/Shrub Stratum</b>																					
1. _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x1= <u>10</u></td> </tr> <tr> <td>FACW species _____</td> <td>x2= _____</td> </tr> <tr> <td>FAC species _____</td> <td>x3= _____</td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> </tr> <tr> <td>Column Totals: <b>10</b> (A)</td> <td><b>10</b> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <b>1.00</b></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species <u>10</u>	x1= <u>10</u>	FACW species _____	x2= _____	FAC species _____	x3= _____	FACU species _____	x4= _____	UPL Species _____	x5= _____	Column Totals: <b>10</b> (A)	<b>10</b> (B)	Prevalence Index = B/A = <b>1.00</b>	
Total % Cover of:	Multiply by:																				
OBL species <u>10</u>	x1= <u>10</u>																				
FACW species _____	x2= _____																				
FAC species _____	x3= _____																				
FACU species _____	x4= _____																				
UPL Species _____	x5= _____																				
Column Totals: <b>10</b> (A)	<b>10</b> (B)																				
Prevalence Index = B/A = <b>1.00</b>																					
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Herb Stratum</b>																					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <b>Types of Problematic Vegetation:</b> _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																	
2. Eleocharis macrostachya	10	YES	OBL																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
6. _____	_____	_____	_____																		
7. _____	_____	_____	_____																		
8. _____	_____	_____	_____																		
<b>Total Cover:</b>	<b>10</b>																				
<b>Woody Vine Stratum</b>																					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
2. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
% Bare Ground in Herb Stratum:	90	% Cover of Biotic Crust:	_____																		

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	G1 6/10Y	50	10YR4/6	50	RM	M	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Hydric Indicator F3, with redox features starting in upper 2". Sample is wetland within OHWM.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Secondary Hydrology Indicators B1, and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT4  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT5  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5  
 Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'24.94"N, 120^46'44.01"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Remarks</b> Sample is a WET sample within lower reach (at southern property boundary) of Drainage T-1, a tributary RPW to Warden Creek.	

## (2) VEGETATION

Tree Stratum (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	Dominance Test Worksheet:																	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	1 (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	100 (A/B)																
4. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Sapling/Shrub Stratum</b>																					
1. _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x1= <u>10</u></td> </tr> <tr> <td>FACW species _____</td> <td>x2= _____</td> </tr> <tr> <td>FAC species _____</td> <td>x3= _____</td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> </tr> <tr> <td>Column Totals: <b>10</b> (A)</td> <td><b>10</b> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <b>1.00</b></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species <u>10</u>	x1= <u>10</u>	FACW species _____	x2= _____	FAC species _____	x3= _____	FACU species _____	x4= _____	UPL Species _____	x5= _____	Column Totals: <b>10</b> (A)	<b>10</b> (B)	Prevalence Index = B/A = <b>1.00</b>	
Total % Cover of:	Multiply by:																				
OBL species <u>10</u>	x1= <u>10</u>																				
FACW species _____	x2= _____																				
FAC species _____	x3= _____																				
FACU species _____	x4= _____																				
UPL Species _____	x5= _____																				
Column Totals: <b>10</b> (A)	<b>10</b> (B)																				
Prevalence Index = B/A = <b>1.00</b>																					
2. _____	_____	_____	_____																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
<b>Herb Stratum</b>																					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <b>Types of Problematic Vegetation:</b> _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																	
2. Eleocharis macrostachya	10	YES	OBL																		
3. _____	_____	_____	_____																		
4. _____	_____	_____	_____																		
5. _____	_____	_____	_____																		
6. _____	_____	_____	_____																		
7. _____	_____	_____	_____																		
8. _____	_____	_____	_____																		
<b>Total Cover:</b>	<b>10</b>																				
<b>Woody Vine Stratum</b>																					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
2. _____	_____	_____	_____																		
<b>Total Cover:</b>	_____																				
% Bare Ground in Herb Stratum:	90	% Cover of Biotic Crust:	_____																		

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR3/3	100					crs sand pbls	moist at 20"

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: No Hydric Indicators. Sample is high mineral sandy substrate within drainage channel.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Secondary Hydrology Indicators B1, B3, and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-1 PIT5  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-2 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'34.41"N, 120^46'31.30"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Remarks</b> Sample is a WET sample within upper reach of Drainage T-2, a tributary RPW to Warden Creek.	

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	<u>60</u>	<u>YES</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>50</u> (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b><u>50</u></b>				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species <u>30</u>	x1= <u>30</u>
3. _____	_____	_____	_____	FACW species <u>70</u>	x2= <u>140</u>
4. _____	_____	_____	_____	FAC species _____	x3= _____
5. _____	_____	_____	_____	FACU species _____	x4= _____
<b>Total Cover:</b>	_____			UPL Species _____	x5= _____
				Column Totals: <b><u>100</u></b> (A)	<b><u>170</u></b> (B)
				Prevalence Index = B/A = <b><u>1.7</u></b>	
<b><u>Herb Stratum</u></b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Rumex crispus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Eleocharis macrostachya</u>	<u>30</u>	<u>YES</u>	<u>OBL</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
6. _____	_____	_____	_____	_____	
7. _____	_____	_____	_____	_____	
8. _____	_____	_____	_____	_____	
<b>Total Cover:</b>	<b><u>40</u></b>			_____	
<b><u>Woody Vine Stratum</u></b>				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	<u>10</u>	% Cover of Biotic Crust:	_____		

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR5/2	60	10YR4/6	40	RM	M	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

**REMARKS:** Hydric Indicator F3, with redox features starting in upper 2". Low chroma throughout upper 6". Sample is wetland within OHWM.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No      Depth (inches)

Water Table Present?  Yes  No      Depth (inches) 2

Saturation Present?  Yes  No      Depth (inches) 0  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**Remarks:** Primary Hydrology Indicators A2 and A3. Secondary Hydrology Indicators B3 and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: T-2 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT7  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'36.65"N, 120^47'56.84"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

**Remarks** Sample is an UPL reference sample adjacent to wetland associated with Drainage W-1, a tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>			
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	<u>0</u> (A)		
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)		
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>0</u> (A/B)		
4. _____	_____	_____	_____				
<b>Total Cover:</b>	_____						
<b><u>Sapling/Shrub Stratum</u></b>							
1. <u>Baccharis pilularis</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>	<b>Prevalence Index Worksheet:</b>			
2. _____	_____	_____	_____				
3. _____	_____	_____	_____				
4. _____	_____	_____	_____				
5. _____	_____	_____	_____				
<b>Total Cover:</b>	<b><u>20</u></b>			Total % Cover of:	Multiply by:		
				OBL species	x1= _____		
				FACW species	<u>6</u> x2= <u>12</u>		
				FAC species	<u>4</u> x3= <u>12</u>		
				FACU species	x4= _____		
				UPL Species	<u>85</u> x5= <u>425</u>		
				Column Totals:	<b><u>95</u></b> (A) <b><u>449</u></b> (B)		
				Prevalence Index = B/A = <b><u>4.72</u></b>			
<b><u>Herb Stratum</u></b>							
1. <u>Distichlis spicata</u>	<u>3</u>	<u>NO</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b>			
2. <u>Potentilla gracilis</u>	<u>3</u>	<u>NO</u>	<u>FACW</u>				
3. <u>Picris echioides</u>	<u>4</u>	<u>NO</u>	<u>FAC</u>				
4. <u>Bromus diandrus</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>				
5. <u>Bromus hordeaceus</u>	<u>60</u>	<u>YES</u>	<u>UPL</u>				
6. _____	_____	_____	_____				
7. _____	_____	_____	_____				
8. _____	_____	_____	_____				
<b>Total Cover:</b>	<b><u>75</u></b>			<input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
<b>Types of Problematic Vegetation:</b>							
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.							
<b><u>Woody Vine Stratum</u></b>							
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
2. _____	_____	_____	_____				
<b>Total Cover:</b>	_____						
% Bare Ground in Herb Stratum:	<u>5</u>	% Cover of Biotic Crust:	_____				

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR4/3	100					loam	
2-8	10YR4/3	100					loam	
8-22	10YR3/3	95	10YR4/6	5	RM	RC	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Marginal Redox features observed at 5% in lower horizon however does not meet any Hydric Indicators.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: No Hydrology Indicators. Sample is within an upland area immediately adjacent and outside of wetland boundary.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT7  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'28.62"N, 120^48'02.35"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

**Remarks** Sample is an UPL sample within upper reach of Drainage W-1, a dry ephemeral wash and tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test Worksheet:</b>  Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>33</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
<b>Total Cover:</b> _____																				
<b><u>Sapling/Shrub Stratum</u></b>																				
1. _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b>  <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;"><u>Total % Cover of:</u></td> <td style="text-align: left;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____ x1= _____</td> <td></td> </tr> <tr> <td>FACW species <u>15</u> x2= <u>30</u></td> <td></td> </tr> <tr> <td>FAC species _____ x3= _____</td> <td></td> </tr> <tr> <td>FACU species <u>15</u> x4= <u>60</u></td> <td></td> </tr> <tr> <td>UPL Species <u>45</u> x5= <u>235</u></td> <td></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>325</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <b>4.3</b></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____ x1= _____		FACW species <u>15</u> x2= <u>30</u>		FAC species _____ x3= _____		FACU species <u>15</u> x4= <u>60</u>		UPL Species <u>45</u> x5= <u>235</u>		Column Totals: <u>75</u> (A)	<u>325</u> (B)	Prevalence Index = B/A = <b>4.3</b>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species _____ x1= _____																				
FACW species <u>15</u> x2= <u>30</u>																				
FAC species _____ x3= _____																				
FACU species <u>15</u> x4= <u>60</u>																				
UPL Species <u>45</u> x5= <u>235</u>																				
Column Totals: <u>75</u> (A)	<u>325</u> (B)																			
Prevalence Index = B/A = <b>4.3</b>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<b>Total Cover:</b> _____																				
<b><u>Herb Stratum</u></b>																				
1. <u>Raphanus sativus</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <b>Types of Problematic Vegetation:</b>  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																
2. <u>Brassica rapa</u>	<u>15</u>	<u>YES</u>	<u>UPL</u>																	
3. <u>Conium maculatum</u>	<u>15</u>	<u>YES</u>	<u>FACW</u>																	
4. <u>Bromus diandrus</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>																	
5. <u>Chamomilla suaveolens</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
6. <u>Vicia sativa</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<b>Total Cover:</b> _____																				
<b><u>Woody Vine Stratum</u></b>																				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																
2. _____	_____	_____	_____																	
<b>Total Cover:</b> _____																				
% Bare Ground in Herb Stratum: <u>25</u>																				
% Cover of Biotic Crust: _____																				

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR3/3	100					loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type: N/A  
Depth (inches): N/A

Hydric Soils Present?  Yes  No

REMARKS: Predominance of non-hydric loam soil. Typical of non-wetland conditions and adjacent upland areas.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: The sample location is within the bed of a dry ephemeral wash with a discernable OHWM at 2' wide, and streambed and bank at 2' wide.



**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'33.70"N, 120^47'56.03"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

**Remarks** Sample is a WET sample within middle reach of Drainage W-1, a dry ephemeral wash and tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	30	YES	FACW	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	33 (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>30</b>				
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>	
1. <u>Baccharis pilularis</u>	5	YES	UPL	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____ x1= _____	
3. _____	_____	_____	_____	FACW species <u>30</u> x2= <u>60</u>	
4. _____	_____	_____	_____	FAC species <u>5</u> x3= <u>15</u>	
5. _____	_____	_____	_____	FACU species <u>5</u> x4= <u>20</u>	
<b>Total Cover:</b>	<b>5</b>			UPL Species <u>30</u> x5= <u>150</u>	
<u>Herb Stratum</u>				Column Totals: <b>70</b> (A) <b>245</b> (B)	
1. <u>Plantago lanceolata</u>	5	NO	FAC	Prevalence Index = B/A = <b>3.5</b>	
2. <u>Vicia sativa</u>	5	NO	FACU	<b>Hydrophytic Vegetation Indicators:</b>	
3. <u>Bromus hordeaceus</u>	20	YES	UPL	<input type="checkbox"/> Dominance Test is >50%	
4. <u>Avena fatua</u>	5	NO	UPL	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
5. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
8. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<b>Total Cover:</b>	<b>35</b>			<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<u>Woody Vine Stratum</u>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	30	% Cover of Biotic Crust:	_____		

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR3/4	100					sandy loam	
6-10	10YR3/4	100					sandy loam	
10-20	10YR3/3	100					clay loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type: N/A  
Depth (inches): N/A

Hydric Soils Present?  Yes  No

REMARKS: Predominance of non-hydric sandy loam soil. No redox features observed.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Hydrology Indicators B1, B2, and B3 observed. The sample location is within the bed of a dry ephemeral wash with a discernable OHWM at 3' wide, and streambed and bank/riparian at 25'+ wide.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT3  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'33.78"N, 120^47'55.85"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

**Remarks** Sample is a UPL reference sample adjacent to the middle reach of Drainage W-1, a dry ephemeral wash and tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	<u>Absolute %Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
<b><u>Sapling/Shrub Stratum</u></b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
<b><u>Herb Stratum</u></b>				
1. <u>Plantago lanceolata</u>	10	NO	FAC	
2. <u>Vicia sativa</u>	10	NO	FACU	
3. <u>Bromus diandrus</u>	50	YES	UPL	
4. <u>Avena fatua</u>	20	YES	UPL	
5. <u>Erodium cicutarium</u>	10	NO	UPL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<b>Total Cover:</b>				<b>100</b>
<b><u>Woody Vine Stratum</u></b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<b>Total Cover:</b>				_____
% Bare Ground in Herb Stratum:				_____
% Cover of Biotic Crust:				_____

**Dominance Test Worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

---

**Prevalence Index Worksheet:**

<u>Total % Cover of:</u>	<u>Multiply by:</u>
OBL species _____	x1= _____
FACW species _____	x2= _____
FAC species <span style="float: right;">10</span>	x3= <span style="float: right;">30</span>
FACU species <span style="float: right;">10</span>	x4= <span style="float: right;">40</span>
UPL Species <span style="float: right;">80</span>	x5= <span style="float: right;">400</span>
Column Totals: <span style="float: right;">100 (A)</span>	<span style="float: right;">470 (B)</span>

Prevalence Index = B/A = **4.7**

---

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptions<sup>1</sup> (Provide supporting data in remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

**Types of Problematic Vegetation:**

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?**  Yes  No

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR5/4	100					sandy loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type: N/A  
Depth (inches): N/A

Hydric Soils Present?  Yes  No

REMARKS: Predominance of non-hydric sandy loam soil typical of adjacent upland areas. No redox features observed.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: The sample location is an upland reference point at apex margin of eastern bank of middle reach of Drainage W-1. The sample is outside the OHWM and streambed and bank.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT3  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT4  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'34.15"N, 120^47'56.10"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is a WET sample within middle reach and riparian canopy of Drainage W-1, a tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	<u>75</u>	<u>YES</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>Quercus agrifolia</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____				Percent of Dominant Species That are OBL, FACW, or FAC:	<u>40</u> (A/B)
4. _____					
<b>Total Cover:</b>	<b><u>80</u></b>				
<b><u>Sapling/Shrub Stratum</u></b>					
1. <u>Heteromeles arbutifolia</u>	<u>5</u>	<u>YES</u>	<u>UPL</u>	<b>Prevalence Index Worksheet:</b>	
2. _____				Total % Cover of:	Multiply by:
3. _____				OBL species _____	x1= _____
4. _____				FACW species <u>75</u>	x2= <u>150</u>
5. _____				FAC species <u>5</u>	x3= <u>15</u>
				FACU species _____	x4= _____
<b>Total Cover:</b>	<b><u>5</u></b>			UPL Species <u>15</u>	x5= <u>75</u>
				Column Totals: <b><u>95</u></b> (A)	<b><u>240</u></b> (B)
				Prevalence Index = B/A = <b><u>2.5</u></b>	
<b><u>Herb Stratum</u></b>					
1. <u>Claytonia perfoliata</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2. <u>Bromus diandrus</u>	<u>5</u>	<u>YES</u>	<u>UPL</u>	<input type="checkbox"/> Dominance Test is >50%	
3. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
4. _____				<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
6. _____				<b>Types of Problematic Vegetation:</b>	
7. _____				_____	
8. _____				_____	
<b>Total Cover:</b>	<b><u>10</u></b>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<b><u>Woody Vine Stratum</u></b>					
1. _____				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2. _____					
<b>Total Cover:</b>					
% Bare Ground in Herb Stratum:	<u>5</u>	% Cover of Biotic Crust:			

**Remarks:** Passes the Prevalence Test.



### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR3/6	100					fine sand	
2-12	10YR2/2	65	10YR5/6	35	RM	RC	sandy loam	pbl/cobl incl
12+								shovel refusal

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type: cobble/clay conglomerate  
Depth (inches): 12

Hydric Soils Present?  Yes  No

REMARKS: Hydric Indicator F3 demarcating wetland boundary.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input checked="" type="checkbox"/> Water-Stained Leaves (B9)      |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

- Surface Water Present?  Yes  No    Depth (inches)
- Water Table Present?  Yes  No    Depth (inches)
- Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators B9, Secondary Hydrology Indicators B1, B2, B3. Wetland within OHWM of 6'. Streambed/riparian width at 25'+.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT4  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT5  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'34.35"N, 120^47'56.40"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

**Remarks** Sample is an UPL reference sample adjacent to middle reach and riparian canopy of Drainage W-1, a tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	50	YES	FACW	Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	50 (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>50</b>				
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____ x1= _____	
3. _____	_____	_____	_____	FACW species <u>50</u> x2= <u>100</u>	
4. _____	_____	_____	_____	FAC species <u>2</u> x3= <u>5</u>	
5. _____	_____	_____	_____	FACU species <u>3</u> x4= <u>12</u>	
<b>Total Cover:</b>	_____			UPL Species <u>5</u> x5= <u>25</u>	
<u>Herb Stratum</u>				Column Totals: <b>60</b> (A) <b>142</b> (B)	
1. <u>Anagallis arvensis</u>	2	NO	FAC	Prevalence Index = B/A = <b>2.36</b>	
2. <u>Bromus diandrus</u>	5	YES	UPL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3. <u>Chamomilla suaveolens</u>	3	NO	FACU		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b> _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Total Cover:</b>	<b>10</b>				
<u>Woody Vine Stratum</u>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	40	% Cover of Biotic Crust:	_____		

**Remarks:** Passes the Dominance Test and Prevalence Test.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/2	100					loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced

<sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:

Depth (inches):

Hydric Soils Present?

Yes  No

REMARKS: No Redox or Hydric Indicators. Soil typical of upland areas adjacent to drainage feature.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

- Surface Water Present?  Yes  No Depth (inches)
- Water Table Present?  Yes  No Depth (inches)
- Saturation Present?  Yes  No Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: No Hydrology Indicators. Sample is outside of OHWM and riparian canopy of Drainage W-1.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT5  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	Soils disturbed as a result of recent disking.
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT6  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'36.57"N, 120^47'56.53"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

**Remarks** Sample is a WET sample adjacent and outside OHWM and riparian canopy of middle reach Drainage W-1, a tributary Non-RPW to Warden Creek.

## (2) VEGETATION

Tree Stratum (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status																																	
1. _____	_____	_____	_____	<b>Dominance Test Worksheet:</b>  Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <b>50</b> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
<b>Total Cover:</b>	_____																																			
<b>Sapling/Shrub Stratum</b>																																				
1. _____	_____	_____	_____	<b>Prevalence Index Worksheet:</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;"><u>Total % Cover of:</u></td> <td style="text-align: right;"><u>Multiply by:</u></td> <td></td> <td></td> </tr> <tr> <td>OBL species _____</td> <td>x1= _____</td> <td></td> <td></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x2= <u>200</u></td> <td></td> <td></td> </tr> <tr> <td>FAC species _____</td> <td>x3= _____</td> <td></td> <td></td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> <td></td> <td></td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> <td></td> <td></td> </tr> <tr> <td>Column Totals: <b>100</b> (A)</td> <td><b>200</b> (B)</td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <b>2.00</b></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>			OBL species _____	x1= _____			FACW species <u>100</u>	x2= <u>200</u>			FAC species _____	x3= _____			FACU species _____	x4= _____			UPL Species _____	x5= _____			Column Totals: <b>100</b> (A)	<b>200</b> (B)			Prevalence Index = B/A = <b>2.00</b>			
<u>Total % Cover of:</u>	<u>Multiply by:</u>																																			
OBL species _____	x1= _____																																			
FACW species <u>100</u>	x2= <u>200</u>																																			
FAC species _____	x3= _____																																			
FACU species _____	x4= _____																																			
UPL Species _____	x5= _____																																			
Column Totals: <b>100</b> (A)	<b>200</b> (B)																																			
Prevalence Index = B/A = <b>2.00</b>																																				
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<b>Total Cover:</b>	_____																																			
<b>Herb Stratum</b>																																				
1. <u>Distichlis spicata</u>	<u>60</u>	<u>YES</u>	<u>FACW</u>																																	
2. <u>Potentilla gracilis</u>	<u>40</u>	<u>NO</u>	<u>FACW</u>																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
<b>Total Cover:</b>	<b>100</b>																																			
<b>Woody Vine Stratum</b>																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<b>Total Cover:</b>	_____																																			
% Bare Ground in Herb Stratum:	_____	% Cover of Biotic Crust:	_____																																	

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptions<sup>1</sup> (Provide supporting data in remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

**Types of Problematic Vegetation:**  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

**Remarks:** \_\_\_\_\_

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	G1 2.5/10	100					loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced

<sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                    |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)            |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)  | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)                |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)             |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)          |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)              |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:

Depth (inches):

Hydric Soils Present?

Yes  No

REMARKS: Hydric Indicator A4 and completely depleted gleyed matrix.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

- Surface Water Present?  Yes  No Depth (inches)
- Water Table Present?  Yes  No Depth (inches) 2
- Saturation Present?  Yes  No Depth (inches) 0  
(Includes Capillary Fringe)

Wetland Hydrology Present?

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators A2 and A3. Sample is wetland adjacent and outside the OHWM and riparian canopy of an RPW.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT6  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-2 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'34.45"N, 120^48'02.78"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

**Remarks** Sample is an UPL sample within upper reach of Drainage W-2, a dry ephemeral wash and tributary Non-RPW to Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>33</u> (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1= _____
3. _____	_____	_____	_____	FACW species <u>15</u>	x2= <u>30</u>
4. _____	_____	_____	_____	FAC species _____	x3= _____
5. _____	_____	_____	_____	FACU species <u>15</u>	x4= <u>60</u>
<b>Total Cover:</b>	_____			UPL Species <u>45</u>	x5= <u>235</u>
<b><u>Herb Stratum</u></b>				Column Totals: <u>75</u> (A)	<u>325</u> (B)
1. <u>Raphanus sativus</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>	Prevalence Index = B/A = <b>4.3</b>	
2. <u>Brassica rapa</u>	<u>15</u>	<u>YES</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b>	
3. <u>Conium maculatum</u>	<u>15</u>	<u>YES</u>	<u>FACW</u>	<input type="checkbox"/> Dominance Test is >50%	
4. <u>Bromus diandrus</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
5. <u>Chamomilla suaveolens</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
6. <u>Vicia sativa</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
8. _____	_____	_____	_____	_____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<b>Total Cover:</b>	_____			<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
% Bare Ground in Herb Stratum:	<u>25</u>	% Cover of Biotic Crust:	_____		

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR3/1	100					loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type: N/A  
Depth (inches): N/A

Hydric Soils Present?  Yes  No

REMARKS: Predominance of non-hydric loam soil. Typical of non-wetland conditions and adjacent upland areas.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: The sample location is within the bed of a dry ephemeral wash with a discernable OHWM at 2' wide, and streambed and bank at 2' wide.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-2 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-3 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 0 to 2 percent slopes NWI Classification: \_\_\_\_\_

Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'00.73"N, 120^47'20.94"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

**Remarks** Sample is an WET sample (adjacent to Los Osos Valley Road) within culvert outfall and within Drainage W-3, a tributary RPW to Warden Creek.

## (2) VEGETATION

Tree Stratum (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	10	YES	FACW	Number of Dominant Species That are OBL, FACW, or FAC:	2 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	100 (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>10</b>				
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	<u>Total % Cover of:</u>	<u>Multiply by:</u>
2. _____	_____	_____	_____	OBL species _____ x1= _____	
3. _____	_____	_____	_____	FACW species <u>25</u> x2= <u>50</u>	
4. _____	_____	_____	_____	FAC species _____ x3= _____	
5. _____	_____	_____	_____	FACU species <u>5</u> x4= <u>20</u>	
<b>Total Cover:</b>	_____			UPL Species _____ x5= _____	
<b>Herb Stratum</b>				Column Totals:	<b>30 (A) 70 (B)</b>
1. <u>Feoniculum vulgare</u>	5	NO	FACU	Prevalence Index = B/A = <b>2.3</b>	
2. <u>Conium maculatum</u>	5	NO	FACW	<b>Hydrophytic Vegetation Indicators:</b>	
3. <u>Artemisia douglasiana</u>	10	YES	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
5. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	<b>Types of Problematic Vegetation:</b>	
8. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<b>Total Cover:</b>	<b>20</b>			<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Woody Vine Stratum</b>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	70	% Cover of Biotic Crust:	_____		

**Remarks:** Passes the Dominance Test and Prevalence Test.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/2	100					coarse sand	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Coarse sandy alluvium. Sample within active channel of Drainage W-3.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)  
 Water Table Present?  Yes  No    Depth (inches)  
 Saturation Present?  Yes  No    Depth (inches)  
 (Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators B1. Secondary Indicators B2 and B10.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-3 PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-5.a PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Roadside Swale Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 percent slopes NWI Classification: \_\_\_\_\_

Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^17'56.16"N, 120^47'00.66"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

**Remarks** Sample is a WET sample at culvert outflow (adjacent to Los Osos Valley Road) within Drainage W-5.a.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. <u>Salix lasiolepis</u>	<u>25</u>	<u>YES</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>Populus fremontii</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That are OBL, FACW, or FAC:	<u>66</u> (A/B)
4. _____					
<b>Total Cover:</b>	<b><u>35</u></b>				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. <u>Baccharis pilularis</u>	<u>10</u>	<u>YES</u>	<u>UPL</u>	Total % Cover of:	Multiply by:
2. _____				OBL species _____	x1= _____
3. _____				FACW species <u>60</u>	x2= <u>120</u>
4. _____				FAC species <u>10</u>	x3= <u>30</u>
5. _____				FACU species <u>5</u>	x4= <u>20</u>
<b>Total Cover:</b>	<b><u>10</u></b>			UPL Species <u>10</u>	x5= <u>50</u>
<b><u>Herb Stratum</u></b>				Column Totals:	<b><u>85</u></b> (A) <b><u>220</u></b> (B)
1. <u>Artemisia douglasiana</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>	Prevalence Index = B/A = <b><u>2.58</u></b>	
2. <u>Rumex crispus</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3. <u>Lolium multiflorum</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>		
4. <u>Foeniculum vulgare</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>		
5. _____					
6. _____				<b>Types of Problematic Vegetation:</b> _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
7. _____					
8. _____				<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Total Cover:</b>	<b><u>40</u></b>				
<b><u>Woody Vine Stratum</u></b>					
1. _____					
2. _____					
<b>Total Cover:</b>					
% Bare Ground in Herb Stratum:	<u>15</u>	% Cover of Biotic Crust:			

**Remarks:** Passes Dominance Test and Prevalence Index.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	none						very crs sand	no reading
4-10	10YR3/1	60	10YR5/6	40	D	M	loam	
10-18	10YR3/3	100					sandy loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Hydric Indicator F3, low chroma of 60% at least 6" within upper 10", with redox.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                              | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                           | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                                 | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)               | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                        | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)       | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                       |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Primary Hydrology Indicators B1 and B2. Secondary Hydrology Indicators B3 and B10. Sample is within OHWM of Drainage W-5.a.



**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-5.a PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-5.a PIT2  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Roadside Swale Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Cropley clay, 2 to 9 percent slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^17'55.99"N, 120^47'00.41"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

**Remarks** Sample is an UPL sample (adjacent to Los Osos Valley Road) outside of OHWM for Drainage W-5.a.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That are OBL, FACW, or FAC:	<u>1</u> (A)
2. <u>Populus fremontii</u>	10	YES	FACW	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC:	<u>33</u> (A/B)
4. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>10</b>				
<b><u>Sapling/Shrub Stratum</u></b>				<b>Prevalence Index Worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1= _____
3. _____	_____	_____	_____	FACW species <u>30</u>	x2= <u>60</u>
4. _____	_____	_____	_____	FAC species _____	x3= _____
5. _____	_____	_____	_____	FACU species _____	x4= _____
<b>Total Cover:</b>	_____			UPL Species <u>70</u>	x5= <u>350</u>
				Column Totals: <b>100</b> (A)	<b>410</b> (B)
				Prevalence Index = B/A = <b>4.10</b>	
<b><u>Herb Stratum</u></b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Artemisia douglasiana</u>	10	NO	FACW	<input type="checkbox"/> Dominance Test is >50%	
2. <u>Avena fatua</u>	30	YES	UPL	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <u>Bromus hordaeceous</u>	30	YES	UPL	<input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet)	
4. <u>Brassica rapa</u>	10	NO	UPL	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. <u>Equisetum hyemale</u>	10	NO	FACW		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<b>Total Cover:</b>	<b>90</b>			<b>Types of Problematic Vegetation:</b>	
<b><u>Woody Vine Stratum</u></b>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2. _____	_____	_____	_____		
<b>Total Cover:</b>	_____				
% Bare Ground in Herb Stratum:	_____	% Cover of Biotic Crust:	_____		

**Remarks:** Dominance of non-hydrophytes.

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/3	100					loamy sand	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Non-hydric upland soils.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Sample is outside of OHWM and streambed and bank of Drainage W-5.a

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 05/20/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-5.a PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: WCW PIT1  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSec/T30S/R11E  
 Landform (hillside, terrace, fan, etc.): Drainage Feature Local relief (concave, convex, none): Concave Slope (%): <5

Soil Map Unit Name: Concepcion loam, 5 to 9 % slopes NWI Classification: \_\_\_\_\_  
 Subregion (LRR): LRR-C = Mediterranean California Lat/Long: 35^18'35.76"N, 120^47'49.85"W Datum: NAD83

Are climatic / hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks.)  
 Are  Vegetation,  Soil, or  Hydrology significantly disturbed?  Yes  No Are Normal Circumstances present?  Yes  No  
 Are  Vegetation,  Soil, or  Hydrology naturally problematic?  Yes  No (If needed, explain any answers in remarks)

## (1) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is the Sample Area within a Wetland?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

**Remarks** Sample is an WET sample at wetland boundary for Warden Creek Wetlands, a large contiguous wetland with the RPW Warden Creek.

## (2) VEGETATION

<u>Tree Stratum</u> (Use scientific names)	Absolute %Cover	Dominant Species	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test Worksheet:</b>  Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <b>100</b> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
<b>Total Cover:</b>	_____																			
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index Worksheet:</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x1= _____</td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x2= <u>140</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x3= <u>75</u></td> </tr> <tr> <td>FACU species _____</td> <td>x4= _____</td> </tr> <tr> <td>UPL Species _____</td> <td>x5= _____</td> </tr> <tr> <td><b>Column Totals:</b> <u>95</u> (A)</td> <td><b>215</b> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <b>2.26</b></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____	x1= _____	FACW species <u>70</u>	x2= <u>140</u>	FAC species <u>25</u>	x3= <u>75</u>	FACU species _____	x4= _____	UPL Species _____	x5= _____	<b>Column Totals:</b> <u>95</u> (A)	<b>215</b> (B)	Prevalence Index = B/A = <b>2.26</b>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species _____	x1= _____																			
FACW species <u>70</u>	x2= <u>140</u>																			
FAC species <u>25</u>	x3= <u>75</u>																			
FACU species _____	x4= _____																			
UPL Species _____	x5= _____																			
<b>Column Totals:</b> <u>95</u> (A)	<b>215</b> (B)																			
Prevalence Index = B/A = <b>2.26</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<b>Total Cover:</b>	_____																			
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptions <sup>1</sup> (Provide supporting data in remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <b>Types of Problematic Vegetation:</b> _____  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																
1. Distichlis spicata	10	NO	FACW																	
2. Potentilla gracilis	60	YES	FACW																	
3. Picris echioides	25	NO	FAC																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<b>Total Cover:</b>	<b>95</b>																			
<u>Woody Vine Stratum</u>				<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"><b>Hydrophytic Vegetation Present?</b></td> <td style="width: 60%; text-align: center;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> </table>	<b>Hydrophytic Vegetation Present?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No														
<b>Hydrophytic Vegetation Present?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<b>Total Cover:</b>	_____																			
% Bare Ground in Herb Stratum:	5	% Cover of Biotic Crust:	_____																	

**Remarks:** \_\_\_\_\_

### (3) SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR3/1	95	10YR3/6	5	RM	RC	loam	

<sup>1</sup>Type: **C** = Concentration, **D** = Depletion, **RM** = Reduced      <sup>2</sup>(Loc) Location: **PL** = Pore Lining, **RC** = Root Channel, **M** = Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)          |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)          |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)              |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)           |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7)        |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)                 |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |

Indicators for Problematic Hydric Soils<sup>3</sup>

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if Present):

Type:  
Depth (inches):

Hydric Soils Present?  Yes  No

REMARKS: Marginal Hydric Indicator F8.

### (4) HYDROLOGY

Wetland Hydrology Indicators

Primary Indicators (any one indicator sufficient)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (F8)                                    |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations

Surface Water Present?  Yes  No    Depth (inches)

Water Table Present?  Yes  No    Depth (inches)

Saturation Present?  Yes  No    Depth (inches)  
(Includes Capillary Fringe)

Wetland Hydrology Present?  Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

REMARKS: Secondary Hydrology Indicators B10 and C9.

**WETLAND DETERMINATION DATA FORM - Arid West Region**  
**Addendum – Additional Remarks**

Project/Site: Los Osos Wastewater Project City/County: Los Osos/SLO Co. Sampling Date: 04/23/08  
 Applicant Owner: County of San Luis Obispo State: CA Sampling Point: W-1 PIT7  
 Investigator(s): Thomas Mullen, Karl Osmundson Section/Township/Range: UnSect/T30S/R11E

<b>SECTION</b>	<b>Additional Remarks</b>
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>REFERENCE</b>	<b>Additional Comments</b>
<b>N-1</b>	
<b>N-2</b>	
<b>N-3</b>	
<b>N-4</b>	
<b>N-5</b>	

## **Attachment G: Historical Aerial Photography**





**Los Osos - Tonini**

Los Osos, San Luis Obispo County

Los Osos, CA 93405

Inquiry Number: 2245375.3

June 18, 2008

# The EDR Aerial Photo Decade Package



440 Wheelers Farms Road  
Milford, CT 06461  
800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Aerial Photo Decade Package

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***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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**Date EDR Searched Historical Sources:**

Aerial Photography June 18, 2008

**Target Property:**

Los Osos, San Luis Obispo County

Los Osos, CA 93405

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1937	Aerial Photograph. Scale: 1"=555'	Flight Year: 1937	Army
1949	Aerial Photograph. Scale: 1"=555'	Flight Year: 1949	Aero
1956	Aerial Photograph. Scale: 1"=555'	Flight Year: 1956	Hycon
1969	Aerial Photograph. Scale: 1"=666'	Flight Year: 1969	Western
1978	Aerial Photograph. Scale: 1"=666'	Flight Year: 1978	Pacific Air
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=484'	Flight Year: 2005	EDR



**INQUIRY #:** 2245375.3

**YEAR:** 1937

| = 555'





**INQUIRY #:** 2245375.3

**YEAR:** 1949

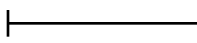
| = 555'



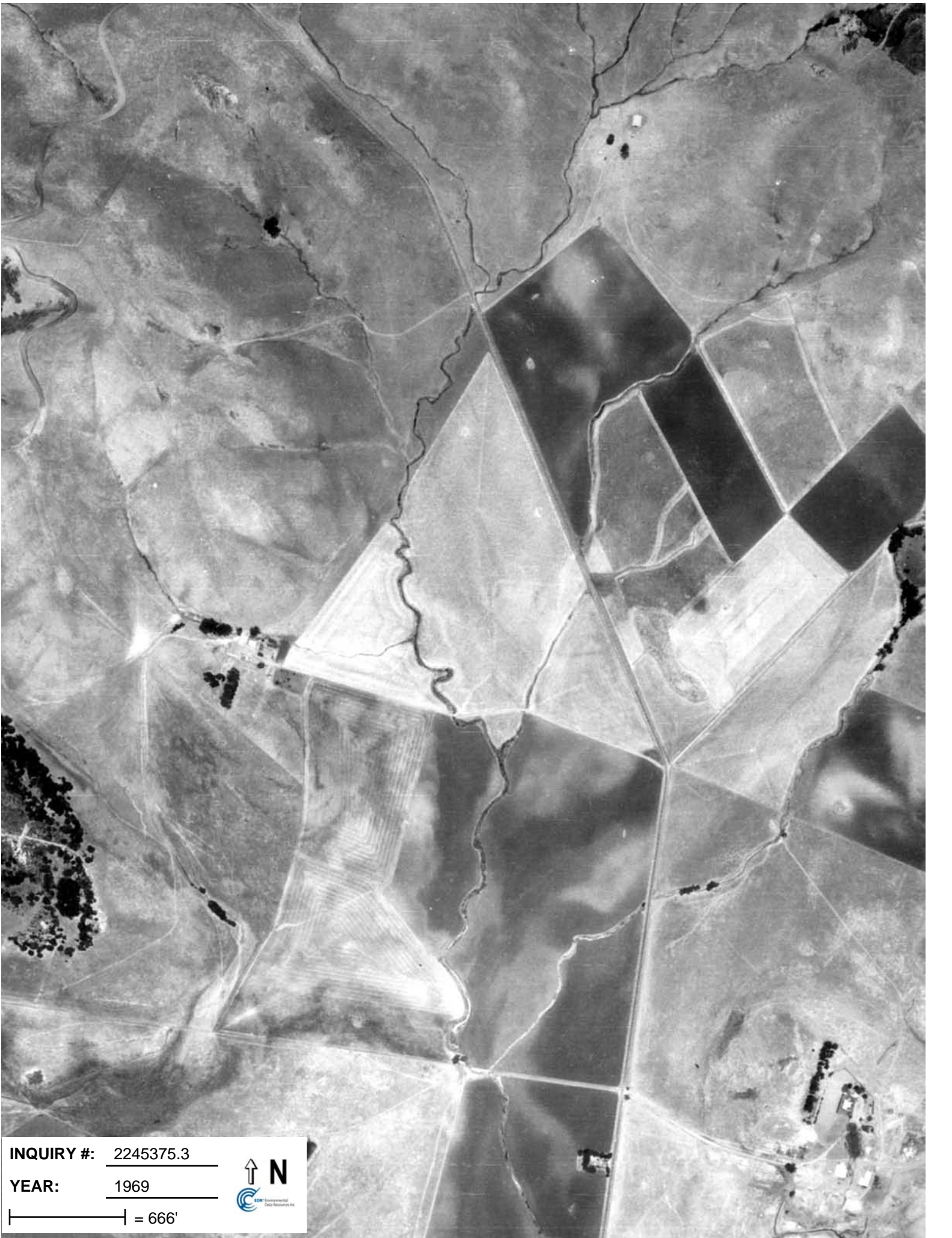


**INQUIRY #:** 2245375.3

**YEAR:** 1956

 = 555'





**INQUIRY #:** 2245375.3

**YEAR:** 1969

| = 666'





**INQUIRY #:** 2245375.3

**YEAR:** 1978

| = 666'







**INQUIRY #:** 2245375.3

**YEAR:** 1989

| = 666'





**INQUIRY #:** 2245375.3

**YEAR:** 1994

| = 666'





**INQUIRY #:** 2245375.3

**YEAR:** 2002

| = 666'





**INQUIRY #:** 2245375.3

**YEAR:** 2005

| = 484'





**Los Osos**

Community of Los Osos

Los Osos, CA 93402

Inquiry Number: 2245375.1

June 17, 2008

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with any questions or comments.

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**Date EDR Searched Historical Sources:**

Aerial Photography June 17, 2008

**Target Property:**

Community of Los Osos

Los Osos, CA 93402

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1937	Aerial Photograph. Scale: 1"=555'	Flight Year: 1937	Army
1949	Aerial Photograph. Scale: 1"=555'	Flight Year: 1949	Aero
1956	Aerial Photograph. Scale: 1"=555'	Flight Year: 1956	Hycon
1969	Aerial Photograph. Scale: 1"=666'	Flight Year: 1969	Western
1978	Aerial Photograph. Scale: 1"=666'	Flight Year: 1978	Pacific air
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=484'	Flight Year: 2005	EDR



**INQUIRY #:** 2245375.1

**YEAR:** 1937

| = 555'







**INQUIRY #:** 2245375.1

**YEAR:** 1949

| = 555'





INQUIRY #: 2245375.1

YEAR: 1956

| = 555'





**INQUIRY #:** 2245375.1

**YEAR:** 1969

**|** = 666'





**INQUIRY #:** 2245375.1

**YEAR:** 1978

| = 666'





INQUIRY #: 2245375.1

YEAR: 1989

| = 666'





**INQUIRY #:** 2245375.1

**YEAR:** 1994

| = 666'





INQUIRY #: 2245375.1

YEAR: 2002

| = 666'





**INQUIRY #:** 2245375.1

**YEAR:** 2005

| = 484'





## **Attachment H: Q Value Calculations for Significant Nexus Evaluation**

### Rational Method to Determine Peak Flow - Non-RPWs

<b>Project number:</b>	<b>0224.0002</b>
<b>Project Name:</b>	<b>Los Osos Community Wastewater Project</b>

**Peak Flow = Q = CIA**

Units = cubic feet per second (cfs)

**Peak Flow (Q) = 1.008CIA**

Where 1.008 is conversion factor to change acres and inches/hr (input units) into cfs (output units)

**C = Coefficient of Runoff**

See Note 1, below

NOTE: Isopluvial Precipitation Data acquired from the following websites:

<http://www.slocity.org/publicworks/download/wmp/ddm.pdf>

<http://www.slocounty.ca.gov/AssetFactory.aspx?did=9671>

Drainage Description	Relevant Reach	Drainage Area (acres) (A)	Impervious Area (acres)	Coefficient of Runoff (C) <sup>1</sup>	Isopluvial	Rainfall Intensity in inches/hour (I) <sup>2</sup>	Peak Flow Cubic feet per second (Q) (cfs)	Q <sub>(Year)</sub>
<b>Drainage W-1</b>		15		0.460	2Yr 6Hr	0.29	<b>2.02</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>2.85</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>3.48</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>4.45</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>5.15</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>5.56</b>	Q <sub>(100)</sub>
<b>Drainage W-2</b>		15		0.400	2Yr 6Hr	0.29	<b>1.75</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>2.48</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>3.02</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>3.87</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>4.48</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>4.84</b>	Q <sub>(100)</sub>
<b>Drainage T-1.a</b>		42		0.530	2Yr 6Hr	0.29	<b>6.51</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>9.20</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>11.22</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>14.36</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>16.60</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>17.95</b>	Q <sub>(100)</sub>
<b>Drainage T-1.b</b>		37		0.500	2Yr 6Hr	0.29	<b>5.41</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>7.65</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>9.32</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>11.93</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>13.80</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>14.92</b>	Q <sub>(100)</sub>

1. SLOC Dept. of Public Works Improvements Standards, Section 5.1.1.D specifies that runoff coefficients for Rational Method shall be determined using County Standard Construction Drawing Sheet H-3a for undeveloped areas.

W-1: normal relief (0.18); moderately well drained (0.07); vegetal cover poor (0.12); surface storage low (0.09)

W-2: normal relief (0.18); moderately well drained (0.07); vegetal cover fair (0.08); surface storage normal (0.07)

T-1.a: hilly relief (0.24); poor drainage (0.10); poor vegetal cover (0.10); low surface storage (0.09)

T-2.b: hilly relief (0.24); normal drainage (0.07); poor vegetal cover (0.10), low surface storage (0.09)

2. San Luis Obispo County Department of Public Works Standard Construction Drawings Sheet H-4, Rainfall Intensity Data, Table 2 and Table 3.

### Rational Method to Determine Peak Flow - RPWs

<b>Project number:</b>	<b>0224.0002</b>
<b>Project Name:</b>	<b>Los Osos Community Wastewater Project</b>

**Peak Flow = Q = CIA**

Units = cubic feet per second (cfs)

**Peak Flow (Q) = 1.008CIA**

Where 1.008 is conversion factor to change acres and inches/hr (input units) into cfs (output units)

**C = Coefficient of Runoff**

See Note 1, below

NOTE: Isopluvial Precipitation Data acquired from the following websites:

<http://www.slocity.org/publicworks/download/wmp/ddm.pdf>

<http://www.slocounty.ca.gov/AssetFactory.aspx?did=9671>

Drainage Description	Relevant Reach	Drainage Area (acres) (A)	Impervious Area (acres)	Coefficient of Runoff (C) <sup>1</sup>	Isopluvial	Rainfall Intensity in inches/hour (I) <sup>2</sup>	Peak Flow Cubic feet per second (Q) (cfs)	Q <sub>(Year)</sub>
<b>Drainage W-3</b>		220		0.420	2Yr 6Hr	0.29	<b>27.01</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>38.19</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>46.57</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>59.61</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>68.92</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>74.51</b>	Q <sub>(100)</sub>
<b>Drainage W-4</b>		75		0.420	2Yr 6Hr	0.29	<b>9.21</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>13.02</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>15.88</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>20.32</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>23.50</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>25.40</b>	Q <sub>(100)</sub>
<b>Drainage W-5</b>		35		0.420	2Yr 6Hr	0.29	<b>4.30</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>6.08</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>7.41</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>9.48</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>10.97</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>11.85</b>	Q <sub>(100)</sub>
<b>Drainage W-5.a</b>		18		0.400	2Yr 6Hr	0.29	<b>2.10</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>2.98</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>3.63</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>4.64</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>5.37</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>5.81</b>	Q <sub>(100)</sub>

1. SLOC Dept. of Public Works Improvements Standards, Section 5.1.1.D specifies that runoff coefficients for Rational Method shall be determined using County Standard Construction Drawing Sheet H-3a for undeveloped areas.

W-3: normal relief (0.18); moderately well drained (0.07); vegetal cover fair (0.08); surface storage poor (0.09)

W-4: normal relief (0.18); moderately well drained (0.07); vegetal cover fair (0.08); surface storage poor (0.09)

W-5: normal relief (0.18); moderately well drained (0.07); vegetal cover fair (0.08); surface storage poor (0.09)

W-5.a: normal relief (0.18); moderately well drained (0.07); vegetal cover fair (0.08), surface storage normal (0.07)

2. San Luis Obispo County Department of Public Works Standard Construction Drawings Sheet H-4, Rainfall Intensity Data, Table 2 and Table 3.

### Rational Method to Determine Peak Flow - RPWs

<b>Project number:</b>	<b>0224.0002</b>
<b>Project Name:</b>	<b>Los Osos Community Wastewater Project</b>

**Peak Flow = Q = CIA**

Units = cubic feet per second (cfs)

**Peak Flow (Q) = 1.008CIA**

Where 1.008 is conversion factor to change acres and inches/hr (input units) into cfs (output units)

**C = Coefficient of Runoff**

See Note 1, below

NOTE: Isopluvial Precipitation Data acquired from the following websites:

<http://www.slocity.org/publicworks/download/wmp/ddm.pdf>

<http://www.slocounty.ca.gov/AssetFactory.aspx?did=9671>

Drainage Description	Relevant Reach	Drainage Area (acres) (A)	Impervious Area (acres)	Coefficient of Runoff (C) <sup>1</sup>	Isopluvial	Rainfall Intensity in inches/hour (I) <sup>2</sup>	Peak Flow Cubic feet per second (Q) (cfs)	Q <sub>(Year)</sub>
<b>Drainage W-5.b</b>		18		0.440	2Yr 6Hr	0.29	<b>2.32</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>3.27</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>3.99</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>5.11</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>5.91</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>6.39</b>	Q <sub>(100)</sub>
<b>Drainage T-1</b>		420		0.500	2Yr 6Hr	0.29	<b>61.39</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>86.79</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>105.84</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>135.48</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>156.64</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>169.34</b>	Q <sub>(100)</sub>
<b>Drainage T-2</b>		610		0.500	2Yr 6Hr	0.29	<b>89.16</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>126.05</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>153.72</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>196.76</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>227.51</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>245.95</b>	Q <sub>(100)</sub>
<b>Los Osos Creek</b>		2500		0.400	2Yr 6Hr	0.29	<b>292.32</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>413.28</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>504.00</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>645.12</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>745.92</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>806.40</b>	Q <sub>(100)</sub>

1. SLOC Dept. of Public Works Improvements Standards, Section 5.1.1.D specifies that runoff coefficients for Rational Method shall be determined using County Standard Construction Drawing Sheet H-3a for undeveloped areas.

W-5.b: normal relief (0.18); moderately well drained (0.07); vegetal cover poor (0.12); surface storage normal (0.07)

T-1: hilly relief (0.24); moderately well drained (0.07); vegetal cover poor (0.12); surface storage normal (0.07)

T-2: hilly relief (0.24); moderately well drained (0.07); vegetal cover poor (0.12); surface storage normal (0.07)

Los Osos Creek; hilly relief (0.24); normal drainage (0.07); good vegetal cover (0.04); high surface storage (0.05)

2. San Luis Obispo County Department of Public Works Standard Construction Drawings Sheet H-4, Rainfall Intensity Data, Table 2 and Table 3.

### Rational Method to Determine Peak Flow - RPWs

<b>Project number:</b>	<b>0224.0002</b>
<b>Project Name:</b>	<b>Los Osos Community Wastewater Project</b>

**Peak Flow = Q = CIA**

Units = cubic feet per second (cfs)

**Peak Flow (Q) = 1.008CIA**

Where 1.008 is conversion factor to change acres and inches/hr (input units) into cfs (output units)

**C = Coefficient of Runoff**

See Note 1, below

NOTE: Isopluvial Precipitation Data acquired from the following websites:

<http://www.slocity.org/publicworks/download/wmp/ddm.pdf>

<http://www.slocounty.ca.gov/AssetFactory.aspx?did=9671>

Drainage Description	Relevant Reach	Drainage Area (acres) (A)	Impervious Area (acres)	Coefficient of Runoff (C) <sup>1</sup>	Isopluvial	Rainfall Intensity in inches/hour (I) <sup>2</sup>	Peak Flow Cubic feet per second (Q) (cfs)	Q <sub>(Year)</sub>
<b>Warden Creek</b>		2100		0.400	2Yr 6Hr	0.29	<b>245.55</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>347.16</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>423.36</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>541.90</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>626.57</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>677.38</b>	Q <sub>(100)</sub>
					2Yr 6Hr	0.29	<b>0.00</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>0.00</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>0.00</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>0.00</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>0.00</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>0.00</b>	Q <sub>(100)</sub>
					2Yr 6Hr	0.29	<b>0.00</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>0.00</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>0.00</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>0.00</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>0.00</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>0.00</b>	Q <sub>(100)</sub>
					2Yr 6Hr	0.29	<b>0.00</b>	Q <sub>(2)</sub>
					5Yr 6Hr	0.41	<b>0.00</b>	Q <sub>(5)</sub>
					10Yr 6Hr	0.50	<b>0.00</b>	Q <sub>(10)</sub>
					25Yr 6Hr	0.64	<b>0.00</b>	Q <sub>(25)</sub>
					50Yr 6Hr	0.74	<b>0.00</b>	Q <sub>(50)</sub>
					100Yr 6Hr	0.80	<b>0.00</b>	Q <sub>(100)</sub>

1. SLOC Dept. of Public Works Improvements Standards, Section 5.1.1.D specifies that runoff coefficients for Rational Method shall be determined using County Standard Construction Drawing Sheet H-3a for undeveloped areas.

Warden Creek: hilly relief (0.24); moderately well drained (0.07); good vegetal cover (0.04); high surface storage (0.05)

2. San Luis Obispo County Department of Public Works Standard Construction Drawings Sheet H-4, Rainfall Intensity Data, Table 2 and Table 3.



## **G-3: California Natural Diversity Data**





LOWWP Special Status Species Record Search - California Department of Fish and Game  
 Natural Diversity Database  
 Selected Elements by Common Name - Portrait

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 American badger <i>Taxidea taxus</i>	AMAJF04010			G5	S4	SC
2 Arroyo de la Cruz manzanita <i>Arctostaphylos cruzensis</i>	PDERI040B0			G2	S2.2	1B.2
3 Atascadero June beetle <i>Polyphylla nubila</i>	IICOL68040			G1	S1	
4 Betty's dudleya <i>Dudleya abramsii ssp. bettinae</i>	PDCRA04011			G3T1	S1.2	1B.2
5 Blochman's dudleya <i>Dudleya blochmaniae ssp. blochmaniae</i>	PDCRA04051			G2T2	S2.1	1B.1
6 Blochman's leafy daisy <i>Erigeron blochmaniae</i>	PDAST3M5J0			G2	S2.2	1B.2
7 Brewer's spineflower <i>Chorizanthe breweri</i>	PDPGN04050			G2	S2.2	1B.3
8 California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041		Threatened	G4T1	S1	
9 California clapper rail <i>Rallus longirostris obsoletus</i>	ABNME05016	Endangered	Endangered	G5T1	S1	
10 California horned lark <i>Eremophila alpestris actia</i>	ABPAT02011			G5T3Q	S3	
11 California linderiella <i>Linderiella occidentalis</i>	ICBRA06010			G3	S2S3	
12 California red-legged frog <i>Rana draytonii</i>	AAABH01022	Threatened		G4T2T3	S2S3	SC
13 California seablite <i>Suaeda californica</i>	PDCHE0P020	Endangered		G1	S1.1	1B.1
14 California tiger salamander <i>Ambystoma californiense</i>	AAAAA01180	Threatened		G2G3	S2S3	SC
15 Cambria morning-glory <i>Calystegia subacaulis ssp. episcopalis</i>	PDCON040J1			G3T1	S1.2	1B.2
16 Carmel Valley bush-mallow <i>Malacothamnus palmeri var. involucratus</i>	PDMAL0Q0B1			G3T2Q	S2.2	1B.2
17 Central Dune Scrub	CTT21320CA			G2	S2.2	
18 Central Foredunes	CTT21220CA			G1	S1.2	
19 Central Maritime Chaparral	CTT37C20CA			G2	S2.2	
20 Coast Range newt <i>Taricha torosa torosa</i>	AAAAF02032			G5T4	S4	SC
21 Coastal Brackish Marsh	CTT52200CA			G2	S2.1	
22 Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
23 Congdon's tarplant <i>Centromadia parryi ssp. congdonii</i>	PDAST4R0P1			G4T3	S3.2	1B.2
24 Cooper's hawk <i>Accipiter cooperii</i>	ABNKC12040			G5	S3	
25 Coulter's goldfields <i>Lasthenia glabrata ssp. coulteri</i>	PDAST5L0A1			G4T3	S2.1	1B.1

LOWWP Special Status Species Record Search - California Department of Fish and Game  
 Natural Diversity Database  
 Selected Elements by Common Name - Portrait

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
26 Cuesta Pass checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	PDMAL110A1		Rare	G3T1	S1.2	1B.2
27 Diablo Canyon blue grass <i>Poa diaboli</i>	PMPOA4Z390			G1	S1.2	1B.2
28 Hardham's evening-primrose <i>Camissonia hardhamiae</i>	PDONA030N0			G1Q	S1.2	1B.2
29 Hoover's bent grass <i>Agrostis hooveri</i>	PMPOA040M0			G2	S2.2	1B.2
30 Hoover's button-celery <i>Eryngium aristulatum</i> var. <i>hooveri</i>	PDAPI0Z043			G5T2	S2.1	1B.1
31 Indian Knob mountainbalm <i>Eriodictyon altissimum</i>	PDHYD04010	Endangered	Endangered	G2Q	S2.2	1B.1
32 Jones' layia <i>Layia jonesii</i>	PDAST5N090			G1	S1.1	1B.2
33 La Panza mariposa-lily <i>Calochortus obispoensis</i>	PMLIL0D110			G2	S2.1	1B.2
34 Miles' milk-vetch <i>Astragalus didymocarpus</i> var. <i>milesianus</i>	PDFAB0F2X3			G5T2	S2.2	1B.2
35 Morro Bay blue butterfly <i>Plebejus icarioides morroensis</i>	IILEPG801B			G5T1T3	S1S3	
36 Morro Bay kangaroo rat <i>Dipodomys heermanni morroensis</i>	AMAFD03063	Endangered	Endangered	G3G4T1	S1	
37 Morro manzanita <i>Arctostaphylos morroensis</i>	PDERI040S0	Threatened		G2	S2.2	1B.1
38 Morro shoulderband (=banded dune) snail <i>Helminthoglypta walkeriana</i>	IMGASC2510	Endangered		G1	S1	
39 Northern Coastal Salt Marsh	CTT52110CA			G3	S3.2	
40 Northern Interior Cypress Forest	CTT83220CA			G2	S2.2	
41 Oso manzanita <i>Arctostaphylos osoensis</i>	PDERI042S0			G1	S1.2	1B.2
42 Palmer's monardella <i>Monardella palmeri</i>	PDLAM180H0			G2	S2.2	1B.2
43 Pecho manzanita <i>Arctostaphylos pechoensis</i>	PDERI04140			G2	S2.2	1B.2
44 Pismo clarkia <i>Clarkia speciosa</i> ssp. <i>immaculata</i>	PDONA05111	Endangered	Rare	G4T1	S1.1	1B.1
45 San Benito fritillary <i>Fritillaria viridea</i>	PMLILOV0L0			G3	S3.2	1B.2
46 San Diego desert woodrat <i>Neotoma lepida intermedia</i>	AMAFF08041			G5T3?	S3?	SC
47 San Joaquin spearscale <i>Atriplex joaquiniana</i>	PDCHE041F3			G2	S2.1	1B.2
48 San Luis Obispo County lupine <i>Lupinus ludovicianus</i>	PDFAB2B2G0			G2	S2.2	1B.2
49 San Luis Obispo fountain thistle <i>Cirsium fontinale</i> var. <i>obispoense</i>	PDAST2E162	Endangered	Endangered	G2T1	S1.2	1B.2

LOWWP Special Status Species Record Search - California Department of Fish and Game  
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 Selected Elements by Common Name - Portrait

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
50 San Luis Obispo mariposa-lily <i>Calochortus simulans</i>	PMLIL0D170			G2	S2.3	1B.3
51 San Luis Obispo monardella <i>Monardella frutescens</i>	PDLAM180X0			G2	S2.2	1B.2
52 San Luis Obispo owl's-clover <i>Castilleja densiflora ssp. obispoensis</i>	PDSCR0D453			G5T2	S2.2	1B.2
53 San Luis Obispo pyrg <i>Pyrgulopsis taylori</i>	IMGASJ0A50			G1	S1	
54 San Luis Obispo sedge <i>Carex obispoensis</i>	PMCYP039J0			G2	S2.2	1B.2
55 Santa Lucia bush-mallow <i>Malacothamnus palmeri var. palmeri</i>	PDMAL0Q0B5			G3T2Q	S2.2	1B.2
56 Santa Lucia manzanita <i>Arctostaphylos luciana</i>	PDERI040N0			G2	S2.2	1B.2
57 Santa Margarita manzanita <i>Arctostaphylos pilosula</i>	PDERI04160			G2	S2.2	1B.2
58 Serpentine Bunchgrass	CTT42130CA			G2	S2.2	
59 Surf thistle <i>Cirsium rhotophilum</i>	PDAST2E2J0		Threatened	G2	S2.2	1B.2
60 Townsend's big-eared bat <i>Corynorhinus townsendii</i>	AMACC08010			G4	S2S3	SC
61 Valley Needlegrass Grassland	CTT42110CA			G1	S3.1	
62 Wells' manzanita <i>Arctostaphylos wellsii</i>	PDERI042B0			G2	S2.1?	1B.1
63 adobe sanicle <i>Sanicula maritima</i>	PDAPI1Z0D0		Rare	G2	S2.2	1B.1
64 beach spectaclepod <i>Dithyrea maritima</i>	PDBRA10020		Threatened	G2	S2.1	1B.1
65 big free-tailed bat <i>Nyctinomops macrotis</i>	AMACD04020			G5	S2	SC
66 black legless lizard <i>Anniella pulchra nigra</i>	ARACC01011			G3G4T2T3 Q	S2	SC
67 black-flowered figwort <i>Scrophularia atrata</i>	PDSCR1S010			G2	S2.2	1B.2
68 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
69 caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	PDBRA2R010			G1	S1.1	1B.1
70 chaparral ragwort <i>Senecio aphanactis</i>	PDAST8H060			G3?	S1.2	2.2
71 coast (California) horned lizard <i>Phrynosoma coronatum (frontale population)</i>	ARACF12022			G4G5	S3S4	SC
72 crisp monardella <i>Monardella crispa</i>	PDLAM18070			G2	S2.2	1B.2
73 dacite manzanita <i>Arctostaphylos tomentosa ssp. daciticola</i>	PDERI041HD			G4T1	S1.1	1B.1

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 Selected Elements by Common Name - Portrait

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
74 dune larkspur <i>Delphinium parryi ssp. blochmaniae</i>	PDRAN0B1B1			G4T2	S2.2	1B.2
75 dwarf soaproot <i>Chlorogalum pomeridianum var. minus</i>	PMLIL0G042			G5T1	S1.2	1B.2
76 ferruginous hawk <i>Buteo regalis</i>	ABNKC19120			G4	S3S4	
77 firm cup lichen <i>Cladonia firma</i>	NLT0008460			G4	S1.1	
78 globose dune beetle <i>Coelus globosus</i>	IICOL4A010			G1	S1	
79 grasshopper sparrow <i>Ammodramus savannarum</i>	ABPBXA0020			G5	S2	SC
80 leafy tarplant <i>Deinandra increscens ssp. foliosa</i>	PDAST4R0U4			G4G5T2	S2.2	1B.2
81 marsh sandwort <i>Arenaria paludicola</i>	PDCAR040L0	Endangered	Endangered	G1	S1.1	1B.1
82 merlin <i>Falco columbarius</i>	ABNKD06030			G5	S3	
83 mesa horkelia <i>Horkelia cuneata ssp. puberula</i>	PDROS0W045			G4T2	S2.1	1B.1
84 mimic tryonia (=California brackishwater snail) <i>Tryonia imitator</i>	IMGASJ7040			G2G3	S2S3	
85 monarch butterfly <i>Danaus plexippus</i>	IILEPP2010			G5	S3	
86 most beautiful jewel-flower <i>Streptanthus albidus ssp. peramoenus</i>	PDBRA2G012			G2T2	S2.2	1B.2
87 mouse-gray dudleya <i>Dudleya abramsii ssp. murina</i>	PDCRA04012			G3T2	S2.3	1B.3
88 pale-yellow layia <i>Layia heterotricha</i>	PDAST5N070			G2G3	S2S3.1	1B.1
89 pallid bat <i>Antrozous pallidus</i>	AMACC10010			G5	S3	SC
90 prairie falcon <i>Falco mexicanus</i>	ABNKD06090			G5	S3	
91 purple martin <i>Progne subis</i>	ABPAU01010			G5	S3	SC
92 round-leaved filaree <i>California macrophylla</i>	PDGER01070			G3	S3.1	1B.1
93 saline clover <i>Trifolium depauperatum var. hydrophilum</i>	PDFAB400R5			G5T2?	S2.2?	1B.2
94 salt marsh bird's-beak <i>Cordylanthus maritimus ssp. maritimus</i>	PDSCR0J0C2	Endangered	Endangered	G4?T2	S2.1	1B.2
95 sandy beach tiger beetle <i>Cicindela hirticollis gravida</i>	IICOL02101			G5T2	S1	
96 shining navarretia <i>Navarretia nigelliformis ssp. radians</i>	PDPLM0C0J2			G4T2T3	S2S3.2	1B.2

LOWWP Special Status Species Record Search - California Department of Fish and Game  
 Natural Diversity Database  
 Selected Elements by Common Name - Portrait

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
97 silvery legless lizard <i>Anniella pulchra pulchra</i>	ARACC01012			G3G4T3T4 Q	S3	SC
98 southwestern pond turtle <i>Actinemys marmorata pallida</i>	ARAAD02032			G3G4T2T3 Q	S2	SC
99 splitting yarn lichen <i>Sulcaria isidiifera</i>	NLTEST0020			G1	S1.1	
100 steelhead - south/central California coast ESU <i>Oncorhynchus mykiss irideus</i>	AFCHA0209H	Threatened		G5T2Q	S2	SC
101 straight-awned spineflower <i>Chorizanthe rectispina</i>	PDPGN040N0			G1	S1.2	1B.3
102 tidewater goby <i>Eucyclogobius newberryi</i>	AFCQN04010	Endangered		G3	S2S3	SC
103 tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020			G2G3	S2	SC
104 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
105 western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011			G5T4	S3?	SC
106 western snowy plover <i>Charadrius alexandrinus nivosus</i>	ABNNB03031	Threatened		G4T3	S2	SC
107 western spadefoot <i>Spea hammondi</i>	AAABF02020			G3	S3	SC
108 western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
109 white-tailed kite <i>Elanus leucurus</i>	ABNKC06010			G5	S3	
110 yellow-flowered eriastrum <i>Eriastrum luteum</i>	PDPLM03080			G2	S2.2	1B.2



Accipiter cooperii

Cooper's hawk

Element Code: ABNKC12040

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G5 CDFG Status:  
State: None State: S3

Habitat Associations

General: WOODLAND, CHIEFLY OF OPEN, INTERRUPTED OR MARGINAL TYPE.

Micro: NEST SITES MAINLY IN RIPARIAN GROWTHS OF DECIDUOUS TREES, AS IN CANYON BOTTOMS ON RIVER FLOOD-PLAINS; ALSO, LIVE OAKS.

Occurrence No: 24 Map Index: 12483 EO Index: 27354 Dates Last Seen \_\_\_\_\_  
Occ Rank: Unknown Element: 1967-06-11  
Origin: Natural/Native occurrence Site: 1967-06-11  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 1989-08-10

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.33478° / -120.82329° Township: 30S  
UTM: Zone-10 N3912344 E697832 Range: 11E  
Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 8 Qtr: XX  
Elevation: 129 ft Symbol Type: POINT Meridian: M

Location: BAYWOOD.

Location Detail: NESTING IN OAK.

General: FROM NORTH AMERICAN NEST RECORD CARD PROGRAM.

Owner/Manager: UNKNOWN

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T2T3Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.:</b> 76	<b>Map Index:</b> 72634	<b>EO Index:</b> 28207	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> XXXX-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> XXXX-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-10-21

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

<b>Owner/Manager:</b>	<b>Occurrence No.:</b> 176	<b>Map Index:</b> 24413	<b>EO Index:</b> 6942	<b>Dates Last Seen</b>
<b>* SENSITIVE *</b>	<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-05
	<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-05
	<b>Presence:</b> Presumed Extant			
	<b>Trend:</b> Stable			<b>Record Last Updated:</b> 2003-07-30

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A SMALL POND AND THE SMALL SCOUR POOL JUST DOWNSTREAM; SURROUNDING HABITAT CONSISTS OF FOOTHILL WOODLAND/GRAZED GRASSLAND.  
**Threat:** THREATS INCLUDE OVER-GRAZING, EXOTIC SPECIES, AND AGRICULTURAL LAND SUBDIVISION.  
**Owner/Manager:**

<b>Occurrence No.:</b> 202	<b>Map Index:</b> 33272	<b>EO Index:</b> 1880	<b>Dates Last Seen</b>
<b>* SENSITIVE *</b>	<b>Occ Rank:</b> Good		<b>Element:</b> 1995-03-30
	<b>Origin:</b> Natural/Native occurrence		<b>Site:</b> 1995-03-30
	<b>Presence:</b> Presumed Extant		
	<b>Trend:</b> Unknown		<b>Record Last Updated:</b> 1995-10-18

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF FAST-MOVING WATER WITH LARGE BOULDERS & FALLEN-TREE TRUNKS, WHICH CREATE NUMEROUS POOLS; SURROUNDED BY WILLOW RIPARIAN VEGETATION, WITH A HEAVY UNDERSTORY.  
**Threat:** POSSIBLY THREATENED BY DUMPING FROM BRANCH MILL ROAD.  
**Owner/Manager:**



Actinemys marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None **Global:** G3G4T2T3Q **CDFG Status:** SC  
 State: None **State:** S2

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

**Occurrence No.:** 203 **Map Index:** 33276 **EO Index:** 1877 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-08-09  
**Origin:** Natural/Native occurrence **Site:** 2003-08-09  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-11-18

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A SERIES OF FRESH-WATER AND SEDIMENT PONDS.

**Owner/Manager:**

**Occurrence No.:** 204 **Map Index:** 33300 **EO Index:** 1623 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1993-05-08  
**Origin:** Natural/Native occurrence **Site:** 1993-05-08  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1995-10-03

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Owner/Manager:**

**Occurrence No.:** 205 **Map Index:** 72624 **EO Index:** 1621 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1994-05-28  
**Origin:** Natural/Native occurrence **Site:** 1994-05-28  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2008-10-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF A FRESHWATER POND.

**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3G4T2T3Q State: S2	CDFG Status: SC

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.</b> 217	<b>Map Index:</b> 32711	<b>EO Index:</b> 1163	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1992-05-14
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-14
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-12-27

**Quad Summary:** Pismo Beach (3512026/221B), Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>	
	<b>UTM:</b>		<b>Range:</b>	
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>		<b>Meridian:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** FARM POND AND A SMALL CREEK ABOUT 3 TO 6 FEET ACROSS; VARIABLE WATER DEPTH FROM SHALLOW TO DEEP POOLS; RIPARIAN MAINLY OF WILLOWS.  
**Threat:** POTENTIAL THREAT: LOSS OF UPLAND NESTING SITES BY DEVELOPMENT OF ADJACENT LANDS TO GOLF COURSE AND RESIDENTIAL AREAS.  
**Owner/Manager:**

<b>Occurrence No.</b> 218	<b>Map Index:</b> 32712	<b>EO Index:</b> 1161	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1992-04-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-04-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-12-27

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>	
	<b>UTM:</b>		<b>Range:</b>	
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>		<b>Meridian:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM 4 TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET.  
**Threat:** CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES.  
**Owner/Manager:**

<b>Occurrence No.</b> 219	<b>Map Index:</b> 32713	<b>EO Index:</b> 1175	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 1992-07-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-07-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-12-28

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>	
	<b>UTM:</b>		<b>Range:</b>	
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>		<b>Meridian:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** SMALL, PERMANENT CREEK FROM 3-6 FEET ACROSS; WATER DEPTH VARIABLE FROM INCHES TO 3 FEET; CREEK RUNS THROUGH OVERGRAZED GRASSLAND  
**Threat:** HEAVY CATTLE GRAZING; PROPOSED PARK DEVELOPMENT WITH ANTICIPATED LOSS OF UPLAND NESTING SITES DUE TO LANDSCAPING.  
**Owner/Manager:**

Actinemys marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3G4T2T3Q State: S2	CDFG Status: SC

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.</b> 234	<b>Map Index:</b> 32728	<b>EO Index:</b> 1162	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1987-11-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-11-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-11-16

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>	
	<b>UTM:</b>	<b>Range:</b>	
	<b>Radius:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>	<b>Mapping Precision:</b>	
		<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** POND.

**Owner/Manager:**

<b>Occurrence No.</b> 246	<b>Map Index:</b> 32747	<b>EO Index:</b> 8502	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1989-03-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1989-03-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-22

**Quad Summary:** Cayucos (3512048/247B), Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>	
	<b>UTM:</b>	<b>Range:</b>	
	<b>Radius:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>	<b>Mapping Precision:</b>	
		<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** FRESHWATER LAGOON SURROUNDED BY SANDY BEACH & GRASSES & OTHER VEGETATION TYPICAL OF UPPER PORTIONS OF SANDY BEACHES; ADJACENT RESIDENTIAL DEVELOPMENT.

**Threat:** HUMAN DISTURBANCE VISIBLE, PROBABLY DUE TO LOCALITY NEAR MORRO STRAND STATE BEACH; POSSIBLE CREEK DIVERSION PROJECT.

**Owner/Manager:**

<b>Occurrence No.</b> 247	<b>Map Index:</b> 32748	<b>EO Index:</b> 8503	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1988-06-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-06-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-28

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>	
	<b>UTM:</b>	<b>Range:</b>	
	<b>Radius:</b>	<b>Section:</b>	<b>Qtr:</b>
	<b>Elevation:</b>	<b>Mapping Precision:</b>	
		<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T2T3Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.:</b> 248	<b>Map Index:</b> 32749	<b>EO Index:</b> 8505	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1988-06-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-06-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-28

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

<b>Owner/Manager:</b>	<b>Occurrence No.:</b> 249	<b>Map Index:</b> 32750	<b>EO Index:</b> 8240	<b>Dates Last Seen</b>
<b>* SENSITIVE *</b>	<b>Occ Rank:</b> Unknown			<b>Element:</b> 1988-07-02
	<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-07-02
	<b>Presence:</b> Presumed Extant			
	<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-28

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

<b>Owner/Manager:</b>	<b>Occurrence No.:</b> 259	<b>Map Index:</b> 32871	<b>EO Index:</b> 499	<b>Dates Last Seen</b>
<b>* SENSITIVE *</b>	<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-06-27
	<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-06-27
	<b>Presence:</b> Presumed Extant			
	<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-29

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Mapping Precision:</b>	<b>Township:</b>
	<b>UTM:</b>		<b>Range:</b>
	<b>Radius:</b>	<b>Symbol Type:</b>	<b>Section:</b>
	<b>Elevation:</b>		<b>Meridian:</b>
			<b>Qtr:</b>

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** 1-4M WIDE PERMANENT STREAM WITH RIFFLES, DEEP POOLS (TO 1.5M) & STEEP MUD BANKS; RIPARIAN CORRIDOR MOSTLY OAKS, WILLOWS, RUSHES & GRASSES; COVER ABUNDANCE HIGH, BASKING SITES PRESENT; CANOPY >20% COVER.

**Threat:** THREATS INCLUDE RESIDENTIAL DEVELOPMENT, GRAZING/TRAMPLING, FERAL PIGS, TRASH, STREAM MODIFICATION, AND WATER PIPELINE.

**Owner/Manager:**

Actinemys marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None **Global:** G3G4T2T3Q **CDFG Status:** SC  
 State: None **State:** S2

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

**Occurrence No.** 260 **Map Index:** 32873 **EO Index:** 500 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1995-06-26  
**Origin:** Natural/Native occurrence **Site:** 1995-06-26  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1996-02-07

\* SENSITIVE \*

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** PERENNIAL CREEK, POND/FLOOD AREA SHADED BY WILLOWS & COTTONWOODS. SEDGES & GRASSES PRIMARY VEGETATION;  
 MUD/SAND/GRAVEL SUBSTRATE. AREA LIKELY FLOODED DURING JAN/APR RAINS; WOODY DEBRIS/DETRITUS ABUNDANT; BASKING SITES &  
 COVER ABUND HIGH.  
**Threat:** POSSIBLE THREATS: RUNOFF, ACCESS ROAD, CA DEPT WATER RESOURCES PIPELINE CROSSES WITHIN 150M OF SITE, BULLFROG  
 PREDATION.  
**Owner/Manager:**

**Occurrence No.** 261 **Map Index:** 32874 **EO Index:** 501 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1995-04-14  
**Origin:** Natural/Native occurrence **Site:** 1995-04-14  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1996-02-07

\* SENSITIVE \*

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** PERMANENT SHALLOW RIVER WITH MUD AND SAND BANKS. COVER AND BASKING SITE ABUNDANCE HIGH. BANK GRADIENT TO 50 DEGREES.  
 RIPARIAN VEGETATION MOSTLY WILLOWS, SYCAMORES, AND OAKS. UPLAND CHAPARRAL.  
**Threat:** POSSIBLE THREAT: CA DEPT WATER RESOURCES PIPELINE CROSSES RIVER NEAR SITE, CALTRANS WORK.  
**Owner/Manager:**

**Occurrence No.** 262 **Map Index:** 32875 **EO Index:** 502 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1995-06-09  
**Origin:** Natural/Native occurrence **Site:** 1995-06-09  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1996-02-07

\* SENSITIVE \*

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:**Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** SMALL WASH/SEASONAL DRAINAGE PRIMARILY OF DECOMPOSED GRANITE, BEDROCK. SYCAMORES, WILLOWS OAKS. COVER AND BASKING  
 SITE ABUNDANCE HIGH. UPLAND HABITAT CONSISTS PRIMARILY OF CHAPARRAL.  
**Threat:** POSSIBLE THREAT: CA DEPT WATER RESOURCES PIPELINE CROSSES DRAINAGE AREA SEVERAL TIMES.  
**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3G4T2T3Q CDFG Status: SC  
 State: None State: S2

Habitat Associations

General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
 Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

Occurrence No. 263 Map Index: 32876 EO Index: 497 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1995-05-19  
 Origin: Natural/Native occurrence Site: 1995-05-19  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-03-18

\* SENSITIVE \*

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: HEADWATERS OF STENNER CREEK; MIXED HARDWOODS, PRIMARILY OAK & SYCAMORE ALONG HIGH-GRADIENT CREEK. SUBSTRATE  
 PRIMARILY BEDROCK WITH COBBLE, BOULDER & SAND. EVIDENCE OF HEAVY FLOODING FROM JAN/APR RAINS. BANK GRADIENT STEEP  
 (45-90 DEGREES).  
 Threat: CATTLE GRAZING, CA DEPT WATER RESOURCES PIPELINE AT TUNNEL AND ACCESS ROAD.  
 Owner/Manager:

Occurrence No. 264 Map Index: 32877 EO Index: 498 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1995-04-13  
 Origin: Natural/Native occurrence Site: 1995-04-13  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-28

\* SENSITIVE \*

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: SMALL (<3M WIDE) DRAINAGE IN OAK WOODLAND/CHAPARRAL OF CUESTA HILLS. CANOPY DENSE, BASKING SITE ABUNDANCE HIGH.  
 SUBSTRATE CONSISTS OF LOGS, BOULDER, GRAVEL, AND RIPRAP; BANK GRADIENT >35 DEGREES.  
 Threat: POSSIBLE THREATS: CONSTRUCTION OF CA DEPT WATER RESOURCES PIPELINE, ACCESS ROADS, HIGHWAY 101.  
 Owner/Manager:

Occurrence No. 265 Map Index: 72625 EO Index: 19315 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 1998-10-01  
 Origin: Natural/Native occurrence Site: 1998-10-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-10-20

\* SENSITIVE \*

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: SMALL PERENNIAL CREEK WITH POOLS, MIXED HARDWOOD RIPARIAN, RUSHES/SEDGES. UPLAND HABITAT ROLLING OAK SAVANNAH  
 FOOTHILLS; HIGH DEGREE OF WATER-LEVEL COVER; BASKING SITE ABUNDANCE HIGH. SLOW SHALLOW SECTIONS WITH FLOATING AQUATIC  
 VEGETATION.  
 Threat: CATTLE GRAZING IS POSSIBLE THREAT: NO CATTLE TRAMPLING OBSERVED, CA DEPT WATER RESOURCES PIPELINE CONSTRUCTION.  
 Owner/Manager:

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3G4T2T3Q CDFG Status: SC  
 State: None State: S2

Habitat Associations

General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
 Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

Occurrence No. 266 Map Index: 32880 EO Index: 496 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1995-06-26  
 Origin: Natural/Native occurrence Site: 1995-06-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-03-18

\* SENSITIVE \*

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: SMALL PERMANENT DRAINAGE IN HILLS ABOVE CALPOLY; RIPARIAN CORRIDOR PRIMARILY SYCAMORES AND WILLOWS; COVER AND BASKING SITE ABUNDANCE HIGH; SUBSTRATE SAND, GRAVEL, COBBLE, BOULDER. BANKS STEEP (30-80 DEGREES), STREAM GRADIENT LOW.  
 Threat: POSSIBLE THREATS: AGRICULTURE, CATTLE GRAZING/TRAMPLING; CA DEPT WATER RESOURCES PIPELINE CROSSING 30M UPSTREAM.  
 Owner/Manager:

Occurrence No. 267 Map Index: 72628 EO Index: 493 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1995-05-30  
 Origin: Natural/Native occurrence Site: 1995-05-30  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-10-20

\* SENSITIVE \*

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: SMALL SEASONAL STREAM IN ROLLING GRASSLAND/OAK SAVANNAH COASTAL FOOTHILLS. SYCAMORE, OAKS, POISON OAK STANDS GIVE CANOPY COVER. STEEP BANK GRADIENT. SUBSTRATE COBBLE, BOULDER, GRAVEL, BEDROCK. FLOOD DAMAGE VISIBLE FROM JAN/APR 1995 RAINS.  
 Threat: POSSIBLE THREAT: CATTLE TRAMPLING, ACCESS ROAD, CA DEPT WATER RESOURCES PIPELINE WILL CROSS THIS TRIBUTARY.  
 Owner/Manager:

Occurrence No. 268 Map Index: 32882 EO Index: 492 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1995-05-01  
 Origin: Natural/Native occurrence Site: 1995-05-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-28

\* SENSITIVE \*

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: Township:  
 UTM: Range:  
 Radius: Mapping Precision: Section: Qtr:  
 Elevation: Symbol Type: Meridian:

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: HIGH GRADIENT PERMANENT STREAM. LOW COVER PRIMARILY POISON OAK; CANOPY COVER BY MATURE OAKS AND SYCAMORES. UPLAND: ROLLING COASTAL FOOTHILLS WITH GRASSLAND OAK SAVANNAH.  
 Threat: POSSIBLE THREAT: ACCESS ROADS, CATTLE TRAMPLING, CA DEPT WATER RESOURCES PIPELINE PROJECT.  
 Owner/Manager:

Actinemys marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3G4T2T3Q CDFG Status: SC  
 State: None State: S2

Habitat Associations

General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
 Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

Occurrence No. 269 Map Index: 32883 EO Index: 491 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1995-06-06  
 Origin: Natural/Native occurrence Site: 1995-06-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-28

\* SENSITIVE \*

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: \_\_\_\_\_ Township: \_\_\_\_\_  
 UTM: \_\_\_\_\_ Range: \_\_\_\_\_  
 Radius: \_\_\_\_\_ Mapping Precision: \_\_\_\_\_ Section: \_\_\_\_\_ Qtr: \_\_\_\_\_  
 Elevation: \_\_\_\_\_ Symbol Type: \_\_\_\_\_ Meridian: \_\_\_\_\_

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: OAK GRASSLANDS/SAVANNAH WITH SMALL SEASONAL DRAINAGES. COVER LOW, LIMITED TO DENSE POISON OAK STANDS. SUBSTRATE  
 PRIMARILY COBBLE, BOULDER, SAND, BEDROCK. BASKING SITE ABUNDANCE HIGH; BANK GRADIENT STEEP, LIKELY RESULT OF JAN/APR 1995  
 FLOODS  
 Threat: POSSIBLE THREATS: CATTLE GRAZING/TRAMPLING, ACCESS ROADS, CA DEPT WATER RESOURCES PIPELINE PROJECT.  
 Owner/Manager:

Occurrence No. 274 Map Index: 72626 EO Index: 29091 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1996-01-11  
 Origin: Natural/Native occurrence Site: 1996-01-11  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-10-20

\* SENSITIVE \*

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: \_\_\_\_\_ Township: \_\_\_\_\_  
 UTM: \_\_\_\_\_ Range: \_\_\_\_\_  
 Radius: \_\_\_\_\_ Mapping Precision: \_\_\_\_\_ Section: \_\_\_\_\_ Qtr: \_\_\_\_\_  
 Elevation: \_\_\_\_\_ Symbol Type: \_\_\_\_\_ Meridian: \_\_\_\_\_

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: HABITAT CONSISTS OF SYCAMORE, LIVE OAK, AND WILLOW RIPARIAN WOODLAND. OTHER RARE SPECIES FOUND AT THIS SITE INCLUDE  
 RANA AURORA DRAYTONII, DUDLEYA BLOCHMANIAE, AND PHRYNOSOMA CORONATUM FRONTALE.  
 Threat: THREATS INCLUDE EROSION/SEDIMENTATION OF STREAM DUE TO GOLF COURSE CONSTRUCTION, OVER-COLLECTION, & HUMAN  
 DISTURBANCE.  
 Owner/Manager:

Occurrence No. 297 Map Index: 72621 EO Index: 44178 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2000-08-15  
 Origin: Natural/Native occurrence Site: 2000-08-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-10-20

\* SENSITIVE \*

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: \_\_\_\_\_ Township: \_\_\_\_\_  
 UTM: \_\_\_\_\_ Range: \_\_\_\_\_  
 Radius: \_\_\_\_\_ Mapping Precision: \_\_\_\_\_ Section: \_\_\_\_\_ Qtr: \_\_\_\_\_  
 Elevation: \_\_\_\_\_ Symbol Type: \_\_\_\_\_ Meridian: \_\_\_\_\_

Location: \*SENSITIVE\* Location information suppressed.  
 Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
 Ecological: HABITAT CONSISTS OF A SHALLOW POOL IN A CLEAR, COOL, INTERMITTENT STREAM, WITH A WILLOW/COAST LIVE OAK/LAUREL RIPARIAN  
 CORRIDOR. DEEP POOLS NEARBY WITH EMERGENT AND OVERHANGING VEGETATION; STREAM CUT DOWN TO SERPENTINE BEDROCK.  
 Owner/Manager:



**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3G4T2T3Q State: S2	CDFG Status: SC

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.</b> 304	<b>Map Index:</b> 72620	<b>EO Index:</b> 45528	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2001-07-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-07-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-10-20

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF SMALL POOLS IN NARROW CREEKBED UPSTREAM FROM LAGOON. CALIF RED LEGGED FROG IN VICINITY. CAMPGROUND LOCATED NORTH OF SITE. DEVELOPMENT (DENSE) NEAR SITE.  
**Threat:** POSSIBLE THREAT OF COLLECTION BY CAMPERS AND OTHERS.

**Owner/Manager:**

<b>Occurrence No.</b> 309	<b>Map Index:</b> 48227	<b>EO Index:</b> 48227	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2002-04-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-04-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-07-11

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF LARGE POOL (4-6 FT DEEP) WITH MUCH EMERGENT VEGETATION (CATTAILS) AND SOFT BANKS VEGETATED WITH VINCA. AREA IS IMMEDIATELY ADJACENT TO PARK.  
**Threat:** THREAT CONSISTS OF HUMAN DISTURBANCE DUE TO NEARNESS OF PARK.

**Owner/Manager:**

<b>Occurrence No.</b> 318	<b>Map Index:</b> 48757	<b>EO Index:</b> 48757	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-05-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-09-10

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF A ROCK-FORMED PLUNGE POOL ON STENNER CREEK.  
**Threat:** THREATENED BY PROXIMITY TO FOOT AND VEHICULAR TRAFFIC; POTENTIAL FOR COLLECTING.

**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T2T3Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.</b> 334	<b>Map Index:</b> 51888	<b>EO Index:</b> 51888	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-05-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** POND VEGETATED BY LARGE PATCH OF ROUNDSTEM TULE AT WEST END PROVIDING GOOD COVER FOR AMPHIBIANS. NO FISH OBS, 100+ BULLFROGS COUNTED IN 2002. POND DRIED SUMMER 2002 & FEW BULLFROGS OBS IN 2003. SURROUNDED BY ANNUAL GRASSLAND, WETLAND & AG.  
**Threat:** THREATENED BY NON-NATIVE PREDATORS (BULLFROGS).  
**Owner/Manager:**

<b>Occurrence No.</b> 335	<b>Map Index:</b> 51889	<b>EO Index:</b> 51889	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-03-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-03-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** HABITAT CONSISTS A STREAM COVERED BY A MATURE CANOPY OF FREMONT COTTONWOOD, WESTERN SYCAMORE, RED WILLOW, CALIFORNIA WALNUT, AND VALLEY OAK; UNDERSTORY VEGETATION IS DENSE. NUMEROUS SMALL SIDE CHANNELS WEAVE THROUGH THE RIPARIAN HABITAT.  
**Owner/Manager:**

<b>Occurrence No.</b> 336	<b>Map Index:</b> 51890	<b>EO Index:</b> 51890	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-07-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-07-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A LARGE, BEDROCK POOL IN SANTA MARGARITA CREEK.  
**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None **Global:** G3G4T2T3Q **CDFG Status:** SC  
 State: None **State:** S2

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

**Occurrence No.:** 337 **Map Index:** 51891 **EO Index:** 51891 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Fair **Element:** 2003-05-21  
**Origin:** Natural/Native occurrence **Site:** 2003-05-21  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-30

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF A LARGE, PERMANENT POND CONTAINING EMERGENT VEGETATION (ELEOCHARIS MACROSTACHYA) ALONG THE MARGINS; MIXED OAK WOODLAND SURROUNDS THE POND. CENTRARCHIDS, CATFISH, AND SUCKERS OCCUR IN THIS POND.  
**Threat:** THREATENED BY PRESENCE OF NON-NATIVE PREDATORY FISH.

**Owner/Manager:**

**Occurrence No.:** 338 **Map Index:** 51894 **EO Index:** 51894 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-10-04  
**Origin:** Natural/Native occurrence **Site:** 2002-10-04  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF SEVERAL LARGE POOLS CONTAINING PERMANENT WATER; SHRUBBY WILLOWS ARE SCATTERED THROUGHOUT THIS LARGE RIPARIAN DRAINAGE.

**Owner/Manager:**

**Occurrence No.:** 339 **Map Index:** 51914 **EO Index:** 51914 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-04-08  
**Origin:** Natural/Native occurrence **Site:** 2002-04-08  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-30

**Quad Summary:** Lopez Mtn. (3512035/246D), Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF A SERIES OF POOLS FORMED ON TROUT CREEK BEHIND BEAVER DAMS; DOMINANT PLANTS INCLUDE CATTAILS, TYPHA SP, AND BULRUSH. WILLOWS PARTIALLY SHADE THE POOLS AND PROVIDE BASKING AREAS. BULLFROGS PRESENT.

**Threat:** THREATENED BY BULLFROG PRESENCE.

**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None **Global:** G3G4T2T3Q **CDFG Status:** SC  
 State: None **State:** S2

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

**Occurrence No.:** 340 **Map Index:** 51924 **EO Index:** 51924 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-06-26  
**Origin:** Natural/Native occurrence **Site:** 2002-06-26  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-30

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF BEDROCK POOLS WITH LITTLE CANOPY COVER. SACRAMENTO SUCKER, SACRAMENTO SQUAWFISH, AND CALIFORNIA ROACH ALSO FOUND AT THIS SITE.

**Owner/Manager:**

**Occurrence No.:** 341 **Map Index:** 51937 **EO Index:** 51937 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-05-18  
**Origin:** Natural/Native occurrence **Site:** 2002-05-18  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-31

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A MAN-MADE, SEASONAL CATTLE POND; ELEOCHARIS MACROSTACHYA IS DOMINANT ALONG THE MARGINS OF THE POND AND AT THE INLET. POND IS SURROUNDED BY GRAZED VALLEY OAK SAVANNAH. NO NON-NATIVE ANIMAL SPECIES FOUND IN THIS POND.

**Owner/Manager:**

**Occurrence No.:** 342 **Map Index:** 51939 **EO Index:** 51939 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-05-10  
**Origin:** Natural/Native occurrence **Site:** 2003-05-10  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2003-07-31

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** \_\_\_\_\_ **Township:** \_\_\_\_\_  
**UTM:** \_\_\_\_\_ **Range:** \_\_\_\_\_  
**Radius:** \_\_\_\_\_ **Mapping Precision:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Qtr:** \_\_\_\_\_  
**Elevation:** \_\_\_\_\_ **Symbol Type:** \_\_\_\_\_ **Meridian:** \_\_\_\_\_

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A SEASONAL, MAN-MADE CATTLE POND WITH LITTLE WETLAND VEGETATION ALONG THE SHORELINES; SURROUNDED BY MIXED OAK WOODLAND AND VALLEY OAK SAVANNA.

**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T2T3Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

<b>Occurrence No.</b> 343	<b>Map Index:</b> 55142	<b>EO Index:</b> 55142	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-04-13

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF EMERGENT WETLAND VEGETATION ABOVE THE CREEK DRAINAGE; TYPHA LATIFOLIA AND SCIRPUS CALIFORNICA DOMINATE THE WETLAND.  
**Threat:** THREATENED BY FUTURE DEVELOPMENT.  
**Owner/Manager:**

<b>Occurrence No.</b> 345	<b>Map Index:</b> 57296	<b>EO Index:</b> 57312	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-03-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-03-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-10-07

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A LARGE, PERMANENT POND; LARGEMOUTH BASS, BLUEGILL, BLACK BULLHEAD, AND CATFISH ARE KNOWN FROM THIS POND.  
**Threat:** THREATENED BY THE INTRODUCTION OF NON-NATIVE, PREDACEOUS SPORTFISH.  
**Owner/Manager:**

<b>Occurrence No.</b> 349	<b>Map Index:</b> 59815	<b>EO Index:</b> 59851	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2005-02-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-02-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-02-02

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>* SENSITIVE *</b>	<b>Lat/Long:</b>	<b>Township:</b>
	<b>UTM:</b>	<b>Range:</b>
	<b>Radius:</b>	<b>Section:</b>
	<b>Elevation:</b>	<b>Meridian:</b>
	<b>Mapping Precision:</b>	<b>Qtr:</b>
	<b>Symbol Type:</b>	

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A SPRING-FED CREEK WITH PERENNIAL FLOW, WITH MODERATE RIPARIAN VEGETATION COVER THROUGHOUT THE CHANNEL CORRIDOR; DOMINATED BY ARROYO WILLOW, POISON OAK, AND CALIFORNIA SAGEBRUSH. SURROUNDING AREA IS GRAZED.  
**Threat:** POTENTIAL THREAT FROM RANCH MACHINERY AND TRUCKS OPERATING IN THE AREA.  
**Owner/Manager:**

**Actinemys marmorata pallida**

southwestern pond turtle

Element Code: ARAAD02032

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G3G4T2T3Q **CDFG Status:** SC  
**State:** None **State:** S2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.  
**Micro:** REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

**Occurrence No.:** 355 **Map Index:** 63199 **EO Index:** 63291 **Dates Last Seen**  
**Occ Rank:** Excellent **Element:** 2005-05-15  
**Origin:** Natural/Native occurrence **Site:** 2005-05-15  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-11-22

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** **Township:**  
**UTM:** **Range:**  
**Radius:** **Mapping Precision:** **Section:** **Qtr:**  
**Elevation:** **Symbol Type:** **Meridian:**

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A CREATED SWALE THAT WAS DRYING AND ONLY A FEW CM DEEP; DOMINATED BY WILLOWS, RUMEX, AND GREEN  
 FILAMENTOUS ALGAE.  
**Threat:** POSSIBLE THREAT FROM BULLFROGS, CRAYFISH, AND MOSQUITOFISH WHICH WERE ABUNDANT IN THE WETLANDS AND THE ADJACENT  
 STREAM.

**Owner/Manager:**

**Occurrence No.:** 356 **Map Index:** 63200 **EO Index:** 63292 **Dates Last Seen**  
**Occ Rank:** Good **Element:** 2005-05-16  
**Origin:** Natural/Native occurrence **Site:** 2005-05-16  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-11-22

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** **Township:**  
**UTM:** **Range:**  
**Radius:** **Mapping Precision:** **Section:** **Qtr:**  
**Elevation:** **Symbol Type:** **Meridian:**

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF POOLS WITHIN ATASCADERO CREEK; STREAM CONTAINS ALTERNATING DEEP POOLS, RIFFLES, AND GLIDES. SITE  
 CONTAINS A PARTIALLY-CLOSED CANOPY OF COAST LIVE OAK, VALLEY OAK, COTTONWOOD, SYCAMORE, WILLOW, AND ALDER.  
**Threat:** THREATENED BY LACK OF SUITABLE UPLAND HABITAT DUE TO URBANIZATION, TRASH DUMPING, & PRESENCE OF BULLFROGS & CRAYFISH.

**Owner/Manager:**

**Occurrence No.:** 362 **Map Index:** 72518 **EO Index:** 65990 **Dates Last Seen**  
**Occ Rank:** Good **Element:** 2006-08-10  
**Origin:** Natural/Native occurrence **Site:** 2006-08-10  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2008-10-14

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

\* SENSITIVE \* **Lat/Long:** **Township:**  
**UTM:** **Range:**  
**Radius:** **Mapping Precision:** **Section:** **Qtr:**  
**Elevation:** **Symbol Type:** **Meridian:**

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** HABITAT CONSISTS OF A LARGE, OPEN-WATER POND (12" IN DEPTH); LOG IN WATER USED AS A BASKING SITE.

**Owner/Manager:**

<b>Actinemys marmorata pallida</b>		
southwestern pond turtle	<b>Element Code:</b> ARAAD02032	
<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3G4T2T3Q State: S2	CDFG Status: SC
<b>Habitat Associations</b>		
General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.		
Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.		

Occurrence No: 393	Map Index: 71000	EO Index: 71918	<b>Dates Last Seen</b>
* SENSITIVE * Occ Rank: Good Origin: Natural/Native occurrence Presence: Presumed Extant Trend: Unknown			Element: 2003-XX-XX Site: 2003-XX-XX
			<b>Record Last Updated:</b> 2008-03-07

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

* SENSITIVE *	Lat/Long: UTM: Radius: Elevation:	Mapping Precision: Symbol Type:	Township: Range: Section: Meridian:	Qtr:
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**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

**Ecological:** HABITAT CONSISTS OF A POOL WITHIN A PERENNIAL CREEK. CREEK IS BORDERED BY MATURE RIPARIAN CANOPY OF WILLOWS WITH OCCASIONAL SYCAMORES. CURRENT/SURROUNDING LAND USE: FARMING, RESIDENTIAL, GRAZING AND UNDEVELOPED.  
**Threat:** THREATENED BY FUTURE DEVELOPMENT.  
**Owner/Manager:**

**Agelaius tricolor**

tricolored blackbird

Element Code: ABPBXB0020

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G2G3 **CDFG Status:** SC  
**State:** None **State:** S2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.  
**Micro:** REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.

**Occurrence No.:** 331 **Map Index:** 37152 **EO Index:** 32149 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1997-05-02  
**Origin:** Natural/Native occurrence **Site:** 1997-05-02  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1997-10-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.33723° / -120.68691° **Township:** 30S  
**UTM:** Zone-10 N3912896 E710222 **Range:** 12E  
**Area:** 9.1 acres **Mapping Precision:** SPECIFIC **Section:** 09 **Qtr:** NE  
**Elevation:** 560 ft **Symbol Type:** POLYGON **Meridian:** M

**Location:** CHORRO RESERVOIR, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION, 3 MILES NNW OF SAN LUIS OBISPO.  
**Location Detail:** CHORRO RESERVOIR AND A HOLDING POND BEHIND CHORRO RESERVOIR.  
**Ecological:** HABITAT CONSISTS OF A MAN-MADE POND, DOMINATED BY JUNCUS AND SCIRPUS.  
**Threat:** POSSIBLE THREAT FROM NEARBY BRIDGE CONSTRUCTION.  
**General:** 150+ ADULTS OBSERVED NESTING ON 2 MAY 1997.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD



**Agrostis hooveri**

Hoover's bent grass

Element Code: PMPOA040M0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** SANDY SITES. 60-600M.

<b>Occurrence No.:</b> 6	<b>Map Index:</b> 56268	<b>EO Index:</b> 56284	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1969-06-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1969-06-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-08-04

**Quad Summary:** Arroyo Grande NE (3512025/221A), Oceano (3512015/221D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.12394° / -120.58193°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3889464 E720341	<b>Range:</b> 13E
<b>Radius:</b> 1 mile	<b>Section:</b> 21
<b>Elevation:</b> 100 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** OAK PARK DISTRICT, ARROYO GRANDE.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDb, IN THE VICINITY OF ARROYO GRANDE AT HW1 101.  
**Ecological:** IN FINE WHITE SAND AND CLAY FROM SANDSTONE.  
**General:** 1948 COLLECTION BY HOOVER "CARPENTER CANYON ROAD TO ARROYO GRANDE" ATTRIBUTED TO THIS SITE. UNKNOWN NUMBER OF PLANTS SEEN IN 1948 AND 1969. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.:</b> 10	<b>Map Index:</b> 12776	<b>EO Index:</b> 56333	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1980-02-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-02-02
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-08-05

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19940° / -120.66633°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897651 E712453	<b>Range:</b> 12E
<b>Area:</b> 13.9 acres	<b>Section:</b> 26
<b>Elevation:</b> 800 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** INDIAN KNOB, APPROX. 4.0 MILES N OF PISMO BEACH.  
**Location Detail:** ONE POLYGON MAPPED ON THE NW SIDE OF INDIAN KNOB, APPROX. 2.0 MILES E OF HWY 101, AND 1.6 MILES S OF DAVENPORT CREEK.  
**Threat:** CATTLE GRAZING. POSSIBLE OIL EXTRACTION (PUMPING) IN FUTURE.  
**General:** MAP PROVIDED BY MCLEOD (1985). UNKNOWN NUMBER OF PLANTS SEEN IN 1980 AND 1985. OTHER RARE PLANTS AT THIS SITE: ERIODICTYON ALTISSIMUM, ARCTOSTAPHYLOS PILOSULA, AND CALOCHORTUS OBISPOENSIS. NEEDS FIELDWORK.  
**Owner/Manager:** TNC, PVT-PGE

<b>Occurrence No.:</b> 11	<b>Map Index:</b> 56318	<b>EO Index:</b> 56334	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> XXXX-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> XXXX-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-08-17

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17662° / -120.68420°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3895086 E710884	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 33
<b>Elevation:</b> 400 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** GRAGG CANYON, NW OF SHELL BEACH.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDb, IN THE VICINITY OF GRAGG CANYON, E OF HWY 101, AND 1.2 MILES NW OF SHELL BEACH.  
**General:** ONLY INFORMATION FOR THIS SITE IS 1996 CNPS INVENTORY 6 REVIEW COMMENTS BY CLIFTON, REFERENCING SEVERAL LARGE POPULATIONS AT THIS SITE. UNKNOWN DATE OF SITE VISIT. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

**Agrostis hooveri**

Hoover's bent grass

Element Code: PMPOA040M0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: SANDY SITES. 60-600M.

Occurrence No. 12 Map Index: 56321 EO Index: 56337 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1993-07-08  
 Origin: Natural/Native occurrence Site: 1993-07-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-08-04

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.23584° / -120.80516° Township: 31S  
 UTM: Zone-10 N3901405 E699722 Range: 11E  
 Radius: 4/5 mile Mapping PrecisionNON-SPECIFIC Section: 09 Qtr: XX  
 Elevation: 1,200 ft Symbol Type:POINT Meridian: M

Location: DEVILS RIDGE TO UPPER COON CREEK ROAD, IRISH HILLS.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB, IN THE VICINITY OF DEVILS RIDGE, APPROX. 1.5 MILSE WNW OF SADDLE PEAK, AND 3.0 MILES NE OF DIABLO CANYON POWER PLANT.  
 Ecological: ROADSIDE ADJACENT TO CHAPARRAL THICKETS OF PECHO MANZANITA; ALSO COMMON IN THE MIDDLE OF THE EVIDENTLY UNMAINTAINED ROAD.  
 Threat: POSSIBLE ROAD MAINTENANCE.  
 General: IN 1996 CNPS INVENTORY 6 REVIEW COMMENTS, CLIFTON "FOUND IT IN ONE PLACE IN DIABLO CANYON". UNKNOWN NUMBER OF PLANTS SEEN IN 1993 AND 1996. OTHER RARE PLANT AT THIS SITE: ARCTOSTAPHYLOS PECHOENSIS. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No. 14 Map Index: 28447 EO Index: 56340 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1964-06-05  
 Origin: Natural/Native occurrence Site: 1964-06-05  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-08-04

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33489° / -120.60993° Township: 30S  
 UTM: Zone-10 N3912803 E717226 Range: 13E  
 Radius: 2/5 mile Mapping PrecisionNON-SPECIFIC Section: 08 Qtr: NW  
 Elevation: 2,200 ft Symbol Type:POINT Meridian: M

Location: RIDGE SE OF CUESTA PASS.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB, ALONG RIDGE SE OF CUESTA PASS, APPROX. 1.0 MILE NW OF MT. LOWE.  
 Ecological: ON DISINTEGRATING SHALE.  
 General: UNKNOWN NUMBER OF PLANTS SEEN IN 1964. NEEDS FIELDWORK.

Owner/Manager: USFS-LOS PADRES NF, UNKNOWN

Occurrence No. 15 Map Index: 61677 EO Index: 61713 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 2005-04-29  
 Origin: Natural/Native occurrence Site: 2005-04-29  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-05-23

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.18675° / -120.69155° Township: 31S  
 UTM: Zone-10 N3896194 E710188 Range: 12E  
 Area: 2.1 acres Mapping PrecisionSPECIFIC Section: 33 Qtr: NE  
 Elevation: 307 ft Symbol Type:POLYGON Meridian: M

Location: SOUTH SLOPE SQUIRE CANYON, ABOUT 0.6 AIRMILE NE OF MONTE ROAD AT HIGHWAY 101, SAN LUIS OBISPO.  
 Location Detail: PLANTS FOUND IN ONE PATCH ON A STEEP SOUTH-FACING SLOPE OF AN EROSION-INDUCED DRAINAGE AT THE EDGE OF THE OAK WOODLAND. MAPPED IN SW1/4 OF NE1/4 SEC 33.  
 Ecological: DENSE NORTH-FACING COAST LIVE OAK WOODLAND ON SANDY SOILS. OCCURS WITH CHORIZANTHE BILOBA VAR. BILOBA, BACCHARIS PILULARIS, MIMULUS AURANTIACUS, LOTUS SCOPARIUS, PLANTAGO ERECTA, AND OTHERS.  
 Threat: INCREASING RESIDENTIAL DEVELOPMENT. PLANTS ARE OUTSIDE OF PROPOSED DEVELOPMENT.  
 General: 50 PLANTS OBSERVED IN 2004.

Owner/Manager: PVT

**Agrostis hooveri**

Hoover's bent grass

Element Code: PMPOA040M0

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: SANDY SITES. 60-600M.

Occurrence No. 21	Map Index: 64768	EO Index: 64847	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1958-06-22
Origin: Natural/Native occurrence			Site: 1958-06-22
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-06-06

Quad Summary: Pismo Beach (3512026/221B), Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22770° / -120.73849°		Township: 31S
UTM: Zone-10 N3900639 E705810		Range: 11E
Area:	Mapping PrecisionNON-SPECIFIC	Section: 13
Elevation:	Symbol Type:POLYGON	Meridian: M
		Qtr: XX

Location: SEE CANYON NEAR THE TOWN OF AVILA.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG SEE CANYON.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1958 COLLECTION BY HARDHAM FROM "SEE CANYON, AVILA." NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 22	Map Index: 64769	EO Index: 64848	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1995-05-28
Origin: Natural/Native occurrence			Site: 1995-05-28
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-06-01

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31597° / -120.59999°		Township: 30S
UTM: Zone-10 N3910727 E718180		Range: 13E
Radius: 1/5 mile	Mapping PrecisionNON-SPECIFIC	Section: 17
Elevation:	Symbol Type:POINT	Meridian: M
		Qtr: E

Location: SAN LUIS OBISPO COUNTY, IMMEDIATELY WNW OF PEAK 2.  
 Location Detail: COULD NOT LOCATE PEAK 2. MAPPED WITH COORDINATES PROVIDED BY HRUSA, S OF MT. LOWE RADIO FACILITY. MAPPED W OF PEAK WITH ELEVATION 2553'.  
 Ecological: COMMON IN BURNED-OVER PINUS ATTENUATA FOREST ON RIDGE. MOSTLY ON POORLY DRAINED FLATED ON SADDLE OF RIDGE.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1995 COLLECTION BY HRUSA. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status

NDDB Element Ranks

Other Lists

Federal: Threatened

Global: G2G3

CDFG Status: SC

State: None

State: S2S3

Habitat Associations

General: CENTRAL VALLEY DPS LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 596

Map Index: 46372

EO Index: 46372

Dates Last Seen

Occ Rank: None

Element: 1939-01-19

Origin: Natural/Native occurrence

Site: 1939-01-19

Presence: Extirpated

Trend: Unknown

Record Last Updated: 2001-11-01

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.31192° / -120.67407°

Township: 30S

UTM: Zone-10 N3910116 E711455

Range: 12E

Radius: 1 mile

Mapping PrecisionNON-SPECIFIC

Section: 15

Qtr: XX

Elevation: 400 ft

Symbol Type:POINT

Meridian: M

Location: 1 MILE NORTH OF SAN LUIS OBISPO.

General: MVZ #31386-7 COLLECTED BY R.R. MILLER & R.G. MILLER 19 JUN 1939. JENNINGS CONSIDERS THIS SITE EXTIRPATED.

Owner/Manager: UNKNOWN

**Ammodramus savannarum**

grasshopper sparrow

Element Code: ABPBXA0020

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G5 State: S2	CDFG Status: SC

**Habitat Associations**

**General:** DENSE GRASSLANDS ON ROLLING HILLS, LOWLAND PLAINS, IN VALLEYS & ON HILLSIDES ON LOWER MOUNTAIN SLOPES.  
**Micro:** FAVORS NATIVE GRASSLANDS WITH A MIX OF GRASSES, FORBS & SCATTERED SHRUBS. LOOSELY COLONIAL WHEN NESTING.

<b>Occurrence No.:</b> 11	<b>Map Index:</b> 69688	<b>EO Index:</b> 70473	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-07-26

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40250° / -120.61499°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3920292 E716585	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 18 <b>Qtr:</b> XX
<b>Elevation:</b> 984 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** ADJACENT TO THE SANTA MARGARITA RANCH HEADQUARTERS, NORTH OF SANTA MARGARITA.  
**Ecological:** HABITAT CONSISTS OF AN AGRICULTURAL FIELD, WITH OPEN GRASSLAND AND A RIPARIAN CORRIDOR NEARBY.  
**Threat:** POSSIBLE THREATS FROM FARMING OPERATIONS DURING NESTING SEASON.  
**General:** 1 SINGING MALE HEARD ON 21 MAY 2003.

**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Anniella pulchra nigra</b>		<b>Element Code:</b> ARACC01011
black legless lizard		
<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3G4T2T3Q State: S2	CDFG Status: SC
<b>Habitat Associations</b>		
General: SAND DUNES AND SANDY SOILS IN THE MONTEREY BAY AND MORRO BAY REGIONS.		
Micro: INHABIT SANDY SOIL/DUNE AREAS WITH BUSH LUPINE AND MOCK HEATHER AS DOMINANT PLANTS. MOIST SOIL IS ESSENTIAL.		

Occurrence No. 30	Map Index: 72469	EO Index: 27394	<b>Dates Last Seen</b>
Occ Rank: Unknown Origin: Natural/Native occurrence Presence: Presumed Extant Trend: Unknown			Element: 1984-05-04 Site: 1984-05-04
* SENSITIVE *			<b>Record Last Updated:</b> 2008-10-06

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

* SENSITIVE *	Lat/Long: UTM: Radius: Elevation:	Mapping Precision: Symbol Type:	Township: Range: Section: Meridian:	Qtr:
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**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** MOSTLY NATIVE VEGETATION, BUT SOME ICEPLANT, AND MUCH OF THE DUNE SYSTEM IS IN A "BLOWOUT" CONDITION.  
**Owner/Manager:**

Occurrence No. 31	Map Index: 72467	EO Index: 27392	<b>Dates Last Seen</b>
Occ Rank: Unknown Origin: Natural/Native occurrence Presence: Presumed Extant Trend: Unknown			Element: 1984-05-04 Site: 1984-05-04
* SENSITIVE *			<b>Record Last Updated:</b> 2008-10-06

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

* SENSITIVE *	Lat/Long: UTM: Radius: Elevation:	Mapping Precision: Symbol Type:	Township: Range: Section: Meridian:	Qtr:
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**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.  
**Ecological:** THIS EXTENSIVE DUNE SYSTEM IS HEAVILY VEGETATED WITH BUSH LUPIN 0-1M HIGH, MOCK HEATHER, BEACH BURR, & VARIOUS NATIVE GRASSES.  
**Owner/Manager:**

**Anniella pulchra pulchra**

silvery legless lizard

Element Code: ARACC01012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T3T4Q	CDFG Status: SC
State: None	State: S3	

**Habitat Associations**

**General:** SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION.  
**Micro:** SOIL MOISTURE IS ESSENTIAL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.

<b>Occurrence No.</b> 10	<b>Map Index:</b> 41175	<b>EO Index:</b> 41175	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1998-04-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-04-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-06-07

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31853° / -120.74877°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910692 E704646	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 13
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SSW OF CUESTA COLLEGE & O'SULLIVAN AIRFIELD, CAMP SAN LUIS OBISPO.  
**Ecological:** HABITAT CONSISTS OF ANNUAL GRASSLAND WITH ROCK OUTCROPPINGS, ON A NE ASPECT (29-40 DEGREE STEEPNESS).  
**General:** 1 INDIVIDUAL OBSERVED ON 28 APR 1998 ON THE LCTA PLOT #323.  
**Owner/Manager:** DOD-CALIFORNIA NATIONAL GUARD

<b>Occurrence No.</b> 19	<b>Map Index:</b> 52952	<b>EO Index:</b> 52952	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-01-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-01-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-10-20

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35750° / -120.55943°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915423 E721754	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 34
<b>Elevation:</b> 1,310 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** BETWEEN POZO ROAD & TROUT CREEK, NE OF SAN LUIS OBISPO.  
**Location Detail:** FOUND UNDER AN OAK LOG.  
**Ecological:** BLUE OAK/FOOTHILL PINE WOODLAND AT BASE OF NE FACING SLOPE. SOIL IS SANDY LOAM WITH OYSTER FOSSILS & THICK LAYER OF DECOMPOSING LEAF LITTER. UNDERSTORY OF NON-NATIVE GRASSES & NATIVE SHRUBS & FORBS. GRAZING & VINEYARDS SURROUNDING.  
**Threat:** POSSIBLE THREAT FROM FUTURE DEVELOPMENT.  
**General:** 2 ADULTS AND 1 VERY YOUNG JUVENILE FOUND WITHIN 10 M OF EACH OTHER ON 18 JAN 2003.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Occurrence No.</b> 32	<b>Map Index:</b> 61123	<b>EO Index:</b> 61159	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2005-04-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-04-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-04-26

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33058° / -120.82371°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911877 E697803	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 08
<b>Elevation:</b> 100 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** JUST NW OF THE INTERSECTION OF SANTA YSABEL AVENUE AND 17TH STREET, LOS OSOS  
**Location Detail:** FOUND IN THE BACKYARD AT 1178 17TH STREET.  
**Ecological:** HABITAT CONSISTS OF NON-NATIVE GRASSES IN A BACKYARD; ADJACENT LAND IS DEGRADED COASTAL SAGE SCRUB.  
**Threat:** THREATENED BY HABITAT CONVERSION/DEVELOPMENT.  
**General:** 1 ADULT FOUND ON 15 APR 2005.  
**Owner/Manager:** PVT

**Anniella pulchra pulchra**

silvery legless lizard

Element Code: ARACC01012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3G4T3T4Q	CDFG Status: SC
State: None	State: S3	

**Habitat Associations**

**General:** SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION.  
**Micro:** SOIL MOISTURE IS ESSENTIAL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.

<b>Occurrence No.</b> 39	<b>Map Index:</b> 63775	<b>EO Index:</b> 63870	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2005-03-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-03-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-01-25

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32531° / -120.81714°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911306 E698413	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 08 <b>Qtr:</b> XX
<b>Elevation:</b> 90 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** 0.5 MILE SE OF THE INTERSECTION OF SOUTH BAY BOULEVARD AND SANTA YSABEL AVENUE, JUST EAST OF BAYWOOD  
**Location Detail:** SVC COASTAL SECTOR SITE ID 725. SITE IS LOCATED ON STATE PARK PROPERTY IN AN AREA THAT IS OPEN TO THE PUBLIC FOR HIKING, AND SITE LIES JUST EAST OF A SCHOOL.  
**Ecological:** HABITAT CONSISTS OF SANDY SOIL VEGETATED BY MODERATELY-DENSE COASTAL SAGE. SITE IS PARTIALLY DISTURBED BY A TRAIL, TREE REMOVAL, AND DUMPING OF VEGETATIVE MATERIAL BY THE ADJACENT SCHOOL.  
**General:** 1 ADULT FOUND UNDER A CUT LOG ON 4 MAR 2005.  
**Owner/Manager:** DPR



**Antrozous pallidus**

pallid bat

Element Code: AMACC10010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5	CDFG Status: SC
State: None	State: S3	

**Habitat Associations**

**General:** DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.  
**Micro:** ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.

<b>Occurrence No.:</b> 76	<b>Map Index:</b> 52209	<b>EO Index:</b> 52209	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-09-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-09-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-08-21

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.38500° / -120.62915°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3918320 E715345	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 19
<b>Elevation:</b> 1,050 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** HIGHWAY 101 BRIDGE OVER SANTA MARGARITA CREEK, SANTA MARGARITA RANCH  
**Ecological:** HABITAT CONSISTS OF A HIGHWAY BRIDGE WHICH PROVIDES SUITABLE ARCHITECTURE FOR SMALL NUMBERS OF ROOSTING BATS IN THE UPPER CORNERS. THIS SITE IS A NIGHT ROOST ONLY; NOT A BREEDING LOCATION.  
**General:** ON 14 JUN 2002, VISIBLE URINE STAINS AND HARD-SHELLED BODY PARTS OF BEETLES AND ESPECIALLY JERUSELEM CRICKETS WERE FOUND BELOW THE ROOST, INDICATING PALLID BAT USE. PALLID BATS ABUNDANT IN SEP 2002, DURING NIGHT TIME ACOUSTIC SURVEYS.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Occurrence No.:</b> 77	<b>Map Index:</b> 52214	<b>EO Index:</b> 52214	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2000-06-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-06-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-08-21

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28115° / -120.66074°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906732 E712747	<b>Range:</b> 12E
<b>Area:</b> 10.2 acres	<b>Section:</b> 26
<b>Elevation:</b> 210 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** UNDERCITY TUNNEL, RUNNING BETWEEN MARSH STREET AND CHORRO STREET, SAN LUIS OBISPO.  
**Location Detail:** LAT/LONG COORDINATES FROM MANIS INCLUDED HERE: 35.28725/-120.6607 WITH UNCERTAINTY OF 3218.688M.  
**Ecological:** HABITAT CONSISTS OF A 1000' UNDERCITY TUNNEL, WHICH CONVEYS SAN LUIS OBISPO CREEK UNDERNEATH DOWNTOWN SAN LUIS  
**Threat:** THREATENED BY HIGH CREEK FLOWS.  
**General:** 1 MALE SPECIMEN COLLECTED BY WILLIAM E. RAINEY ON 10 FEB 1993, MVZ #182357. 20 ADULTS OBSERVED ON 1 JUN 2000.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

<b>Occurrence No.:</b> 280	<b>Map Index:</b> 66612	<b>EO Index:</b> 66753	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1995-05-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1995-05-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-10-04

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36245° / -120.69633°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915675 E709300	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 33
<b>Elevation:</b> 1,513 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** CAMP SAN LUIS OBISPO, UPPER WHISKEY SPRINGS.  
**General:** 1 MALE SPECIMEN COLLECTED BY UNIVERSITY OF NEW MEXICO BAT SURVEY TEAM ON 30 MAY 1995, CAS #23984.  
**Owner/Manager:** UNKNOWN

**Antrozous pallidus**

pallid bat

Element Code: AMACC10010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5	CDFG Status: SC
State: None	State: S3	

**Habitat Associations**

**General:** DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.  
**Micro:** ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.

<b>Occurrence No.</b> 286	<b>Map Index:</b> 46282	<b>EO Index:</b> 66759	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2000-05-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-05-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-03-07

**Quad Summary:** Morro Bay North (3512047/247A), Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36658° / -120.84739°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915823 E695564	<b>Range:</b> 10E
<b>Radius:</b> 1 mile	<b>Section:</b> 36
<b>Elevation:</b>	<b>Meridian:</b> M
	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** MORRO BAY.

**Location Detail:** MAPPED ACCORDING TO LAT/LONG COORDINATES GIVEN IN MANIS, WITH UNCERTAINTY OF 3218.688M. INCLUDES LOCATION DESCRIPTION "MORRO BAY RESIDENCE OF NANCY MANN," T29S R11E S31 SW FROM MIN00U0001.

**General:** 3 FEMALE SPECIMENS COLLECTED BY J.A. MUNRO ON 4 & 7 NOV 1956, ROM #29510-29512. 1 MALE SPECIMEN COLLECTED BY WILLIAM E. RAINEY ON 16 JAN 1993, MVZ #182356. 1 ADULT MALE CAPTURED & RELEASED ON 11 MAY 2000.

**Owner/Manager:** UNKNOWN, PVT

**Arctostaphylos cruzensis**

Arroyo de la Cruz manzanita

Element Code: PDERI040B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** BROADLEAFED UPLAND FOREST, COASTAL BLUFF SCRUB, CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB, & GRASSLAND.  
**Micro:** ON SANDY SOILS IN SEVERAL DIFFERENT HABITAT TYPES FROM CHAPARRAL TO COASTAL SCRUB TO WOODLAND. 60-310M.

<b>Occurrence No.</b> 10	<b>Map Index:</b> 12519	<b>EO Index:</b> 20261	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1963-07-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1963-07-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-10-04

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32383° / -120.81000°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911155 E699067	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 8
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 1.5 MILES SOUTHEAST OF MOUTH OSOS CREEK, EAST OF MORRO BAY.  
**Location Detail:** SITE INCLUDES COLLECTIONS FROM "2 MILES SSW OF HOLLISTER PEAK", "LOS OSOS VALLEY...ROLLING COUNTRY", AND "LOW RIDGE BORDERING LOS OSOS VALLEY".  
**Ecological:** IN TERRACE DEPOSITS AND DUNE SANDS, AMONG SANDSTONE ROCKS AND CLIFFS.  
**General:** SEVERAL COLLECTIONS ATTRIBUTED TO THIS VICINITY INCLUDING WIESLANDER #611 (UCSB), BOLT #571 (UC), HOOVER #6600, 8509, AND 8588 (OBI), EO 14 LUMPED HERE.  
**Owner/Manager:** DPR-MORRO BAY SP, UNKNOWN

<b>Occurrence No.</b> 11	<b>Map Index:</b> 12612	<b>EO Index:</b> 20259	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-02-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-02-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** San Luis Obispo (3512036/246C), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34524° / -120.75157°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913650 E704324	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 1
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 2.4 MILES EAST OF HOLLISTER PEAK, EAST OF MORRO BAY.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY B. BOLT.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 12	<b>Map Index:</b> 12517	<b>EO Index:</b> 20257	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1984-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1984-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34552° / -120.80767°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913566 E699225	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 04
<b>Elevation:</b> 520 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POINT	

**Location:** SADDLE BETWEEN HOLLISTER PEAK AND BLACK MOUNTAIN, MORRO BAY.  
**Ecological:** CHAPARRAL/OAK WOODLAND; ASSOCIATED WITH CEANOOTHUS PAPILLOSUS AND QUERCUS AGRIFOLIA. 400-600 FT. ELEVATION.  
**Threat:** NO KNOWN THREATS.  
**General:** HUNDREDS IN 1984.  
**Owner/Manager:** PVT

**Arctostaphylos cruzensis**

Arroyo de la Cruz manzanita

Element Code: PDERI040B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** BROADLEAFED UPLAND FOREST, COASTAL BLUFF SCRUB, CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB, & GRASSLAND.  
**Micro:** ON SANDY SOILS IN SEVERAL DIFFERENT HABITAT TYPES FROM CHAPARRAL TO COASTAL SCRUB TO WOODLAND. 60-310M.

<b>Occurrence No.</b> 13	<b>Map Index:</b> 12586	<b>EO Index:</b> 20258	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1966-01-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1966-01-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** San Luis Obispo (3512036/246C), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27906° / -120.76524°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906280 E703247	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 35
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** ON SOUTH-FACING SLOPE OF BLUFFS NEAR TOP OF LOS OSOS MESA, A FEW MILES ESE OF MORRO BAY.  
**Location Detail:** MAPPED BETWEEN HIGHWAY 1 AND LOS OSOS VALLEY ROAD AND EAST OF TURRI ROAD.  
**Ecological:** ON SOUTH FACING SLOPE OF BLUFFS.  
**General:** THREE COLLECTIONS ATTRIBUTED TO THIS SITE; ROOF SN (JEPS) 1961, KNIGHT AND ROOF #1769 (CAS) 1966 AND B. BOLT #638 (UC) 1936.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 15	<b>Map Index:</b> 12481	<b>EO Index:</b> 20255	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1982-03-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1982-03-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35079° / -120.82295°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914120 E697823	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 05
<b>Elevation:</b> 520 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** SW PART OF CERRO CABRILLO, MORRO BAY.  
**Ecological:** CHAMISE DOMINATED CHAPARRAL; ASSOCIATED WITH ADENOSTOMA FASCICULATUM ON SOUTH FACING SLOPE. 400-800 FT ELEVATION.  
**General:** LESS THAN 100 SEEN IN 1982; WIDELY SCATTERED. PART OF POPULATION IN MORRO BAY STATE PARK.  
**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No.</b> 16	<b>Map Index:</b> 12531	<b>EO Index:</b> 20254	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1982-03-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1982-03-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34252° / -120.79717°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913255 E700186	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 04
<b>Elevation:</b> 680 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** APPROX 0.5 MI W OF HOLLISTER PK, MORRO BAY.  
**General:** NONE.  
**Owner/Manager:** PVT

**Arctostaphylos cruzensis**

Arroyo de la Cruz manzanita

Element Code: PDERI040B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** BROADLEAFED UPLAND FOREST, COASTAL BLUFF SCRUB, CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB, & GRASSLAND.  
**Micro:** ON SANDY SOILS IN SEVERAL DIFFERENT HABITAT TYPES FROM CHAPARRAL TO COASTAL SCRUB TO WOODLAND. 60-310M.

<b>Occurrence No.</b> 17	<b>Map Index:</b> 12551	<b>EO Index:</b> 20256	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1982-03-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1982-03-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34080° / -120.78712°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913084 E701105	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 3
<b>Elevation:</b> 1,020 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** S PART OF HOLLISTER PK, MORRO BAY.  
**Ecological:** CHAPARRAL, ASSOCIATED WITH ADENOSTOMA AND CEANOTHUS GRISEUS. 800-1000 FT. ELEVATION.

**Owner/Manager:** PVI

<b>Occurrence No.</b> 18	<b>Map Index:</b> 12367	<b>EO Index:</b> 14063	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1985-03-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1985-03-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28236° / -120.86170°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906453 E694465	<b>Range:</b> 10E
<b>Area:</b> 167.1 acres	<b>Section:</b> 25
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH OF MORRO BAY, RIDGE BETW HAZARD CYN, ISLAY CYN.  
**Ecological:** IN CENTRAL COASTAL SCRUB. ASSOCIATED WITH ERIODICTYON ALTISSIMUM. ON MESIC, STEEP, NORTH FACING SLOPES. 600-800 FT. ELEVATION.  
**General:** GREATER THAN 1000 PLANTS.

**Owner/Manager:** DPR-MONTANA DE ORO SP

<b>Occurrence No.</b> 20	<b>Map Index:</b> 60590	<b>EO Index:</b> 60626	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-06-22
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-06-22
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-03-16

**Quad Summary:** Morro Bay South (3512037/247D), Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25025° / -120.88461°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902847 E692457	<b>Range:</b> 10E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 10
<b>Elevation:</b> 350 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POINT	

**Location:** IRISH HILLS, PGE DIABLO CANYON NUCLEAR POWER PLANT FACILITY SITE, RIDGE JUST SOUTH OF LOWER COON CREEK.  
**Location Detail:** MAPPED IN GENERAL VICINITY OF COORDINATES PROVIDED BY TAYLOR; NO DATUM PROVIDED SO EXACT LOCATION UNKNOWN.  
**Ecological:** RIDGELINE WITH DWARF ADENOSTOMA FASCICULATUM.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1993 COLLECTION BY TAYLOR.

**Owner/Manager:** UNKNOWN

**Arctostaphylos luciana**

Santa Lucia manzanita

Element Code: PDERI040N0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL.  
 Micro: ON SHALE OUTCROPS, ON SLOPES, IN CHAPARRAL. 350-850M.

Occurrence No. 1 Map Index: 28433 EO Index: 17572 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1995-06-20  
 Origin: Natural/Native occurrence Site: 1995-06-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-10

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.32042° / -120.59521° Township: 30S  
 UTM: Zone-10 N3911231 E718603 Range: 13E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 16 Qtr: NW  
 Elevation: 2,400 ft Symbol Type:POLYGON Meridian: M

Location: BLACK BUTTE RESEARCH AREA. ON BURNED SUMMIT OF RIDGE IMMEDIATELY EAST OF MT. LOWE.  
 Location Detail: THIS OCCURRENCE INCLUDES COLLECTIONS FROM "RIDGES WEST OF BEND IN LOPEZ CANYON", "3 MI SE OF CUESTA SUMMIT", "HEAD OF LOPEZ CANYON", & "MTNS EAST OF SAN LUIS OBISPO. ELEVATION 2500-2800 FEET".

Ecological: GROWING IN WHITE SHALE WITH SCATTERED PINUS ATTENUATA.

General: COLLECTION HISTORY FOR THIS VICINITY INCLUDES 1911 COLLECTION BY V.O. BAILEY (SN CAS), 3 COLLECTIONS IN 1964 BY R.F. HOOVER (#8620, 8621, 8651 SLO), ANONYMOUS COLLECTION FROM 1974 (#233 SLO), AND 1995 COLLECTION BY HRUSA & RAGAN (#12384).

Owner/Manager: UNKNOWN

Occurrence No. 2 Map Index: 28434 EO Index: 21095 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1936-05-04  
 Origin: Natural/Native occurrence Site: 1936-05-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-01

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28904° / -120.58557° Township: 30S  
 UTM: Zone-10 N3907770 E719564 Range: 13E  
 Radius: 2/5 mile Mapping PrecisionNON-SPECIFIC Section: 28 Qtr: NE  
 Elevation: 2,600 ft Symbol Type:POINT Meridian: M

Location: 1.25 MILES WEST OF GAY MOUNTAIN, EAST OF SAN LUIS OBISPO.

Ecological: GROWING ON MONTEREY SHALE.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY BOLT.

Owner/Manager: UNKNOWN

Occurrence No. 3 Map Index: 28446 EO Index: 17234 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1966-02-17  
 Origin: Natural/Native occurrence Site: 1966-02-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-10

Quad Summary: Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34686° / -120.62629° Township: 30S  
 UTM: Zone-10 N3914096 E715706 Range: 13E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 06 Qtr: W  
 Elevation: 2,000 ft Symbol Type:POLYGON Meridian: M

Location: CUESTA PASS SUMMIT & 0.5 MILE EAST OF CUESTA PASS, NORTHEAST OF SAN LUIS OBISPO.

Location Detail: MAPPED AT CUESTA PASS AND JUST EAST OF CUESTA PASS ALONG DIRT ROAD WHICH FOLLOWS THE MAIN RIDGE OF THE SANTA LUCIA RANGE.

Ecological: GROWING IN WOODLAND AMONG PINUS COULTERI AND P. ATTENUATA.

General: REPORTED IN 7 COLLECTIONS: RAYMOND (#134 UC), 1930; BOLT (#549 UC), 1936; HOOVER (#6528 SLO), 1946; ALLENDER (#13 SLO), 1962; BACIGALUPI & HECKARD (#8823 JEPS), 1963; HOOVER (#8629 SLO), 1964; GANKIN (#669) IN 1996. INCLUDES FORMER EO #6.

Owner/Manager: UNKNOWN

**Arctostaphylos luciana**

Santa Lucia manzanita

Element Code: PDERI040N0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL.  
 Micro: ON SHALE OUTCROPS, ON SLOPES, IN CHAPARRAL. 350-850M.

Occurrence No. 4 Map Index: 28447 EO Index: 17231 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1966-02-17  
 Origin: Natural/Native occurrence Site: 1966-02-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-01

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33489° / -120.60993° Township: 30S  
 UTM: Zone-10 N3912803 E717226 Range: 13E  
 Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 08 Qtr: NW  
 Elevation: 2,200 ft Symbol Type: POINT Meridian: M

Location: 2 MILES EAST OF CUESTA PASS, OFF OF HIGHWAY 101, NORTHEAST OF SAN LUIS OBISPO.  
 Location Detail: MAPPED ABOUT 2 MILES SSE OF CUESTA PASS ALONG RIDGE ROAD TO MT. LOWE.  
 General: SITE REPORTED IN TWO COLLECTIONS BY GANKIN IN 1966; GANKIN #662 AND #666 DAV, U.C. DAVIS ARBORETUM ACCESSION #A66.089, A66.093.

Owner/Manager: USFS-LOS PADRES NF, UNKNOWN

Occurrence No. 5 Map Index: 28435 EO Index: 29483 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1936-04-25  
 Origin: Natural/Native occurrence Site: 1936-04-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-01

Quad Summary: Arroyo Grande NE (3512025/221A), Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.24564° / -120.52067° Township: 31S  
 UTM: Zone-10 N3903101 E725588 Range: 14E  
 Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 07 Qtr: NW  
 Elevation: 2,500 ft Symbol Type: POINT Meridian: M

Location: 1.75 MILES NNE OF SLIDE HILL, EAST OF SAN LUIS OBISPO.  
 Location Detail: MAPPED ABOUT 1 MILE WNW OF BALD MOUNTAIN.  
 Ecological: GROWING IN WOODLAND-CHAMISE.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY H.C. LEE.

Owner/Manager: UNKNOWN

Occurrence No. 8 Map Index: 63156 EO Index: 63248 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 2003-03-27  
 Origin: Natural/Native occurrence Site: 2003-03-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-10

Quad Summary: San Luis Obispo (3512036/246C), Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35944° / -120.62472° Township: 29S  
 UTM: Zone-10 N3915495 E715816 Range: 13E  
 Radius: 1/10 mile Mapping Precision: NON-SPECIFIC Section: 31 Qtr: SW  
 Elevation: 2,142 ft Symbol Type: POINT Meridian: M

Location: SANTA MARGARITA RANCH, UPPER WATER CANYON, ABOUT 0.75 AIRMILE NNE OF CUESTA PASS.  
 Location Detail: MAPPED ACCORDING TO LAT/LONG PROVIDED BY DART: N35 21' 33.6"W/120 37' 28.8"; DATUM UNKNOWN. OCCURRENCE MUCH LARGER THAN MAPPED EXTENT; NEEDS MAP DETAIL.  
 Ecological: STEEP SHALE SLOPES ARE COVERED WITH THREE TO FIVE FOOT SHRUBS OF ARCTOSTAPHYLOS LUCIANA, A. GLANDULOSA SSP. GLANDULOSA, AND DENDROMECON RIGIDA. THIS SITE APPARENTLY BURNED SOMETIME IN THE 1990'S.  
 General: ACCORDING TO DART, HABITAT THAT SUPPORTS A. LUCIANA STRETCHES ACROSS THE HIGHEST, STEEPEST RIDGES IN THE VICINITY OF WATER CANYON AND BEYOND. THOUSANDS OF SANTA LUCIANA MANZANITAS HERE. FULL EXTENT OF OCCURRENCE UNKNOWN; NEEDS REVISIT.

Owner/Manager: PVT-SANTA MARGARITA RANCH

Arctostaphylos luciana

Santa Lucia manzanita

Element Code: PDERI040N0

Status

NDDB Element Ranks

Other Lists

Federal: None

Global: G2

CNPS List: 1B.2

State: None

State: S2.2

Habitat Associations

General: CHAPARRAL.

Micro: ON SHALE OUTCROPS, ON SLOPES, IN CHAPARRAL. 350-850M.

Occurrence No. 9

Map Index: 63160

EO Index: 63252

Dates Last Seen

Occ Rank: Unknown

Element: 1997-03-08

Origin: Natural/Native occurrence

Site: 1997-03-08

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2005-11-10

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.28388° / -120.79314°

Township: 30S

UTM: Zone-10 N3906758 E700698

Range: 11E

Area:

Mapping PrecisionNON-SPECIFIC

Section: 28

Qtr: SE

Elevation: 350 ft

Symbol Type:POLYGON

Meridian: M

Location: SE OF LOS OSOS, SWIFT RANCH, STARTING CA. 2 MI. S OF LOS OSOS VALLEY RD ON CLARK VALLEY RD.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB ALONG CLARK VALLEY ROAD STARTING ABOUT 2 MILES SOUTH OF LOS OSOS VALLEY ROAD.

Ecological: OAK WOODLAND ON STEEP SLOPES.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1997 COLLECTION BY HELMKAMP.

Owner/Manager: UNKNOWN



**Arctostaphylos morroensis**

Morro manzanita

Element Code: PDERI040S0

**Status** Federal: Threatened State: None  
**NDDB Element Ranks** Global: G2 State: S2.2  
**Other Lists** CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL DUNES (PRE-FLANDRIAN), COASTAL SCRUB.  
**Micro:** ON BAYWOOD SANDS USUALLY WITH CHAPARRAL ASSOCIATES. 5-205M.

**Occurrence No. 1** Map Index: 12371 EO Index: 20197 Dates Last Seen  
 Occ Rank: Unknown Element: 1936-03-23  
 Origin: Natural/Native occurrence Site: 1936-03-23  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1992-09-18

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.26665° / -120.85604° Township: 30S  
**UTM:** Zone-10 N3904721 E695018 Range: 10E  
**Radius:** 1/5 mile Mapping PrecisionNON-SPECIFIC Section: 36 Qtr: SW  
**Elevation:** 400 ft Symbol Type:POINT Meridian: M

**Location:** 1.0 MILE ENE OF VALENCIA PEAK.  
**Ecological:** IN CHAPARRAL.

**Owner/Manager:** UNKNOWN

**Occurrence No. 4** Map Index: 12485 EO Index: 20191 Dates Last Seen  
 Occ Rank: Unknown Element: 199X-XX-XX  
 Origin: Natural/Native occurrence Site: 199X-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.33337° / -120.82644° Township: 30S  
**UTM:** Zone-10 N3912181 E697549 Range: 11E  
**Area:** 181.0 acres Mapping PrecisionSPECIFIC Section: 7 Qtr: XX  
**Elevation:** 100 ft Symbol Type:POLYGON Meridian: M

**Location:** BAYWOOD PARK VICINITY; FROM NORTH OF SANTA YSABEL AVE SOUTHWARD TO NIPOMO AVE, SOUTHEAST OF MORRO BAY.  
**Location Detail:** BOTH SIDES OF MOUNTAIN VIEW AVE, W TO SANTA MARIA AND 5TH ST TO WEST SIDE OF LOS OSOS CREEK.

**Ecological:** ON BAYWOOD FINE SAND ASSOCIATED WITH CEANOTHUS RIGIDUS AND SALVIA MELLIFERA ON SANDY SOIL. SOME PLANTS IN URBAN AREA OF LOS OSOS, IN UNDEVELOPED LOTS AND STREET SEGMENTS SURVEYED BY D. CHIPPING (1992).

**Threat:** NONNATIVE PLANTS AND RESIDENTIAL DEV. SOME PLANTS HAVE BEEN INCORPORATED INTO HOME LANDSCAPES, OTHERS IN VACANT LOTS.

**General:** PART OF OCCURRENCE (~175 MATURE INDIVIDUALS) WITHIN PROPOSED EL MORO ELFIN FOREST ACQUISITION. INCLUDES FORMER OCCURRENCES 5, 7, 8, 19. PROBABLE TYPO IN DIRECTIONS OF FORMER OCC #7; SHOULD READ 0.35 MI S OF SANTA YSABEL AVE, NOT 3.5 MI.

**Owner/Manager:** PVT, DPR-MORRO BAY SP

**Occurrence No. 9** Map Index: 12386 EO Index: 16378 Dates Last Seen  
 Occ Rank: Unknown Element: 2003-09-12  
 Origin: Natural/Native occurrence Site: 2003-09-12  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-10-05

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.29833° / -120.84754° Township: 30S  
**UTM:** Zone-10 N3908252 E695715 Range: 10E  
**Area:** 844.6 acres Mapping PrecisionSPECIFIC Section: 24 Qtr: XX  
**Elevation:** 400 ft Symbol Type:POLYGON Meridian: M

**Location:** SURROUNDING CABRILLO ESTATES, S-WARD ALONG PECHO VALLEY ROAD & ALONG DUNE TRAIL TO HAZARD REEF, EAST TO LOS OSOS CREEK.

**Location Detail:** MAPPED MOSTLY BETWEEN SOUTHERN MORRO BAY AND HAZARD CANYON. DENSEST STANDS IN UNDEVELOPED AREAS AND LOTS ALONG BAYVIEW HEIGHTS DRIVE AND CALLE CORDONIZ.

**Ecological:** COASTAL SAGE/CHAP ON N & W-FACING SLOPES OF OLD DUNE W/SALVIA MELLIFERA, ADENOSTOMA, RIBES MALVACEUM, Q. AGRIFOLIA. MOSTLY IN BAYWOOD FINE SAND. OCCURS IN ALMOST IMPENETRABLE STANDS TO ELEV OF 900' S OF ALAMO DR. MORRO BAY K RAT IN VIC.

**Threat:** DEVELOPMENT & ORVS THREATEN. CONSTRUCTION OF NEW HOMES & RDS OFF RODMAN DR RESULTED IN REMOVAL OF INDIVIDUALS.

**General:** 145,000+ PLANTS. INCLUDES FORMER OCCS 2,3,6,13,14,15,& 16. MAPPED AS SEVERAL POLYGONS. PLANTS IN DUNE AREA W OF PECHO VALLEY RD INFESTED W/FUNGUS & LEAF GALLS. OWNERSHIP: DFG-MORRO DUNES ER; DPR-LOS OSOS OAKS. PAMPAS GRASS ALSO THREATENS.

**Owner/Manager:** PVT, DPR-LOS OSOS OAKS SR, DFG

**Arctostaphylos morroensis**

Morro manzanita

Element Code: PDERI040S0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G2	CNPS List: 1B.1
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL DUNES (PRE-FLANDRIAN), COASTAL SCRUB.  
**Micro:** ON BAYWOOD SANDS USUALLY WITH CHAPARRAL ASSOCIATES. 5-205M.

<b>Occurrence No.</b> 10	<b>Map Index:</b> 12333	<b>EO Index:</b> 20190	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1963-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1963-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-08-16

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31469° / -120.86879°	<b>UTM:</b> Zone-10 N3910025 E693743	<b>Township:</b> 30S	<b>Range:</b> 10E	<b>Section:</b> 14	<b>Qtr:</b> XX
<b>Radius:</b> 1/5 mile	<b>Elevation:</b> 20 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Meridian:</b> M	

**Location:** DUNES ON S END OF MORRO BAY. OVERLOOKING BAY & OCEAN IN 1958 & 1963.  
**Ecological:** ON STABILIZED DUNES IN CHAPARRAL WITH CEANOTHUS RAMULOSUS, DIPLACUS LONGIFLORUS, HELIANTHEMUM SCOPARIUM, LOTUS SCOPARIUS, CROTON CALIFORNICUS.  
**General:** DOMINANT SHRUB IN THE AREA. SEEN IN 1958 AND 1963.  
**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No.</b> 11	<b>Map Index:</b> 12622	<b>EO Index:</b> 20188	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1970-01-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1970-01-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-01

**Quad Summary:** Port San Luis (3512027/222A), Morro Bay South (3512037/247D), Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25968° / -120.74427°	<b>UTM:</b> Zone-10 N3904174 E705204	<b>Township:</b> 31S	<b>Range:</b> 11E	<b>Section:</b> 01	<b>Qtr:</b> NE
<b>Radius:</b> 1 mile	<b>Elevation:</b> 500 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Meridian:</b> M	

**Location:** EDGE OF PREFUMO CANYON ROAD IN PREFUMO CANYON, SOUTHWEST OF SAN LUIS OBISPO.  
**General:** THIS LOCATION IS BASED ON A SPECIMEN BY WOLF, COLL. IN 1970. IT IS PROBABLY AN OUTLYER AND IS NOT QUITE IN THE RIGHT HABITAT. MOST LIKELY REPRESENTS A SINGLE PLANT.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 18	<b>Map Index:</b> 21420	<b>EO Index:</b> 20186	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 198X-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 198X-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1993-03-18

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34404° / -120.82089°	<b>UTM:</b> Zone-10 N3913376 E698027	<b>Township:</b> 30S	<b>Range:</b> 11E	<b>Section:</b> 05	<b>Qtr:</b> SW
<b>Radius:</b> 80 meters	<b>Elevation:</b> 200 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Meridian:</b> M	

**Location:** 0.5 MI NE OF E ARM OF MORRO BAY, ON SLOPE OF HILL AT 329 FT ELEVATION ON TOPO.  
**Ecological:** SE-FACING SLOPE.  
**Threat:** DEVELOPMENT COULD THREATEN.  
**General:** MAPPED AS PER THESIS BY MULLANY; MAP IS ONLY SOURCE OF INFO. "ONE OR A FEW INDIVIDUALS AT THIS SITE".  
**Owner/Manager:** UNKNOWN

Arctostaphylos morroensis

Morro manzanita

Element Code: PDERI040S0

Status

NDDB Element Ranks

Other Lists

Federal: Threatened

Global: G2

CNPS List: 1B.1

State: None

State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL DUNES (PRE-FLANDRIAN), COASTAL SCRUB.

Micro: ON BAYWOOD SANDS USUALLY WITH CHAPARRAL ASSOCIATES. 5-205M.

Occurrence No. 20

Map Index: 21421

EO Index: 20189

Dates Last Seen

Occ Rank: Unknown

Element: 198X-XX-XX

Origin: Natural/Native occurrence

Site: 198X-XX-XX

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 1993-03-18

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.31248° / -120.81621°

Township: 30S

UTM: Zone-10 N3909884 E698530

Range: 11E

Radius: 80 meters

Mapping Precision: SPECIFIC

Section: 17

Qtr: XX

Elevation: 120 ft

Symbol Type: POINT

Meridian: M

Location: AT EASTERN TERMINUS OF NIPOMO AVE, ABOUT 0.3 MI SW OF ETO LAKE.

Threat: DEVELOPMENT COULD THREATEN.

General: MAPPED AS PER MAP IN THESIS BY MULLANY. "ONE OR A FEW INDIVIDUALS AT THIS SITE".

Owner/Manager: UNKNOWN

**Arctostaphylos osoensis**

Oso manzanita

Element Code: PDERI042S0

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: USUALLY OCCURS IN OPENINGS W/IN OAK WOODLAND ON DACITE PORPHYRY BUTTES. 180-275M.

Occurrence No. 1 Map Index: 26523 EO Index: 1705 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1989-XX-XX  
 Origin: Natural/Native occurrence Site: 1989-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-11-27

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.34587° / -120.78804° Township: 30S  
 UTM: Zone-10 N3913645 E701008 Range: 11E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 03 Qtr: SW  
 Elevation: 900 ft Symbol Type: POINT Meridian: M

Location: NORTHWEST SLOPE OF HOLLISTER PEAK, EAST OF MORRO BAY.  
 Location Detail: SHOULDER AT 300M ON THE NW SLOPE.  
 Ecological: GROWING ON DACITE PORPHYRY WITHIN OPENINGS IN COAST LIVE OAK WOODLAND.  
 General: TYPE LOCALITY.  
 Owner/Manager: UNKNOWN

Occurrence No. 2 Map Index: 26522 EO Index: 1706 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-11-27

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.34177° / -120.81025° Township: 30S  
 UTM: Zone-10 N3913145 E699000 Range: 11E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 5 Qtr: XX  
 Elevation: 600 ft Symbol Type: POINT Meridian: M

Location: ISOLATED BUTTES ALONG THE DIVIDE ON THE NORTH SIDE OF LOS OSOS VALLEY.  
 Location Detail: EXACT PEAKS UNKNOWN: MAPPED TO INCLUDE ALL BUTTES WEST OF HOLLISTER PEAK AND SOUTH OF CERRO CABRILLO.  
 Ecological: ON DACITE PORPHYRY BUTTES. PLANTS GROWING IN OPENINGS WITHIN WOODLAND OF QUERCUS AGRIFOLIA.  
 Owner/Manager: UNKNOWN

**Arctostaphylos pechoensis**

Pecho manzanita

Element Code: PDERI04140

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB.  
 Micro: GROWS ON SILICEOUS SHALE WITH OTHER CHAPARRAL ASSOCIATES. 150-850M.

Occurrence No. 1 Map Index: 28480 EO Index: 29685 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1980-06-14  
 Origin: Natural/Native occurrence Site: 1980-06-14  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-30

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.21081° / -120.76592° Township: 31S  
 UTM: Zone-10 N3898708 E703356 Range: 11E  
 Radius: 2/5 mile Mapping PrecisionNON-SPECIFIC Section: 23 Qtr: SW  
 Elevation: 900 ft Symbol Type:POINT Meridian: M

Location: HEAD OF WILD CHERRY CANYON, PECHO MOUNTAINS.  
 Location Detail: MAPPED TO INCLUDE THE RIDGES ABOVE THE HEAD OF THE CANYON.  
 General: TYPE LOCALITY. ONLY SOURCES OF INFORMATION FOR THIS SITE ARE TYPE COLLECTION BY DUDLEY FROM 1902 AND COLLECTIONS BY WIESLANDER IN 1936 AND KNIGHT IN 1980.  
 Owner/Manager: UNKNOWN

Occurrence No. 2 Map Index: 28475 EO Index: 29682 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1992-08-22  
 Origin: Natural/Native occurrence Site: 1992-08-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-12-01

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.21652° / -120.82959° Township: 31S  
 UTM: Zone-10 N3899213 E697545 Range: 11E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 19 Qtr: XX  
 Elevation: 500 ft Symbol Type:POINT Meridian: M

Location: DIABLO CANYON, SEAWARD SIDE OF SAN LUIS RANGE.  
 Location Detail: COLLECTED AT 500 FEET ELEVATION.  
 Ecological: GROWING ON A DRY, SOUTH-FACING SLOPE.  
 General: CANYON REPORTED IN TWO COLLECTIONS; SHARSMITH (#7465 SJSU) IN 1967 AND HOOVER (#10225 SLO) IN 1967. 1992 COLLECTION BY CLIFTON FROM RIDGE JUST SOUTH OF DIABLO CANYON ATTRIBUTED TO THIS SITE.  
 Owner/Manager: UNKNOWN

Occurrence No. 3 Map Index: 28474 EO Index: 29680 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1975-05-11  
 Origin: Natural/Native occurrence Site: 1975-05-11  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-05

Quad Summary: Port San Luis (3512027/222A), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.24703° / -120.86280° Township: 31S  
 UTM: Zone-10 N3902531 E694450 Range: 10E  
 Radius: 2/5 mile Mapping PrecisionNON-SPECIFIC Section: 11 Qtr: XX  
 Elevation: 400 ft Symbol Type:POINT Meridian: M

Location: LOWER COON CREEK ABOUT 2 MILES FROM THE COAST, NORTHWEST END OF IRISH HILLS.  
 Location Detail: GIFFORD COLLECTION FROM "2 MILES NNW OF LION ROCK" ATTRIBUTED TO THIS SITE.  
 Ecological: GROWING ON SHALE WITH SUNNY EXPOSURE.  
 Threat: LOGGING AND IMPROPER BURNING REGIME.  
 General: SOURCES OF INFORMATION FOR THIS SITE ARE 1936 COLLECTION BY GIFFORD (#726 RSA), TWO 1960S COLLECTIONS BY HOOVER (#8652 SLO, CAS AND #8519 SLO), AND 1975 COLLECTION BY WALLACE (#1433 RSA).  
 Owner/Manager: DPR-MONTANO DE ORO SP

**Arctostaphylos pechoensis**

Pecho manzanita

Element Code: PDERI04140

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB.  
 Micro: GROWS ON SILICEOUS SHALE WITH OTHER CHAPARRAL ASSOCIATES. 150-850M.

Occurrence No. 4 Map Index: 28479 EO Index: 29684 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1938-10-07  
 Origin: Natural/Native occurrence Site: 1938-10-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-05

Quad Summary: Pismo Beach (3512026/221B), Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22529° / -120.75181° Township: 31S  
 UTM: Zone-10 N3900343 E704605 Range: 11E  
 Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 13 Qtr: SW  
 Elevation: 600 ft Symbol Type: POINT Meridian: M

Location: DAVIS CANYON, IRISH HILLS.  
 Location Detail: COLLECTED AT 600 FEET ELEVATION. VAGUE COLLECTION FROM "BETWEEN SEA CANYON AND IRISH HILLS" IS INCLUDED AT THIS OCCURRENCE.  
 General: VICINITY REPORTED IN THREE COLLECTIONS; SCHREIBER (#2557 USFS AND #2560 RSA) IN 1938 AND SINSHEIMER (SN CAS, POM) IN 1934.  
 Owner/Manager: UNKNOWN

Occurrence No. 5 Map Index: 28478 EO Index: 29683 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1935-02-24  
 Origin: Natural/Native occurrence Site: 1935-02-24  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-12

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22607° / -120.77449° Township: 31S  
 UTM: Zone-10 N3900383 E702538 Range: 11E  
 Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 15 Qtr: SE  
 Elevation: 1,400 ft Symbol Type: POINT Meridian: M

Location: RIDGES SOUTHWEST OF THE HEAD OF DAVIS CANYON, PECHO HILLS.  
 Location Detail: MAPPED NEAR DAVIS CANYON IN THE IRISH HILLS, SOUTH OF SAN LUIS OBISPO.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1935 COLLECTION BY ADAMS.  
 Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index: 28477 EO Index: 29681 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1988-12-30  
 Origin: Natural/Native occurrence Site: 1988-12-30  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-30

Quad Summary: Port San Luis (3512027/222A), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.24331° / -120.76497° Township: 31S  
 UTM: Zone-10 N3902315 E703361 Range: 11E  
 Radius: 3/5 mile Mapping Precision: NON-SPECIFIC Section: 11 Qtr: SW  
 Elevation: 820 ft Symbol Type: POINT Meridian: M

Location: 0.5 MILE SOUTHEAST OF THE SUMMIT OF SEE CANYON ROAD, SOUTH OF SAN LUIS OBISPO AND WEST OF HIGHWAY 101.  
 Location Detail: ABOUT 4.8 MILES NORTHWEST OF JUNCTION WITH SAN LUIS BAY ROAD. MAPPED ABOUT 1 MILE FROM JUNCTION WITH PERFUMO CANYON ROAD. INCLUDES COLLECTIONS FROM "0.5 MILE EAST OF ROAD, SUMMIT OF SEE CANYON" AND "ON LEFT SIDE OF SEE'S CANYON RD."  
 Ecological: GROWING WITH QUERCUS, ARBUTUS, AND RHAMNUS.  
 General: SEVERAL COLLECTIONS ATTRIBUTED TO THIS SITE INCLUDING JANEWAY ET AL. (#3165 CHSC) IN 1988, WALLACE (#1323 RSA) IN 1974, GANKIN AND HILDRETH (#806 SBBG) IN 1966, AND GANKIN (#467 UCD) IN 1965. INCLUDES FORMER OCCURRENCE #7.  
 Owner/Manager: UNKNOWN

**Arctostaphylos pechoensis**

Pecho manzanita

Element Code: PDERI04140

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB.  
 Micro: GROWS ON SILICEOUS SHALE WITH OTHER CHAPARRAL ASSOCIATES. 150-850M.

Occurrence No. 8	Map Index: 28473	EO Index: 29628	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1936-02-26
Origin: Natural/Native occurrence			Site: 1936-02-26
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-11-05

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31824° / -120.79166°	UTM: Zone-10 N3910573 E700748	Radius: 3/5 mile	Elevation: 200 ft	Mapping PrecisionNON-SPECIFIC	Symbol Type:POINT	Township: 30S	Range: 11E	Section: 16	Qtr: XX	Meridian: M
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Location: 2 MILES SSW OF HOLLISTER PEAK, WEST OF SAN LUIS OBISPO.  
 Location Detail: TWO COLLECTIONS FROM T30S R11E SECTION 16 (PROJECTED).  
 General: COLLECTION HISTORY INCLUDES A.E. WIESLANDER (#612 USFS) IN 1936 AND B. BOLT (#571 USFS) IN 1936.  
 Owner/Manager: UNKNOWN

Occurrence No. 10	Map Index: 63277	EO Index: 63369	_____ Dates Last Seen _____
Occ Rank: Excellent			Element: 2001-04-29
Origin: Natural/Native occurrence			Site: 2001-04-29
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-11-30

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.27790° / -120.78450°	UTM: Zone-10 N3906113 E701498	Area:	Elevation:	Mapping PrecisionNON-SPECIFIC	Symbol Type:POLYGON	Township: 30S	Range: 11E	Section: 34	Qtr: NW	Meridian: M
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Location: CLARK VALLEY ROAD, 2.8 MILES SOUTH OF LOS OSOS VALLEY ROAD, EAST OF LOS OSOS.  
 Location Detail: MAPPED ALONG CLARK VALLEY ROAD APPROXIMATELY 2.8 MILES SOUTH OF LOS OSOS VALLEY ROAD.  
 Ecological: OAK WOODLANDS AND CHAPARRAL.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 2001 COLLECTION BY HELMKAMP. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 11	Map Index: 63279	EO Index: 63371	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2003-05-27
Origin: Natural/Native occurrence			Site: 2003-05-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-11-30

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.22944° / -120.73943°	UTM: Zone-10 N3900829 E705720	Radius: 80 meters	Elevation: 411 ft	Mapping PrecisionSPECIFIC	Symbol Type:POINT	Township: 31S	Range: 11E	Section: 13	Qtr: NE	Meridian: M
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Location: SEE CANYON, EAST OF SEE CANYON ROAD ABOUT 1.8 MILES NNW OF DAVIS CANYON CROSSING, SAN LUIS OBISPO.  
 Location Detail: ON A SOUTHWEST FACING SLOPE OF A MORRO ABOVE SEE CANYON CREEK. MAPPED FROM LAT/LONG PROVIDED BY DART: WGS84 N35 13' 46" / W120 44' 22".  
 Ecological: PARENT MATERIAL IS MONTEREY SHALE WITH OUTCROPS SCATTERED ON THE HILLSIDE. THE HABITAT IS DRY, OPEN COAST LIVE OAK WOODLAND WITH SHRUBBY SPECIES SUCH AS MIMULUS AURANTIACUS, HETEROMELES ARBUTIFOLIA, LOTUS JUNCEUS VAR. BIOLETTII, ETC.  
 General: TWO LARGE SHRUBS SEEN IN 2003. MANY RARE SPECIES IN THIS VICINITY.  
 Owner/Manager: PVT

**Arctostaphylos pechoensis**

Pecho manzanita

Element Code: PDERI04140

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL SCRUB.  
 Micro: GROWS ON SILICEOUS SHALE WITH OTHER CHAPARRAL ASSOCIATES. 150-850M.

Occurrence No. 12	Map Index: 63280	EO Index: 63372	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1993-07-08
Origin: Natural/Native occurrence			Site: 1993-07-08
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-11-30

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.24293° / -120.79890°		Township: 31S
UTM: Zone-10 N3902205 E700274		Range: 11E
Area:	Mapping Precision: NON-SPECIFIC	Section: 09
Elevation: 1,200 ft	Symbol Type: POLYGON	Meridian: M
		Qtr: E

Location: DEVILS RIDGE TO UPPER COON CREEK ROAD, IRISH HILLS, PGE DIABLO CANYON POWER PLANT.  
 Location Detail: ROADSIDE. MAPPED ALONG COON CREEK ROAD IN T-R-S PROVIDED BY MILLER: T31S R11E SECTION 09.  
 Ecological: CHAPARRAL THICKETS OF ARCTOSTAPHYLOS PECHOENSIS.  
 General: MENTIONED AS ASSOCIATE ON HERBARIUM LABEL FOR MILLER (#1430) COLLECTION OF AGROSTIS HOOVERI. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 13	Map Index: 63597	EO Index: 63692	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1963-04-20
Origin: Natural/Native occurrence			Site: 1963-04-20
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-05

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31348° / -120.60042°		Township: 30S
UTM: Zone-10 N3910450 E718148		Range: 13E
Area:	Mapping Precision: NON-SPECIFIC	Section: 17
Elevation: 2,800 ft	Symbol Type: POLYGON	Meridian: M
		Qtr: E

Location: ALONG CUESTA RIDGE EAST ABOUT 4 MILES SE OF CUESTA PASS.  
 Location Detail: EXACT LOCATION UNKNOWN; MAPPED ALONG CUESTA RIDGE EAST TRAIL ABOUT 4 MILES SE OF CUESTA PASS.  
 Ecological: IN CHAPARRAL WITH ARCTOSTAPHYLOS GLADNULOSA CUSHINGIANA AND PRESUMED HYBRID BETWEEN 2 SPECIES, CEANOTHUS PAPILLOSUS, PINUS COULTERI, P. ATTENUATA, ETC.  
 General: ONLY SOURCE OF INFORMATION IS 1963 COLLECTION BY THORNE AND EVERETT. SITE IS OUT OF RANGE AS SPECIES IS KNOWN ONLY FROM THE PECHO HILLS. FURTHER VISITS NEEDED TO CONFIRM IDENTIFICATION.  
 Owner/Manager: UNKNOWN



**Arctostaphylos pilosula**

Santa Margarita manzanita

Element Code: PDERI04160

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL.

**Micro:** SHALE OUTCROPS & SLOPES; REPORTED GROWING ON DECOMPOSED GRANITE OR SANDSTONE IN SLO. 170-1100M.

<b>Occurrence No.</b> 8	<b>Map Index:</b> 24163	<b>EO Index:</b> 16474	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1938-09-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1938-09-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-03-07

**Quad Summary:** Atascadero (3512046/246B)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.43663° / -120.66183°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3923977 E712242	<b>Range:</b> 12E
<b>Area:</b>	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 1,200 ft	<b>Symbol Type:</b> POLYGON
	<b>Section:</b> 2 <b>Qtr:</b> XX
	<b>Meridian:</b> M

**Location:** PALOMA CREEK ROAD, SOUTH OF ATASCADERO.

**Ecological:** ON MONTEREY SHALE IN CHAPARRAL.

**General:** COLLECTIONS FROM "2 MILES SOUTH OF DOVE, PALOMA CREEK (SOMETIMES SPELLED ALOMA CREEK)" ATTRIBUTED TO THIS SITE.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 14	<b>Map Index:</b> 28510	<b>EO Index:</b> 34559	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-02-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-02-02
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-08-27

**Quad Summary:** Pismo Beach (3512026/221B)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19955° / -120.66126°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897678 E712914	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 600 ft	<b>Symbol Type:</b> POINT
	<b>Section:</b> 26 <b>Qtr:</b> XX
	<b>Meridian:</b> M

**Location:** VICINITY OF INDIAN KNOB, ABOUT 3.5 MILES NNW OF PISMO BEACH, SOUTH OF SAN LUIS OBISPO.

**Location Detail:**ALONG ROADS TO THE NORTH AND SE OF INDIAN KNOB. EXACT LOCATION AND EXTENT OF POPULATION NOT CLEARLY INDICATED IN THE LITERATURE. SITE MAPPED AT CNDDDB NEAR SUMMIT RIDGE OF INDIAN KNOB.

**Ecological:** CENTRAL MARITIME CHAPARRAL WITH PHASES DOMINATED BY ARCTOSTAPHYLOS PILOSULA; A. PILOSULA AND ADENOSTOMA; ADENOSTOMA AND SALVIA MELLIFERA. ASSOCIATED WITH ERIODICTYON ALTISSIMUM, CEANOETHUS SPP., HETEROMELES, DENDROMECON, MIMULUS, ETC.

**Threat:** CATTLE RANCHING, AGRICULTURE, ROADS, POTENTIAL OIL EXTRACTION.

**General:** RELATIVE COVER RANGES FROM LOW TO 100%. SEVERAL RARE PLANTS IN AREA INCLUDING ERIODICTYON ALTISSIMUM, AGROSTIS HOOVERI, CALOCHORTUS OBISPOENSIS, SCROPHULARIA ATRATA, ARCTOSTAPHYLOS WELLSII, AND LUPINUS LUDOVICIANUS.

**Owner/Manager:** PVT-GUIDETTI RANCH,TNC,UNKNOWN

Arctostaphylos tomentosa ssp. daciticola

dacite manzanita

Element Code: PDERI041HD

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G4T1 CNPS List: 1B.1  
State: None State: S1.1

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: ONLY KNOWN FROM ONE SITE IN SLO COUNTY ON DACITE PORPHYRY BUTTES. ABOUT 120M.

Occurrence No. 1 Map Index: 26524 EO Index: 16272 Dates Last Seen \_\_\_\_\_  
Occ Rank: Unknown Element: XXXX-XX-XX  
Origin: Natural/Native occurrence Site: XXXX-XX-XX  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 1995-11-27

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.34730° / -120.78626° Township: 30S  
UTM: Zone-10 N3913807 E701166 Range: 11E  
Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 03 Qtr: NW  
Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: LOWER NORTH SLOPE OF HOLLISTER PEAK, EAST OF MORRO BAY.

Ecological: IN OPEN WOODLAND OF QUERCUS AGRIFOLIA; SUBSTRATE OF DACITE PORPHYRY.

General: TYPE LOCATION. ONLY KNOWN SITE.

Owner/Manager: UNKNOWN

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.1  
 State: None State: S2.1?

Habitat Associations

General: CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: SANDSTONE OUTCROPS. 30-400M.

Occurrence No. 5 Map Index: 28512 EO Index: 29803 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1986-05-04  
 Origin: Natural/Native occurrence Site: 1986-05-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-03-14

Quad Summary: Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.18988° / -120.62689° Township: 31S  
 UTM: Zone-10 N3896680 E716069 Range: 13E  
 Radius: 3/5 mile Mapping PrecisionNON-SPECIFIC Section: 31 Qtr: XX  
 Elevation: 300 ft Symbol Type:POINT Meridian: M

Location: 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRAND OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF ARROYO GRANDE.  
 Location Detail: TWO VAGUE COLLECTIONS MAPPED TOGETHER AT THIS SITE.  
 Ecological: CHAPPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.  
 General: VICINITY REPRESENTED IN TWO COLLECTIONS; WIESLANDER (#636 UC) IN 1936 AND KNIGHT AND KNIGHT (#6338) IN 1986. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index: 28513 EO Index: 29804 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1966-02-17  
 Origin: Natural/Native occurrence Site: 1966-02-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-20

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.16937° / -120.58627° Township: 32S  
 UTM: Zone-10 N3894493 E719823 Range: 13E  
 Radius: 1/5 mile Mapping PrecisionNON-SPECIFIC Section: 4 Qtr: XX  
 Elevation: 400 ft Symbol Type:POINT Meridian: M

Location: HILL NORTH OF SUMMIT OF NOYES ROAD, 0.2 MILE SOUTHWEST OF JUNCTION WITH HIGHWAY 227, NORTH OF ARROYO GRANDE.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1966 COLLECTION BY GANKIN.  
 Owner/Manager: UNKNOWN

Occurrence No. 7 Map Index: 37763 EO Index: 29805 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1995-XX-XX  
 Origin: Natural/Native occurrence Site: 1995-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-02

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.14473° / -120.60369° Township: 32S  
 UTM: Zone-10 N3891722 E718303 Range: 13E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 17 Qtr: XX  
 Elevation: 200 ft Symbol Type:POLYGON Meridian: M

Location: MOUTH OF CANYON NO.1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE.  
 Location Detail: NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD.  
 Ecological: GROWING AMONG COASTAL LIVE OAKS (HOLLAND AND OYLER, 1995) AND IN CHAPPARRAL WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA IS FOUND NEARBY.  
 Threat: DEVELOPMENT THREATENS; PROPOSED MITIGATION WOULD AVOID IMPACTS TO A. WELLSII.  
 General: 10 PLANTS OBSERVED AT THIS SITE IN 1995. COLLECTION BY B. SCHREIBER IN 1938 IS ALSO ATTRIBUTED TO THIS SITE. THIS SPECIES IS APPARENTLY MORE COMMON ON NEARBY SITES.  
 Owner/Manager: UNKNOWN

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.1
State: None	State: S2.1?	

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

<b>Occurrence No.</b> 8	<b>Map Index:</b> 28509	<b>EO Index:</b> 29787	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2001-05-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-05-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-09

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16672° / -120.62605°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894113 E716207	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 06 <b>Qtr:</b> XX
<b>Elevation:</b> 300 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POLYGON

**Location:** 3 MILES SOUTHWEST OF EDNA, UNION PACIFIC RIGHT OF WAY, EAST OF PISMO BEACH.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG UNION PACIFIC RIGHT OF WAY BETWEEN EDNA AND PISMO  
**Ecological:** MOSTLY ANNUAL GRASSLAND/RUDERAL HABITAT ALONG THE RIGHT OF WAY.  
**General:** TYPE LOCALITY. COLLECTED 3 MILES SW OF EDNA BY WELLS. INCLUDES 1936 COLLECTION BY LEE FROM "PRICE CANYON" AND 2001 WHITE AND MCDONALD COLLECTION FROM "UNION PACIFIC RR RIGHT OF WAY, EDNA TO PISMO BEACH."  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 9	<b>Map Index:</b> 48052	<b>EO Index:</b> 15682	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2002-12-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-12-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-14

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19973° / -120.66320°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897694 E712737	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 26 <b>Qtr:</b> NW
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POINT

**Location:** NEAR SUMMIT OF INDIAN KNOB, INDIAN KNOB RIDGE, SOUTH OF SAN LUIS OBISPO.  
**Location Detail:** MAPPED ACCORDING TO COORDINATES PROVIDED IN WILKEN COLLECTION, DATUM UNKNOWN: 35.1997489929199, 120.662208557129.  
**General:** ONLY SOURCES OF INFORMATION FOR THIS SITE ARE 1966 COLLECTION BY HOOVER AND 2002 COLLECTION BY WILKEN.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 10	<b>Map Index:</b> 28511	<b>EO Index:</b> 29785	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-02-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-02-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-25

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.21577° / -120.65936°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3899481 E713044	<b>Range:</b> 12E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 23 <b>Qtr:</b> XX
<b>Elevation:</b> 250 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POINT

**Location:** 1.25 MILES NORTH OF INDIAN KNOB, SOUTH OF SAN LUIS OBISPO.  
**Location Detail:** IN PROJECTED SECTION 23.  
**Ecological:** IN CHAPARRAL ON SANDY SOIL. ASSOCIATED WITH SAGE, ADENOSTOMA FASCICULATUM, TOXICODENDRON DIVERSILOBUM, AND LOTUS SCOPARIUS.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY LEE.  
**Owner/Manager:** UNKNOWN

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.1
State: None	State: S2.1?	

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

<b>Occurrence No.</b> 11	<b>Map Index:</b> 28508	<b>EO Index:</b> 29786	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1938-09-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1938-09-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-25

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18636° / -120.71440°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3896102 E708109	<b>Range:</b> 12E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 32
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SYCAMORE SPRINGS, SOUTH OF SAN LUIS OBISPO.  
**Ecological:** GROWING WITH QUERCUS AGRIFOLIA, MIMULUS AURANTIACUS, AND LOTUS SCOPARIUS.  
**General:** VICINITY REPORTED IN TWO COLLECTIONS; LEE (#383 UC) IN 1936 AND SCHREIBER (#2556 UC) IN 1938.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 12	<b>Map Index:</b> 28476	<b>EO Index:</b> 8673	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1946-12-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1946-12-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Port San Luis (3512027/222A), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24793° / -120.77256°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902812 E702659	<b>Range:</b> 11E
<b>Radius:</b> 4/5 mile	<b>Section:</b> 10
<b>Elevation:</b> 1,100 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** UPPER COON CREEK, SAN LUIS RANGE, SOUTHWEST OF SAN LUIS OBISPO.  
**Ecological:** PINUS MURICATA.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1946 COLLECTION BY HOOVER.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 13	<b>Map Index:</b> 28507	<b>EO Index:</b> 7568	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1948-04-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1948-04-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.42901° / -120.67664°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3923100 E710916	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 03
<b>Elevation:</b> 1,400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** EAGLE RANCH, SOUTH OF ATASCADERO.  
**Ecological:** DRY HILLS.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1948 COLLECTION BY HOOVER.  
**Owner/Manager:** UNKNOWN

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G2 **CNPS List:** 1B.1  
**State:** None **State:** S2.1?

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

**Occurrence No.** 14 **Map Index:** 36552 **EO Index:** 31549 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1997-04-15  
**Origin:** Natural/Native occurrence **Site:** 1997-04-15  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1997-08-31

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.15362° / -120.61712° **Township:** 32S  
**UTM:** Zone-10 N3892679 E717055 **Range:** 13E  
**Area:** 7.8 acres **Mapping Precision:**SPECIFIC **Section:** 07 **Qtr:** XX  
**Elevation:** 500 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** N OF GROVER CITY, W OF CANYON NO. 1. 1.0-1.3 MI NW OF JCT CENTRAL BLVD AND NOYED ROAD.  
**Ecological:** W-FACING SLOPE 400-580 FT ELEVATION. COASTAL SCRUB AND COAST LIVE OAK COMMUNITIES; BRIONES-PISMO LOAMY SANDS. CLARKIA SPECIOSA IMMACULATA NEARBY.  
**Threat:** PLANNED FOR DEVELOPMENT.  
**General:** AT LEAST 100 PLANTS IN 1997.  
**Owner/Manager:** PVT

**Occurrence No.** 15 **Map Index:** 64173 **EO Index:** 64268 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Fair **Element:** 2003-05-08  
**Origin:** Natural/Native occurrence **Site:** 2003-05-08  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2006-03-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.15611° / -120.56361° **Township:** 32S  
**UTM:** Zone-10 N3893073 E721924 **Range:** 13E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 10 **Qtr:** NE  
**Elevation:** 416 ft **Symbol Type:**POINT **Meridian:** M

**Location:** CORBETT (CORBIT?) CANYON, JUST SOUTH OF BEE CANYON, ARROYO GRANDE.  
**Location Detail:** MAPPED ACCORDING TO COORDINATES PROVIDED BY ALTHOUSE AND DART: WGS84 N35 9' 21. 7" / W120 33' 48.9" .  
**Ecological:** DISTURBED SITE COMPOSED OF FRAGMENTED COAST LIVE OAK WOODLAND, CHAPARRAL, AND GRASSLAND COMMUNITIES.  
**Threat:** HISTORICAL GRAVEL MINING OPERATION. FUTURE DEVELOPMENT.  
**General:** ROUGHLY 50-100 SHRUBS SCATTERED ACCROSS APPROXIMATELY 19 ACRES IN 2003. SITE NEEDS REVISIT IN ORDER TO FULLY MAP EXTENT OF POPULATION. THE RARE CHORIZANTHE RECTISPINA ALSO OCCURS AT THIS SITE.  
**Owner/Manager:** PVT

**Occurrence No.** 16 **Map Index:** 62798 **EO Index:** 64270 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Fair **Element:** 2003-05-08  
**Origin:** Natural/Native occurrence **Site:** 2003-05-08  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2006-03-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.14195° / -120.57027° **Township:** 32S  
**UTM:** Zone-10 N3891487 E721355 **Range:** 13E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 15 **Qtr:** NW  
**Elevation:** 250 ft **Symbol Type:**POINT **Meridian:** M

**Location:** CARPENTER CANYON, JUST WEST OF CARPENTER CANYON ROAD (HWY 227) ABOUT 0.5 MILE NORTH OF PRINTZ ROAD, ARROYO GRANDE.  
**Location Detail:** PLANTS OCCUR IN A BAND ACROSS A SOUTHEAST FACING SLOPE BETWEEN OAK WOODLAND AND CHAPARRAL AREAS.  
**Ecological:** CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL GRASSLANDS ARE THE DOMINANT HABITATS ON . SOILS ARE A SANDY LOAM.  
**Threat:** FUTURE DEVELOPMENT.  
**General:** 150-250 SHRUBS OBSERVED IN 2003. THE CHORIZANTHE RECTISPINA AND CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCUR ON SITE.  
**Owner/Manager:** PVT

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.1?	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

<b>Occurrence No.</b> 17	<b>Map Index:</b> 64176	<b>EO Index:</b> 64271	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-08-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14337° / -120.59154°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891598 E719413	<b>Range:</b> 13E
<b>Area:</b> 10.0 acres	<b>Section:</b> 16 <b>Qtr:</b> NW
<b>Elevation:</b> 320 ft	<b>Meridian:</b> M

**Location:** SOUTH NOYES ROAD, CANYON NO. 2, ARROYO GRANDE.  
**Location Detail:** ON SOUTHEAST FACING SLOPE AND ALOS AT TOP OF SLOPE APPROXIMATELY 100 FEET EAST OF LARGE WATER TANK . MAPPED AS 2 POLYGONS NEAR WATER TANK.  
**Ecological:** CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL GRASSLANDS ARE THE DOMINANT HABITATS ON THIS PARCEL. SOILS ARE A SANDY LOAM.  
**Threat:** FUTURE DEVELOPMENT.  
**General:** 5 MANZANITA SHRUBS OCCUR IN A BAND ACROSS A SOUTHEAST FACING SLOPE BETWEEN OAK WOODLAND AND CHAPARRAL AREAS. INDIVIDUALS MORE THAN 40 YARDS APART, WITH TWO ADDITIONAL DEAD SHRUBS ONSITE. RARE CHORIZANTHE RECTISPINA ALSO OCCURS HERE.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 18	<b>Map Index:</b> 64177	<b>EO Index:</b> 64272	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 2003-05-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13805° / -120.58360°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891026 E720151	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 16 <b>Qtr:</b> SE
<b>Elevation:</b> 312 ft	<b>Meridian:</b> M

**Location:** EAST OF ARROYO GRANDE, RIDGE WEST OF POORMAN CANYON, SOUTH OF PRINTZ ROAD.  
**Location Detail:** MAPPED ACCORDING TO COORDINATES PROVIDED BY ENGLAND: WGS84 N35 08' 17" / W120 35' 01".  
**Ecological:** OPEN AREAS OF WITHIN THE MARGINS OF A QUERCUS AGRIFOLIA WOODLAND.  
**Threat:** FUTURE DEVELOPMENT.  
**General:** TWO INDIVIDUALS WERE LOCATED AND IDENTIFIED. ONE INDIVIDUAL IS AT THE COORDIANTES GIVEN GROWING AT THE BASE OF QUERCUS AGRIFOLIA, THE OTHER WAS LOCATED 10 METERS UPSLOPE, TO THE EAST.  
**Owner/Manager:** PVT

**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.1
State: None	State: S2.1?	

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

<b>Occurrence No.</b> 20	<b>Map Index:</b> 64180	<b>EO Index:</b> 64275	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2004-09-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-09

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18730° / -120.69183°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3896255 E710162	<b>Range:</b> 12E
<b>Area:</b> 17.4 acres	<b>Section:</b> 33
<b>Elevation:</b> 300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> N
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH SLOPE OF MOUTH OF SQUIRE CANYON, EAST OF MONTE ROAD, SAN LUIS OBISPO.

**Location Detail:** ON TRACT 2682.

**Ecological:** DENSE NORTH-FACING COAST LIVE OAK WOODLAND ON SANDY SOILS. PLANTS OCCUR IN PATCHES INTERMINGLED WITH OAK WOODLAND & GRASSLAND OPENINGS, ON SHALLOW SOILS OF DECOMPOSING SANDSTONE OUTCROPS. WITH DENDROMECON RIGIDA, MIMULUS AURANTIACUS, ETC.

**Threat:** INCREASING RESIDENTIAL DEVELOPMENT. SHRUBS ON STEEP SLOPES WILL PROBABLY BE PROTECTED, BUT SOME SHRUBS MAY BE IMPACTED.

**General:** 200 PLANTS OBSERVED BY ALTHOUSE AND DART IN 2004, ALTHOUGH THEY BELIEVE THE POPULATION MAY BE AS LARGE AS 500 INDIVIDUALS. THE RARE AGROSTIS HOOVERI ALSO OCCURS AT THIS SITE.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 21	<b>Map Index:</b> 64182	<b>EO Index:</b> 64277	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1985-03-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1985-03-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-09

**Quad Summary:** Port San Luis (3512027/222A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.20868° / -120.76290°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3898478 E703636	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 23
<b>Elevation:</b> 1,000 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** HIBBARD (HIBBERD?) NATURE PRESERVE, IMMEDIATELY ACROSS TRAIL NW OF CORRAL, 2.5 MILES FROM GATE.

**Location Detail:** EXACT LOCATION UNKNOWN, MAPPED TO INCLUDE ENTIRE BOUNDARY OF HIBBARD NATURE PRESERVE.

**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1985 COLLECTION BY GRIFFITHS. NEEDS FIELDWORK. OWNED BY THE LAND CONSERVANCY OF SAN LUIS OBISPO COUNTY.

**Owner/Manager:** LAND CONSERVANCY SLO COUNTY

<b>Occurrence No.</b> 22	<b>Map Index:</b> 64187	<b>EO Index:</b> 64282	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1985-03-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1985-03-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-03-14

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17936° / -120.61176°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3895546 E717475	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 32
<b>Elevation:</b> 220 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** ORMONDE ROAD, 1 KILOMETER SOUTH OF PRICE CANYON ROAD, NORTH OF PISMO BEACH.

**Location Detail:** EXACT LOCATION UNKNOWN; MAPPED ALONG ORMONDE ROAD APPROXIMATELY 1 KILOMETER SOUTH OF PRICE CANYON ROAD.

**General:** ONLY SOURCES OF INFORMATION FOR THIS SITE ARE 1993 COLLECTIONS BY KEELEY AND KEELEY. NEEDS FIELDWORK.

**Owner/Manager:** UNKNOWN



**Arctostaphylos wellsii**

Wells' manzanita

Element Code: PDERI042B0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.1?	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPPARAL, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SANDSTONE OUTCROPS. 30-400M.

<b>Occurrence No.:</b> 23	<b>Map Index:</b> 64189	<b>EO Index:</b> 64284	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown	<b>Origin:</b> Natural/Native occurrence	<b>Element:</b> 1993-06-22	<b>Site:</b> 1993-06-22
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown	<b>Record Last Updated:</b> 2006-03-09	

**Quad Summary:** Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17046° / -120.75881°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894246 E704104	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 02 <b>Qtr:</b> E
<b>Elevation:</b> 350 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POLYGON

**Location:** ON EAST SLOPE SAN LUIS HILL, ALONG ROAD TO LIGHTHOUSE.  
**Location Detail:** HERBARIUM LABEL STATES LOCATION AS "T32S, R 11E, NE 1/4 SECTION 12", BUT APPEARS TO BE IN E1/2 OF SECTION 2 INSTEAD OF SECTION 12.  
**Ecological:** OAK WOODLAND AND SCRUB ON STEEP EAST FACING SLOPE.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1993 COLLECTION BY TAYLOR, KEIL, AND MILER. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

**Arenaria paludicola**

marsh sandwort

Element Code: PDCAR040L0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1.1	

**Habitat Associations**

**General:** MARSHES AND SWAMPS.  
**Micro:** GROWING UP THROUGH DENSE MATS OF TYPHA, JUNCUS, SCIRPUS, ETC. IN FRESHWATER MARSH. 10-170M.

<b>Occurrence No.</b> 12	<b>Map Index:</b> 12880	<b>EO Index:</b> 48200	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1965-04-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1965-04-21
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-04-16

**Quad Summary:** Oceano (3512015/221D), Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.12552° / -120.63601°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3889520 E715408	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 24
<b>Elevation:</b> 20 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** PISMO BEACH, SAN LUIS OBISPO COUNTY.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED IN GENERAL VICINITY OF PISMO BEACH BY CNDDB.  
**Ecological:** ON SLIGHTLY DAMP SITES NEAR SPRING.  
**General:** COLLECTED HERE IN 1965 BY HARDHAM. NOT OBSERVED HERE SINCE AND MOST IF NOT ALL SUITABLE HABITAT IN VICINITY HAS BEEN DEVELOPED. PRESUMED EXTIRPATED, BUT SMALL POKCKET OF REMAINING SUITABLE HABITAT SHOULD BE SURVEYED (ELVIN 2007).  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 14	<b>Map Index:</b> 62705	<b>EO Index:</b> 62742	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2003-12-XX
<b>Origin:</b> Introduced Back into Native Hab./Range			<b>Site:</b> 2003-12-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-09-23

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32114° / -120.84074°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910796 E696278	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 18
<b>Elevation:</b> 40 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** SWEET SPRINGS AUDUBON NATURE PRESERVE, LOS OSOS.  
**Location Detail:** PLANTED IN THE NORTHEAST MARSHY AREA OF PRESERVE.  
**Ecological:** IN INLET AREA OF THE POND WHERE A SMALL STREAM OF FRESH WATER ENTERS THE POND FROM THE SPRING.  
**Threat:** VANDALISM.  
**General:** 20 ONE GALLON CONTAINERS OF THIS SPECIES PLANTED ON OCTOBER 8, 2003. IN NOVEMBER SIX PLANTS WERE PULLED UP BY VANDALS; OUT OF REPLANTS ONLY 2 SURVIVED. AS OF DECEMBER 2003 THE 16 REMAINING PLANTS WERE WELL ESTABLISHED.  
**Owner/Manager:** AUDUBON

**Astragalus didymocarpus var. milesianus**

Miles' milk-vetch

Element Code: PDFAB0F2X3

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5T2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations: \_\_\_\_\_  
 General: COASTAL SCRUB.  
 Micro: CLAY SOILS. 20-90M.

Occurrence No. 6 Map Index: 46255 EO Index: 46255 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1886-05-26  
 Origin: Natural/Native occurrence Site: 1886-05-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-10-25

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28272° / -120.68215° Township: 30S  
 UTM: Zone-10 N3906859 E710796 Range: 12E  
 Radius: 4/5 mile Mapping PrecisionNON-SPECIFIC Section: 27 Qtr: XX  
 Elevation: Symbol Type:POINT Meridian: M

Location: SAN LUIS MOUNTAIN, LOWEST W SLOPE.  
 Location Detail: TWO COLLECTIONS MAPPED TOGETHER AT CERRO SAN LUIS OBISPO AS BEST GUESS.  
 General: NEEDS FIELDWORK, INCLUDES 2 COLLECTIONS BY SUMMERS.  
 Owner/Manager: UNKNOWN

Occurrence No. 7 Map Index: 51319 EO Index: 46256 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2005-04-29  
 Origin: Natural/Native occurrence Site: 2005-04-29  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-09-06

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.25884° / -120.66197° Township: 31S  
 UTM: Zone-10 N3904254 E712694 Range: 12E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 02 Qtr: NW  
 Elevation: Symbol Type:POINT Meridian: M

Location: END OF MARGARITA AVENUE, 0.6 MILE EAST OF HIGHWAY 101, CITY OF SAN LUIS OBISPO.  
 Location Detail: ADJACENT TO A SEASONAL STREAM. MAPPED ACCORDING TO COORDINATES PROVIDED BY DART. FOUR OLDER COLLECTIONS FROM SAN LUIS OBISPO ATTRIBUTED TO THIS SITE.  
 Ecological: GRAZED GRASSLAND HABITAT ON SERPENTINE CLAY SOILS. TWO SEASONAL STREAMS AND WETLAND SEEPS OCCUR IN VICINITY. ADJACENT TO A SEASONAL STREAM WITH NASELLA PULCHRA, LOLIUM MULTIFLORUM, LOMATIUM CARUIFOLIUM, SIDALCEA MALVIFLORA,  
 Threat: PROPOSED DEVELOPMENT. THE FLAT GRASSLAND AREAS AT THE FOOT OF THE SERPENTINE HILLSIDE WILL BE DEVELOPED.  
 General: 25 PLANTS SEEN IN 2005. A COLLECTION WILL BE DEPOSITED AT THE HOOVER HERBARIUM AT CAL POLY STATE UNIVERSITY. THE RARE CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCURS AT THIS SITE.  
 Owner/Manager: PVT-KING VENTURES

Occurrence No. 8 Map Index: 46282 EO Index: 46282 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1899-05-22  
 Origin: Natural/Native occurrence Site: 1899-05-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-10-25

Quad Summary: Morro Bay North (3512047/247A), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36658° / -120.84739° Township: 29S  
 UTM: Zone-10 N3915823 E695564 Range: 10E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 36 Qtr: XX  
 Elevation: Symbol Type:POINT Meridian: M

Location: NEAR MORRO.  
 Location Detail: TWO COLLECTIONS MAPPED TOGETHER AS BEST GUESS AT MORRO BAY BY CNDDB.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

**Astragalus didymocarpus var. milesianus**

Miles' milk-vetch

Element Code: PDFAB0F2X3

Status \_\_\_\_\_ NDDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5T2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: COASTAL SCRUB.  
 Micro: CLAY SOILS. 20-90M.

Occurrence No. 9 Map Index: 46283 EO Index: 46283 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1969-04-22  
 Origin: Natural/Native occurrence Site: 1969-04-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-10-25

Quad Summary: Morro Bay North (3512047/247A), Morro Bay South (3512037/247D), Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.38671° / -120.77276° Township: 29S  
 UTM: Zone-10 N3918206 E702295 Range: 11E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 23 Qtr: XX  
 Elevation: Symbol Type:POLYGON Meridian: M

Location: SAN BERNARDO CREEK, E OF MORRO BAY.  
 Location Detail: WHERE ALONG CREEK? MAPPED ALL ALONG CREEK BY CNDDDB.  
 Ecological: IN HARD, HEAVY CLAY NEAR SERPENTINE ROCK.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 10 Map Index: 46284 EO Index: 46284 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1936-03-28  
 Origin: Natural/Native occurrence Site: 1936-03-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-10-25

Quad Summary: Santa Margarita (3512045/246A), Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.49211° / -120.63172° Township: 28S  
 UTM: Zone-10 N3930197 E714827 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 13 Qtr: XX  
 Elevation: 1,250 ft Symbol Type:POLYGON Meridian: M

Location: 0.9 MI NE OF ATASCADERO.  
 Location Detail: MAPPED AS PER TRS CITED IN SOURCE COLLECTION.  
 Ecological: GRASS, 25% SLOPE.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

**Athene cunicularia**

burrowing owl

Element Code: ABNSB10010

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G4	CDFG Status: SC
State: None	State: S2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

**General:** OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.  
**Micro:** SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No. 573	Map Index: 51260	EO Index: 51260	_____ Dates Last Seen _____
Occ Rank: Good			Element: 2003-01-07
Origin: Natural/Native occurrence			Site: 2003-01-07
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-05-12

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

Lat/Long: 35.34371° / -120.71014°	Township: 30S
UTM: Zone-10 N3913566 E708094	Range: 12E
Radius: 80 meters	Section: 05      Qtr: XX
Elevation: 600 ft	Meridian: M
Mapping Precision: SPECIFIC	Symbol Type: POINT

**Location:** 2 MILES ENE OF CUESTA COLLEGE, CAMP SAN LUIS OBISPO

**Ecological:** HABITAT CONSISTS OF GRASSLANDS, DOMINATED BY EXOTIC GRASSES, WITH SOME NATIVE BUNCHGRASSES ALONG ROCKY SLOPES AND COASTAL SCRUB SPECIES FOUND IN DEEPER DRAWS THROUGHOUT THE AREA. CURRENTLY USED AS FIREARMS RANGE WITH CATTLE GRAZING.

**Threat:** POSSIBLY THREATENED BY MILITARY USE OF THE RANGE AND/OR POTENTIAL DEVELOPMENT (UPGRADING) OF THE RANGE.

**General:** 2 ADULTS OBSERVED WINTERING AT THE BURROW SITE.

**Owner/Manager:** DOD-CALIFORNIA NATIONAL GUARD

**Atriplex joaquiniana**

San Joaquin spearscale

Element Code: PDCHE041F3

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.1	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHENOPOD SCRUB, ALKALI MEADOW, VALLEY AND FOOTHILL GRASSLAND.

Micro: IN SEASONAL ALKALI WETLANDS OR ALKALI SINK SCRUB WITH DISTICHLIS SPICATA, FRANKENIA, ETC. 1-250M.

Occurrence No. 66	Map Index: 46282	EO Index: 49796	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1899-05-22
Origin: Natural/Native occurrence			Site: 1899-05-22
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-01-07

Quad Summary: Morro Bay North (3512047/247A), Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.36658° / -120.84739°	Township: 29S
UTM: Zone-10 N3915823 E695564	Range: 10E
Radius: 1 mile	Section: 36
Elevation:	Meridian: M
	Qtr: XX
Mapping Precision: NON-SPECIFIC	
Symbol Type: POINT	

Location: NEAR MORRO, SAN LUIS OBISPO COUNTY.

Location Detail: SITE MAPPED IN VICINITY OF MORRO BAY.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1899 COLLECTION BY BARBER. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

**Branchinecta lynchi**

vernal pool fairy shrimp

**Element Code:** ICBRA03030

**Status**

**NDDB Element Ranks**

**Other Lists**

**Federal:** Threatened

**Global:** G3

**CDFG Status:**

**State:** None

**State:** S2S3

**Habitat Associations**

**General:** ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.

**Micro:** INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.

**Occurrence No.** 360

**Map Index:** 57149

**EO Index:** 57488

**Dates Last Seen**

**Occ Rank:** Good

**Element:** 2003-08-XX

**Origin:** Natural/Native occurrence

**Site:** 2003-08-XX

**Presence:** Presumed Extant

**Trend:** Unknown

**Record Last Updated:** 2006-03-01

**Quad Summary:** Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

**Lat/Long:** 35.24612° / -120.65643°

**Township:** 31S

**UTM:** Zone-10 N3902855 E713231

**Range:** 12E

**Area:**

**Mapping Precision:**NON-SPECIFIC

**Section:** 11

**Qtr:** N

**Elevation:** 125 ft

**Symbol Type:**POLYGON

**Meridian:** M

**Location:** SOUTH END OF SAN LUIS OBISPO, JUST NORTHWEST OF SLO COUNTY AIRPORT, TANK FARM ROAD VICINITY.

**Location Detail:** THIS SITE IS WITHIN THE FORMER UNOCAL SAN LUIS OBISPO TANK FARM.

**Ecological:** HABITAT CONSISTS OF ANNUAL GRASSLAND WITH SCATTERED SEASONAL WETLANDS AND PONDS. THIS FORMER TANK FARM (TANKS HAVE BEEN REMOVED) IS NOW USED FOR GRAZING.

**General:** UNKNOWN NUMBER OBSERVED DURING AUG 2003. 1000'S OF ADULTS OBSERVED ON 1 OCT 2005; 20 COLLECTED/DEPOSITED AT LACM.

**Owner/Manager:** PVT

**Buteo regalis**

ferruginous hawk

Element Code: ABNKC19120

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G4 CDFG Status:  
 State: None State: S3S4

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: OPEN GRASSLANDS, SAGEBRUSH FLATS, DESERT SCRUB, LOW FOOTHILLS & FRINGES OF PINYON-JUNIPER HABITATS.  
 Micro: EATS MOSTLY LAGOMORPHS, GROUND SQUIRRELS, AND MICE. POPULATION TRENDS MAY FOLLOW LAGOMORPH POPULATION CYCLES.

Occurrence No. 12 Map Index: 65992 EO Index: 66071 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2003-02-02  
 Origin: Natural/Native occurrence Site: 2003-02-02  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-08-23

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.40197° / -120.61944° Township: 29S  
 UTM: Zone-10 N3920224 E716182 Range: 13E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 18 Qtr: SE  
 Elevation: 995 ft Symbol Type: POINT Meridian: M

Location: ~1 MI NW OF SANTA MARGARITA, 0.2 MI E OF HWY 101 AND 0.2 MI SE OF A POND.  
 Location Detail: MAPPED ACCORDING TO COORDINATES GIVEN IN SOURCE. HAWKS OBSERVED ROOSTING ON THE GROUND IN AGRICULTURAL FIELDS AND PERCHING IN VALLEY OAKS NEAR POND.  
 Ecological: ANNUAL GRASSLAND/VALLEY OAK SAVANNA AND AGRICULTURAL FIELDS CULTIVATED WITH DRY FARMED OATS. SANTA MARGARITA CREEK DRAINS THROUGH THE AREA AND IS ISOLATED FROM STOCK POND.  
 General: WINTERING SITE. AT LEAST 4 ADULTS OBSERVED FROM 21 OCT 2002 TO 2 FEB 2003.  
 Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 13 Map Index: 65993 EO Index: 66072 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2001-01-17  
 Origin: Natural/Native occurrence Site: 2001-01-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-08-23

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35303° / -120.59506° Township: 30S  
 UTM: Zone-10 N3914849 E718528 Range: 13E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 05 Qtr: XX  
 Elevation: 1,175 ft Symbol Type: POINT Meridian: M

Location: ABOUT 2.5 MI SSE OF SANTA MARGARITA, SYCAMORE CANYON.  
 Location Detail: MAPPED ACCORDING TO COORDINATES GIVEN IN SOURCE. HAWKS OFTEN OBSERVED PERCHED IN VALLEY OAKS WITHIN THE VINEYARD.  
 Ecological: VINEYARDS ARE PLACED IN OPEN ANNUAL GRASSLAND/VALLEY OAK SAVANNA HABITAT WITH ADJACENT WOODLANDS, CHAPARRAL AND RIPARIAN HABITATS.  
 General: WINTERING SITE. 2 ADULTS OBSERVED FROM 15 NOV 2000 TO 17 JAN 2001. HAWKS WERE SEEN USING VINEYARD AREAS AND OPEN GRASSLAND/SAVANNA HABITATS FOR HUNTING AND ROOSTING.  
 Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 14 Map Index: 65994 EO Index: 66073 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 2002-11-01  
 Origin: Natural/Native occurrence Site: 2002-11-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-08-23

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26115° / -120.69519° Township: 31S  
 UTM: Zone-10 N3904440 E709666 Range: 12E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 04 Qtr: NW  
 Elevation: 130 ft Symbol Type: POINT Meridian: M

Location: ABOUT 1.3 MI WSW OF INTERSECTION OF MADONNA RD AND HWY 1, SW OF LAGUNA LAKE, ABOUT 2.2 MILES SW OF SAN LUIS OBISPO.  
 Location Detail: MAPPED ACCORDING TO COORDINATES GIVEN IN SOURCE.  
 Ecological: RIPARIAN WOODLAND WITH ADJACENT RESIDENTIAL AREAS.  
 Threat: RESIDENTIAL AND LOS OSOS VALLEY ROAD.  
 General: WINTERING SITE. 1 ADULT OBSERVED ON 1 NOV 2002.  
 Owner/Manager: PVT



**Buteo regalis**

ferruginous hawk

**Element Code:** ABNKC19120

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
<b>Federal:</b> None	<b>Global:</b> G4	<b>CDFG Status:</b>
<b>State:</b> None	<b>State:</b> S3S4	

**Habitat Associations**

**General:** OPEN GRASSLANDS, SAGEBRUSH FLATS, DESERT SCRUB, LOW FOOTHILLS & FRINGES OF PINYON-JUNIPER HABITATS.  
**Micro:** EATS MOSTLY LAGOMORPHS, GROUND SQUIRRELS, AND MICE. POPULATION TRENDS MAY FOLLOW LAGOMORPH POPULATION CYCLES.

<b>Occurrence No.:</b> 25	<b>Map Index:</b> 66017	<b>EO Index:</b> 66096	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1991-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-08-23

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25240° / -120.65609°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3903552 E713246	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 02 <b>Qtr:</b> SE
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** WESTERN SIDE OF CHEAPSKATE & ADJACENT HILLS, AT BASE OF HILLS. ON MARGARITA RANCH JUST ON OUTSKIRTS OF SAN LUIS OBISPO.  
**Location Detail:** MAPPED IN SW 1/4 OF SE 1/4 OF SEC 2 AS PER SOURCE.  
**Ecological:** BARE ROCKY HILLS, OVERGRAZED GRASSLANDS AT STRETCHES FROM THE BASE. HOUSING DEVELOPMENT NEARBY.  
**Threat:** PROPOSED FOR HOUSING DEVELOPMENT. HILLSIDE WILL REMAIN OPEN SPACE BUT HOUSES WOULD COVER GRASSLAND & THE HILLSIDES.  
**General:** WINTERING SITE. A PAIR WINTERED AT THIS SITE DURING THE WINTERS OF 1987-88 TO 1990-91 BUT NOT 1991-92 AND SO FAR NOT 1992-93.  
**Owner/Manager:** UNKNOWN

California macrophylla

round-leaved filaree

Element Code: PDGER01070

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G3 CNPS List: 1B.1  
State: None State: S3.1

Habitat Associations \_\_\_\_\_

General: CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
Micro: CLAY SOILS. 15-1200M.

Occurrence No. 17 Map Index: 45702 EO Index: 45702 Dates Last Seen \_\_\_\_\_  
Occ Rank: Unknown Element: 1952-05-06  
Origin: Natural/Native occurrence Site: 1952-05-06  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 2001-09-13

Quad Summary: Atascadero (3512046/246B), Santa Margarita (3512045/246A), Templeton (3512056/269C)

County Summary: San Luis Obispo

Lat/Long: 35.49418° / -120.64332° Township: 28S  
UTM: Zone-10 N3930401 E713770 Range: 12E  
Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 14 Qtr: XX  
Elevation: Symbol Type:POINT Meridian: M

Location: JUST EAST OF PUMP STATION ON CRESTON ROAD EAST OF ATASCADERO.

Location Detail: MAPPED AS BEST GUESS AT CNDDDB.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1952 COLLECTION BY HOOVER. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PMLI0D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

**Habitat Associations**

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Occurrence No. 1 Map Index: 12781 EO Index: 14381 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-06-25  
 Origin: Natural/Native occurrence Site: 2003-06-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-02-07

Quad Summary: Atascadero (3512046/246B), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.36761° / -120.66974° Township: 29S  
 UTM: Zone-10 N3916303 E711704 Range: 12E  
 Area: 229.0 acres Mapping Precision: SPECIFIC Section: 35 Qtr: NW  
 Elevation: 2,180 ft Symbol Type: POLYGON Meridian: M

Location: CUESTA RIDGE, ABOUT 1-4 MILES WNW OF CUESTA PASS ALONG FIREBREAK, NORTH OF SAN LUIS OBISPO.  
 Location Detail: MAPPED ALONG RIDGE FROM SE 1/4 CORNER OF SECTION 35 NORTH AND WEST TO THE E 1/2 SECTION 28. INCLUDES PORTIONS OF NE 1/4 SECTION 34 AND SW 1/4 SECTION 27.  
 Ecological: FOUND ON SHALE AND SERPENTINE WITH BROMUS, AVENA, CEANOTHUS CUNEATUS, PICKERINGIA MONTANA, LOTUS SCOPARIUS, BRASSICA GENICULATA, SISYRYNCHIUM, ADENOSTOMA FASCICULATUM, AND ARCTOSTAPHYLOS OBISPOENSIS.  
 Threat: SHOOTING & TRAMPLING. TURNOUT IN BOTANICAL AREA IS ALSO A DISTURBANCE. CABLE ROW; RECREATION.  
 General: SCATTERED ALONG FIREBREAK ON RIDGE. 44 PLANTS JUST S OF RADIO TOWER IN 1983, 100+ JUST N OF TOWER IN 1984. 600 OVER ENTIRE POP. IN 1988. 100'S IN 2 SMALL PARTS OF POP. IN 1998. 100 AT S END IN 2003.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 2 Map Index: 36737 EO Index: 14377 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1983-06-22  
 Origin: Natural/Native occurrence Site: 1983-06-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34445° / -120.64273° Township: 30S  
 UTM: Zone-10 N3913792 E714219 Range: 12E  
 Area: 19.7 acres Mapping Precision: SPECIFIC Section: 01 Qtr: XX  
 Elevation: 1,800 ft Symbol Type: POLYGON Meridian: M

Location: CUESTA RIDGE, ABOUT 0.8 MILE WEST OF CUESTA PASS, NORTH OF SAN LUIS OBISPO.  
 Location Detail: ALONG ROADS ON RIDGETOP DUE WEST OF CUESTA PASS. MAPPED AS FOUR POLYGONS.  
 Ecological: SEEN ON SHALE AND SERPENTINE WITH BROMUS, AVENA, CEANOTHUS CUNEATUS, PICKERINGIA MONTANA, LOTUS SCOPARIUS, BRASSICA GENICULATA, SISYRYNCHIUM, ADENOSTOMA FASCICULATUM, AND ARCTOSTAPHYLOS OBISPOENSIS.  
 Threat: SHOOTING & TRAMPLING.  
 General: ABOUT 240 PLANTS OBSERVED IN 4 COLONIES IN 1983.  
 Owner/Manager: PVT

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Occurrence No. 3 Map Index: 36733 EO Index: 20477 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1939-05-30  
 Origin: Natural/Native occurrence Site: 1988-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.30118° / -120.63652° Township: 30S  
 UTM: Zone-10 N3909006 E714898 Range: 12E  
 Radius: 3/5 mile Mapping PrecisionNON-SPECIFIC Section: 24 Qtr: XX  
 Elevation: 500 ft Symbol Type:POINT Meridian: M

Location: HILL 1 MILE NORTH OF SAN LUIS OBISPO ALONG HIGHWAY 101.  
 Location Detail: SE-FACING SLOPE OF HILL. EXACT LOCATION NOT KNOWN; SITE MAPPED ALONG HWY 101 ABOUT 1-2 MILES NORTHEAST OF JUNCTION WITH HIGHWAY 1. M. MCLEOD SUGGESTS THIS SITE IS NORTH OF HWY 101 OPPOSITE RESERVOIR CANYON.  
 Ecological: FOUND BETWEEN SERPENTINE ROCKS AND CLAY SOIL AT 250 FEET ELEVATION. ASSOCIATED WITH GRASSES.  
 General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1939 COLLECTION BY MIOSSI. AREA SEARCHED IN 1988 BY M. MCLEOD BUT NO PLANTS FOUND. SERPENTINE HABITAT APPARENTLY STILL PRESENT AT THIS SITE.  
 Owner/Manager: PVT

Occurrence No. 4 Map Index: 12813 EO Index: 22131 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1988-06-04  
 Origin: Natural/Native occurrence Site: 1988-06-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31809° / -120.65940° Township: 30S  
 UTM: Zone-10 N3910832 E712773 Range: 12E  
 Area: 12.4 acres Mapping PrecisionSPECIFIC Section: 14 Qtr: N  
 Elevation: 1,021 ft Symbol Type:POLYGON Meridian: M

Location: RIDGE ABOUT 1 MILE NORTH OF CAL POLY SAN LUIS OBISPO AND WEST OF POLY CANYON (BRIZZOLARI CREEK), SAN LUIS OBISPO.  
 Location Detail: ON SPUR OF CUESTA RIDGE ABOVE CAL POLY CAMPUS ACROSS FROM YUCCA FOREST TRAIL AND ABOVE THE HORSE UNIT.  
 Ecological: GROWING IN YUCCA SCRUB ON STEEP S-FACING SLOPE ON SERPENTINE DERIVED SOLS. ASSOCIATED WITH DUDLEYA ABRAMSII SSP. MURINA, CHORIZANTHE BREWERII, AND LOMATIUM PARVIFOLIUM.  
 Threat: GRAZING ON LOWER SLOPES.  
 General: 200-300 PLANTS OBSERVED IN 1988. 1965 COLLECTION BY HOOVER FROM "HILL WEST OF POLY CANYON" IS ATTRIBUTED TO THIS SITE.  
 Owner/Manager: CAL POLY-SAN LUIS OBISPO

Occurrence No. 5 Map Index: 39719 EO Index: 34721 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2001-06-06  
 Origin: Natural/Native occurrence Site: 2001-06-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-09-27

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25665° / -120.76977° Township: 31S  
 UTM: Zone-10 N3903785 E702892 Range: 11E  
 Area: 15.5 acres Mapping PrecisionSPECIFIC Section: 02 Qtr: SW  
 Elevation: 1,330 ft Symbol Type:POLYGON Meridian: M

Location: IRISH HILLS ALONG PREFUMO CANYON ROAD NEAR HEAD OF COOK CREEK, SOUTHWEST OF SAN LUIS OBISPO.  
 Location Detail: TOP OF PERFUMO CANYON ROAD JUST BEFORE TURN, ON A ROCKY KNOLL THAT PROJECTS TO THE NORTH. MAPPED WITHIN THE N 1/2 OF THE SW 1/4 SECTION 2.  
 Ecological: SERPENTINE ROCK OUTCROP ON N-FACING SLOPE DOMINATED BY GRASSLAND VEGETATION. SOME PLANTS UNDER CANOPIES OF UMBELLULARIA CALIFORNICA, QUERCUS AGRIFOLIA, AND Q. DURATA. ALSO ASSOCIATED WITH ASTRAGALUS CURTIPES.  
 Threat: PROPOSED HOME WILL IMPACT ABOUT W POP.; OWNERS PROPOSE TO REPLANT ON SITE. IMPACTS MAY BE AVOIDED IF HOMESITE MOVED.  
 General: 2500 PLANTS SEEN IN 1991. UNKNOWN NUMBER OF PLANTS AT EAST COLONY IN 2001 DURING SURVEY FOR CIRSIUM FONTINALE OBISPOENSIS. RARE PLANTS IN VICINITY INCLUDE DUDLEYA ABRAMSII, MONARDELLA PALMERI, CALOCHORTUS CLAVATUS & LOMATIUM PARVIFOLIUM.

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.1	

**Habitat Associations**

**General:** CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OFTEN IN SERPENTINE GRASSLAND. 75-665M.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12753	<b>EO Index:</b> 22132	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-08-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-07

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34141° / -120.69059°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913352 E709876	<b>Range:</b> 12E
<b>Area:</b> 9.0 acres	<b>Section:</b> 04
<b>Elevation:</b> 1,100 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** CAMP SAN LUIS OBISPO, NEAR MAJOR WESTERN TRIBUTARY OF CHORRO CREEK, NORTHWEST OF CHORRO RESERVOIR, TRAINING AREA X.  
**Location Detail:** MAPPED AS SEVERAL SEPARATE COLONIES IN THIS AREA. MOSTLY MAPPED IN SE1/4 SEC 4.

**Ecological:** SERPENTINE GRAVEL ON CLAY. ASSOCIATES: LOMATIUM UTRICULATUM, CHLOROGALUM POMERIDIANUM, ASTRAGALUS CURTIPES, HEMIZONIA CONGESTA SSP. LUZULIFOLIA.

**Threat:** LAND USED FOR CATTLE GRAZING. NON-NATIVE PLANTS, MILITARY ACTIVITIES, IMPROPER FIRE REGIME, AND FERAL PIGS THREATEN.

**General:** ABOUT 120 PLANTS SEEN IN 2000. LESS THAN 20 IN 2001. UNKNOWN NUMBER SEEN IN 2003. RARE ASSOCIATES INCLUDE CHORIZANTHE PALMERI, DUDLEYA ABRAMSII SSP. MURINA, SANICULA HOFFMANI, STREPTANTHUS ALBIDUS SSP. PERAMOENUS.

**Owner/Manager:** DOD-ARMY NATIONAL GUARD

<b>Occurrence No.</b> 8	<b>Map Index:</b> 13113	<b>EO Index:</b> 12276	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1946-06-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-07-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Arroyo Grande NE (3512025/221A)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16377° / -120.57381°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3893900 E720974	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 3
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SUMMIT AT HEAD OF CARPENTER CANYON, NORTH OF ARROYO GRANDE.

**Ecological:** FOUND ON SANDSTONE OUTCROP AT TOP OF BURNED-OVER HILL.

**General:** SCARCE IN 1946. M. MCLEOD HAS BEEN TO SITE OFTEN TO SURVEY CLARKIA SPECIOSA SSP. IMMACULATA AND HAS NEVER SEEN C. OBISPOENSIS AT THIS SITE. HE THINKS IT WOULD BE MORE VISIBLE AFTER A FIRE, AS IN 1946.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 9	<b>Map Index:</b> 37763	<b>EO Index:</b> 34710	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1995-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1995-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-15

**Quad Summary:** Arroyo Grande NE (3512025/221A)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14473° / -120.60369°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891722 E718303	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 17
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** MOUTH OF CANYON NO.1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE.

**Location Detail:** NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD.

**Ecological:** GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII ARE FOUND NEARBY.

**Threat:** DEVELOPMENT MAY THREATEN PLANTS AT THIS SITE.

**General:** 5 PLANTS OBSERVED AT THIS SITE IN 1995. COLLECTION BY M.A. KING (SN UC) IN 1895 FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE.

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PMLI0D110

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.1	

**Habitat Associations**

**General:** CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OFTEN IN SERPENTINE GRASSLAND. 75-665M.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 10	<b>Map Index:</b> 12675	<b>EO Index:</b> 14378	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent	<b>Origin:</b> Natural/Native occurrence	<b>Element:</b> 1988-06-12	<b>Site:</b> 1988-06-12
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown	<b>Record Last Updated:</b> 1998-09-15	

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36108° / -120.71150°	<b>UTM:</b> Zone-10 N3915490 E707926	<b>Area:</b> 22.7 acres	<b>Elevation:</b> 800 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 32	<b>Meridian:</b> M	<b>Qtr:</b> NW
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**Location:** PENNINGTON CREEK ABOUT 1 MILE WEST OF WHISKEY SPRING, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** MAPPED WITHIN THE SW 1/4 NE 1/4 AND S 1/2 NW 1/4 SECTION 23 AND ALSO IN THE NE 1/4 SE 1/4 SECTION 31. MAPPED AS FOUR POLYGONS.  
**Ecological:** FOUND ON SERPENTINE OUTCROPS WITH YUCCA WHIPPLEI, NASSELLA PULCHRA, DUDLEYA ABRAMSII SSP. MURINA, CALOCHORTUS CLAVATUS CLAVATUS, AND LOMATIUM PARVIFOLIUM.  
**Threat:** POPULATION IMPACTED BY GRAZING.  
**General:** 4-5 COLONIES SEEN IN 1984. 100'S OF PLANTS SEEN AT WESTERN COLONY IN 1988. SITE ON CAL POLY SLO BIORESERVE.  
**Owner/Manager:** CAL POLY-SAN LUIS OBISPO

<b>Occurrence No.</b> 11	<b>Map Index:</b> 36732	<b>EO Index:</b> 22129	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good	<b>Origin:</b> Natural/Native occurrence	<b>Element:</b> 1988-05-28	<b>Site:</b> 1988-05-28
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown	<b>Record Last Updated:</b> 1998-09-15	

**Quad Summary:** Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28982° / -120.62660°	<b>UTM:</b> Zone-10 N3907767 E715830	<b>Area:</b> 4.2 acres	<b>Elevation:</b> 450 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 30S	<b>Range:</b> 13E	<b>Section:</b> 30	<b>Meridian:</b> M	<b>Qtr:</b> NW
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**Location:** MOUTH OF RESERVOIR CANYON ABOUT 0.5 MILE SOUTH OF HIGHWAY 101, EAST OF SAN LUIS OBISPO.  
**Location Detail:** ON AND ABOVE (NORTH OF) OLD ROAD CUT.  
**Ecological:** FOUND ON SERPENTINE SOIL OF ROAD-CUT AND AMONG COASTAL AND YUCCA SCRUB ABOVE. ALSO ASSOCIATED WITH CHORIZANTHE BREWERI.  
**Threat:** SITE MAY BE SUBJECT TO BROOM INVASION.  
**General:** LESS THAN 50 PLANTS IN 1984. 35 PLANTS SEEN IN 1988. INCLUDES FORMER OCCURRENCE #7.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Occurrence No. 12 Map Index: 12843 EO Index: 22127 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1984-05-21  
 Origin: Natural/Native occurrence Site: 1984-05-21  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31219° / -120.65214° Township: 30S  
 UTM: Zone-10 N3910193 E713449 Range: 12E  
 Area: 7.0 acres Mapping Precision: SPECIFIC Section: 14 Qtr: SE  
 Elevation: 500 ft Symbol Type: POLYGON Meridian: M

Location: UPPER POLY CANYON ALONG BRIZZIOLARI CREEK, ABOUT 0.6 MILE NORTHEAST OF CAL POLY SAN LUIS OBISPO CAMPUS, SAN LUIS OBISPO.  
 Location Detail: ALONG ROADS AND TRAIL ON BOTH SIDES OF BRIZZIOLARI CREEK. THREE COLONIES MAPPED NEAR THE MIDDLE OF THE E 1/2 SE 1/4 SECTION 14.

Ecological: FOUND ON SERPENTINE ROCK AND SOIL IN OAK WOODLAND/GRASSLAND WITH YUCCA WHIPPLEI, QUERCUS AGRIFOLIA, Q. DURATA, NASSELLA PULCHRA, CHORIZANTHE BREWERI, DUDLEYA ABRAMSII SSP MURINA, AND LOMATIUM PARVIFOLIUM.

Threat: HORSES AND TRAIL BIKES ON THE E SIDE OF THE CANYON ARE CAUSING EROSION. ROADSIDE WORK (GRADING, ETC.) ALSO THREATENS.

General: 3 COLONIES SEEN IN 1984 RANGING IN SIZE FROM 10+ TO 50+ PLANTS.

Owner/Manager: CAL POLY-SAN LUIS OBISPO

Occurrence No. 13 Map Index: 36731 EO Index: 5651 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1988-XX-XX  
 Origin: Natural/Native occurrence Site: 1988-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28325° / -120.64497° Township: 30S  
 UTM: Zone-10 N3906998 E714177 Range: 12E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 25 Qtr: SW  
 Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: BEHIND (EAST OF) SAN LUIS OBISPO HIGH SCHOOL, SAN LUIS OBISPO.

Ecological: ON SERPENTINE AREA ABOVE AND BEHIND THE SCHOOL.

General: SITE IN SIMILAR CONDITION IN 1984 AND 1988.

Owner/Manager: UNKNOWN

Occurrence No. 14 Map Index: 12833 EO Index: 22128 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1984-06-02  
 Origin: Natural/Native occurrence Site: 1988-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.32860° / -120.65107° Township: 30S  
 UTM: Zone-10 N3912016 E713503 Range: 12E  
 Radius: 3/5 mile Mapping Precision: NON-SPECIFIC Section: 11 Qtr: XX  
 Elevation: 1,000 ft Symbol Type: POINT Meridian: M

Location: SERRANO CREEK (MAPPED NEAR SERRANO), NORTH OF SAN LUIS OBISPO.

Location Detail: UNABLE TO LOCATE SERRANO CREEK; SITE MAPPED NEAR SERRANO STATION.

General: SOME QUESTION AS TO WHERE EXACT LOCATION IS. MAY REFER TO CREEK NEAR SERRANO THAT IS NOT NAMED ON TOPO MAPS OR MAY REFER TO SERRANO CANYON ALONG CHORRO CREEK.

Owner/Manager: UNKNOWN

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.1	

**Habitat Associations**

**General:** CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OFTEN IN SERPENTINE GRASSLAND. 75-665M.

<b>Occurrence No.</b> 15	<b>Map Index:</b> 36730	<b>EO Index:</b> 539	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1988-07-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-07-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-15

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26427° / -120.66901°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904841 E712040	<b>Range:</b> 12E
<b>Area:</b> 6.7 acres	<b>Section:</b> 03
<b>Elevation:</b> 300 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** HILL EAST OF SOUTH HIGUERA STREET NEAR CEMETERIES, SAN LUIS OBISPO.  
**Location Detail:** MAPPED JUST EAST OF SOUTH HIGUERA ROAD AT JUNCTION WITH ELKS ROAD.  
**Ecological:** FOUND IN GRASSLAND ON STEEP, W-FACING HILLSIDE WITH SERPENTINE OUTCROPS. ASSOCIATED WITH DUDLEYA ABRAMSII SSP. MURINA.  
**Threat:** GRAZING AND POTENTIAL DEVELOPMENT THREATEN PLANTS AT THIS SITE.  
**General:** ABOUT 1000 PLANTS SEEN IN 1985, 1200 PLANTS OVER 5 ACRES SEEN IN 1988.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 16	<b>Map Index:</b> 12806	<b>EO Index:</b> 22126	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1988-07-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-07-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-15

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26121° / -120.65683°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904528 E713156	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 02
<b>Elevation:</b> 500 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** RIDGE ABOUT 0.4 MILE WEST OF BROAD STREET AT JUNCTION WITH ORCUTT ROAD, SAN LUIS OBISPO.  
**Location Detail:** SERPENTINE RIDGE, ABOVE ROAD TO RESERVOIR. MAPPED WITHIN THE SW 1/4 NE 1/4 SECTION 2.  
**Ecological:** NE-FACING SLOPE OF STEEP SERPENTINE RIDGE/OUTCROP. ASSOCIATED WITH DUDLEYA ABRAMSII SSP. MURINA AND SELAGINELLA BIGELOVII.  
**Threat:** DEVELOPMENT IS ENCROACHING. GRAZING ALSO THREATENS PLANTS AT THIS SITE.  
**General:** OVER 50 PLANTS SEEN IN 1985, 70 PLANTS OVER 5 ACRES SEEN IN 1988.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 17	<b>Map Index:</b> 12776	<b>EO Index:</b> 13252	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-02-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-02-02
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-15

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19940° / -120.66633°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897651 E712453	<b>Range:</b> 12E
<b>Area:</b> 13.9 acres	<b>Section:</b> 26
<b>Elevation:</b> 800 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** WESTERN RIDGE OF INDIAN KNOB, ABOUT 4 MILES NORTH OF PISMO BEACH.  
**Location Detail:** MAPPED ALONG RIDGETOP WEST OF INDIAN KNOB, ALONG ROAD JUST NORTH OF 859' BENCHMARK.  
**Ecological:** FOUND ON LIGHT-COLORED PISMO SANDSTONE. ASSOCIATED WITH ERIODICTYON ALTISSIMUM, ARCTOSTAPHYLOS PILULOSA SSP PISMOENSIS, AND AGROSTIS HOOVERI.  
**Threat:** SURFACE MINING OF TAR SANDS CONSIDERED IN 1979 AND POSSIBLY AGAIN IN FUTURE, OIL DEVELOPMENT.  
**General:** OBSERVED IN 1980 SURVEY OF CENTRAL MARITIME CHAPARRAL (J. VANDERWIER). MAP PROVIDED BY M. MCLEOD (1985); UNKNOWN WHEN SEEN BY MCLEOD.  
**Owner/Manager:** TNC, PVT-PGE



**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Occurrence No. 18 Map Index: 12718 EO Index: 22125 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1988-05-24  
 Origin: Natural/Native occurrence Site: 1988-05-24  
 Presence: Presumed Extant  
 Trend: Increasing Record Last Updated: 1998-09-15

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.24227° / -120.69377° Township: 31S  
 UTM: Zone-10 N3902348 E709844 Range: 12E  
 Area: 9.8 acres Mapping Precision: SPECIFIC Section: 09 Qtr: XX  
 Elevation: 250 ft Symbol Type: POLYGON Meridian: M

Location: FROOM RANCH, ABOUT 0.5 MILE WSW OF LOS OSOS VALLEY ROAD AT HIGHWAY 101, JUST SW OF SAN LUIS OBISPO CITY LIMITS.  
 Location Detail: TWO COLONIES MAPPED ALONG THE SOUTHERN BRANCH OF FROOM CREEK ALONG LOWER SLOPES OF MINE HILL.  
 Ecological: SERPENTINE GRASSLAND HILLSIDE BELOW ECOTONE WITH COASTAL SCRUB/CHAPARRAL, WITH CHORIZANTHE BREWERI, CALOCHORTUS CLAVATUS CLAVATUS, DUDLEYA ABRAMSII MURINA, AND PERIDERIDIA PRINGLEI. SEASONALLY MOIST CLAYEY SOILS W/ HIGH SERPENTINE CONTENT.  
 Threat: OFFICE COMPLEX DEVELOPMENT PLANNED FOR ADJACENT SITE. GRAZING ALSO THREATENS.  
 General: 200-400 PLANTS SEEN OVER SEVERAL ACRES IN 1988.  
 Owner/Manager: PVT

Occurrence No. 19 Map Index: 39709 EO Index: 34711 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-05-21  
 Origin: Natural/Native occurrence Site: 1987-05-21  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22808° / -120.57466° Township: 31S  
 UTM: Zone-10 N3901032 E720722 Range: 13E  
 Area: 26.0 acres Mapping Precision: SPECIFIC Section: 15 Qtr: XX  
 Elevation: 750 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 1.5 MILES EAST OF BIDDLE RANCH ROAD (ORCUTT ROAD), NORTH OF EAST CORRAL DE PIEDRA CREEK AND SE OF SAN LUIS OBISPO.  
 Location Detail: ON WEST FACING SLOPE DUE EAST OF RAYMOND BALL HOUSE. MAPPED ALONG RIDGE BETWEEN EAST CORRAL DE PIEDRA CREEK AND SOUTH BRANCH OF WEST CORRAL DE PIEDRA CREEK.  
 Ecological: GROWING WITH DUDLEYA ABRAMSII MURINA, ANNUAL GRASSES, AND YUCCA WHIPPLEI ON SERPENTINE ROCK-SOIL.  
 Threat: POSSIBLE GRAZING THREAT.  
 General: ABOUT 50 PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT

Occurrence No. 20 Map Index: 39711 EO Index: 34713 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1992-05-28  
 Origin: Natural/Native occurrence Site: 1992-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25465° / -120.58711° Township: 31S  
 UTM: Zone-10 N3903952 E719517 Range: 13E  
 Area: 97.0 acres Mapping Precision: SPECIFIC Section: 04 Qtr: XX  
 Elevation: 1,200 ft Symbol Type: POLYGON Meridian: M

Location: RIDGE WEST OF WEST CORRAL DE PIEDRA CREEK, ABOUT 3 MILES NORTHEAST OF SAN LUIS OBISPO.  
 Location Detail: ALONG 1 MILE SECTION OF RIDGELINE, OPPOSITE THE MOUTH OF OIL WELL CANYON. OCCURRENCE RUNS THROUGH SEC 4, FROM NW TO SE.  
 Ecological: IN SERPENTINE ROCK OUTCROP AREAS AND ON GRASSY SLOPES. COMMON ALONG NE-FACING SIDE OF RIDGE, SCATTERED ON RIDGETOP AND SLOPES. ON BARE ROCKY AREAS AND IN GRASSLAND. WITH NASSELLA PULCHRA WHICH IS LOCALLY ABUNDANT.  
 Threat: ON PROPOSED ACCESS ROAD TO COASTAL AQUEDUCT; POSSIBLE GRAZING THREAT.  
 General: 10,000S OF PLANTS OBSERVED IN 1992. VERY NICE SERPENTINE BUNCHGRASS HABITAT. RELATIVELY LITTLE DISTURBANCE.

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

**Habitat Associations**

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Owner/Manager: PVT

Occurrence No. 21 Map Index: 39712 EO Index: 34714 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-05-08  
 Origin: Natural/Native occurrence Site: 1987-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30359° / -120.61402° Township: 30S  
 UTM: Zone-10 N3909322 E716938 Range: 13E  
 Area: 6.8 acres Mapping Precision: SPECIFIC Section: 20 Qtr: NW  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 0.5 MILE EAST OF HIGHWAY 101 & 1.4 MILE SOUTHWEST OF MT. LOWE, NORTH OF SAN LUIS OBISPO.  
 Location Detail: ALONG ROCKY SERPENTINE RIDGE WITHIN THE SE 1/4 NE 1/4 SECTION 19 AND THE SW 1/4 NW 1/4 SECTION 20.  
 Ecological: SERPENTINE RIDGE WITH DUDLEYA ABRAMSII MURINA AND ANNUAL GRASSES ON 20% SLOPE AND NORTHWEST ASPECT. VERY THIN SOILS.  
 Threat: POSSIBLE GRAZING THREAT.  
 General: 16 PLANTS OBSERVED IN 1987.

Owner/Manager: PVT

Occurrence No. 22 Map Index: 39714 EO Index: 34716 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1988-05-26  
 Origin: Natural/Native occurrence Site: 1988-05-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-15

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26789° / -120.68159° Township: 30S  
 UTM: Zone-10 N3905216 E710886 Range: 12E  
 Area: 28.0 acres Mapping Precision: SPECIFIC Section: 34 Qtr: SW  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: HILLSIDE EAST OF LAGUNA LAKE IN LAGUNA LAKE PARK, NORTH OF MADONNA ROAD, SAN LUIS OBISPO.  
 Location Detail: 150-250 YARDS FROM PARKING LOT UP FROM ELECTRICAL TOWER ON HILLSIDE; ACROSS FROM EUCALYPTUS IN PARK.  
 Ecological: SERPENTINE GRASSLAND ON MODERATELY STEEP SW-FACING SLOPE. DOMINATED BY HORDEUM CALIFORNICUM, NASSELLA, DUDLEYA ABRAMSII MURINA, CHORIZANTHE BREWERII, LOMATIUM PARVIFOLIUM, AND CIRSIUM FONTINALE OBISPOENSE.  
 Threat: GRAZING & RECREATION ARE CURRENT USES OF THIS SITE.  
 General: 300 PLANTS OBSERVED IN 1988.

Owner/Manager: CITY OF SAN LUIS OBISPO

Occurrence No. 24 Map Index: 39716 EO Index: 34718 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-06-17  
 Origin: Natural/Native occurrence Site: 2002-06-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-02-07

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35676° / -120.69051° Township: 29S  
 UTM: Zone-10 N3915056 E709844 Range: 12E  
 Area: 6.4 acres Mapping Precision: SPECIFIC Section: 33 Qtr: S  
 Elevation: 1,400 ft Symbol Type: POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO, UPPER CHORRO CREEK RESERVOIR NEAR SPRINGS AND MINING SITES, NORTH OF SAN LUIS OBISPO.  
 Location Detail: TRAINING AREAS U AND X. MOSTLY MAPPED IN THE SE 1/4 SEC 33. MAPPED AS SEVERAL COLONIES.  
 Ecological: IN SERPENTINE CHAPARRAL/WOODLAND COMMUNITY. ON DISTURBED, STEEPLY SLOPING ROADSIDES. RARE ASSOCIATES: ARCTOSTAPHYLOS OBISPOENSIS, CALOCHORTUS ARGILLOSUS, C. OBISPOENSIS, C. CLAVATUS SSP. CLAVATUS, CHORIZANTHE BREWERI, C. PALMERI.  
 Threat: ACTIVE MILITARY SITE; POSSIBLE EROSION. CATTLE, NON-NATIVE PLANTS, MINING, IMPROPER FIRE REGIME, FERAL PIGS.  
 General: 1000 PLANTS OBSERVED IN 1995, LESS THAN 40 PLANTS IN 2001, LESS THAN 25 SEEN IN 2002. AREA BURNED IN 1994 HIGHWAY 41 FIRE. AMONG THE THREATS NOTED WAS A RECLAMATION PROJECT AT NEW LONDON MINE AND TAILINGS.

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PMLI0D110

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	Other Lists
State: None	State: S2.1	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OFTEN IN SERPENTINE GRASSLAND. 75-665M.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 25	<b>Map Index:</b> 39717	<b>EO Index:</b> 34719	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent	<b>Origin:</b> Natural/Native occurrence	<b>Presence:</b> Presumed Extant	<b>Element:</b> 1993-06-25
<b>Trend:</b> Unknown			<b>Site:</b> 1993-06-25
			<b>Record Last Updated:</b> 2008-01-30

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34142° / -120.65978°	<b>UTM:</b> Zone-10 N3913419 E712677	<b>Radius:</b> 80 meters	<b>Elevation:</b> 1,100 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 02	<b>Meridian:</b> M	<b>Qtr:</b> SW
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**Location:** UPPER STENNER CREEK ALONG AQUEDUCT, ABOUT 0.6 MILE SOUTHWEST OF SOUTH PORTAL OF CUESTA TUNNEL, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** ALONG DIRT ROAD AND ON SLOPE ABOVE ROAD ABOUT 1 AIR MILE EAST OF CAMP SLO NATIONAL GUARD RESERVATION BOUNDARY.  
**Ecological:** BARREN, ROCKY, STEEP SERPENTINE SLOPES USUALLY WITH A S EXPOSURE. ASSOCIATED WITH YUCCA WHIPPLEI AND CHORIZANTHE PALMERI.  
**Threat:** POTENTIAL THREAT FROM ROAD WIDENING FOR AQUEDUCT AND POWERLINE CONSTRUCTION.  
**General:** 100'S OF PLANTS OBSERVED IN 1992. RECOMMENDED MITIGATION WAS SALVAGE AND REPLANTING OF BULBS IN ADJACENT AREAS. 1993 JOHNSON & YOUNG COLLECTION FROM "3 KM N OF CHORRO RESERVOIR; CAMP SAN LUIS OBISPO" ATTRIBUTED TO THIS OCCURRENCE.

**Owner/Manager:** PVT-SPRR, DOM

<b>Occurrence No.</b> 26	<b>Map Index:</b> 39718	<b>EO Index:</b> 34720	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good	<b>Origin:</b> Natural/Native occurrence	<b>Presence:</b> Presumed Extant	<b>Element:</b> 1998-06-15
<b>Trend:</b> Unknown			<b>Site:</b> 1998-06-15
			<b>Record Last Updated:</b> 1998-09-15

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34544° / -120.65087°	<b>UTM:</b> Zone-10 N3913884 E713477	<b>Radius:</b> 80 meters	<b>Elevation:</b> 1,300 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 02	<b>Meridian:</b> M	<b>Qtr:</b> XX
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**Location:** UPPER STENNER CREEK JUST SOUTHWEST OF SOUTH PORTAL OF CUESTA TUNNEL, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** ABOUT 400 FEET SOUTHWEST OF THE TUNNEL, ABOUT 0.3 MILE NORTHEAST OF RR TRACKS.  
**Ecological:** EAST-FACING BANK IN OPENINGS OF EUCALYPTUS WITH NASSELLA PULCHRA, ERIOGONUM FASCICULATUM, SALVIA MELLIFERA, YUCCA WHIPPLEI, AND ANNUAL GRASSES. ALSO WITH RARE CALOCHORTUS CLAVATUS SSP. CLAVATUS.  
**Threat:** EUCALYPTUS TREES MAY BE SPREADING & REDUCING HABITAT.  
**General:** 200 PLANTS OBSERVED IN 1993. RECOMMENDED MITIGATION WAS SALVAGE AND REPLANTING OF BULBS IN ADJACENT AREAS. 3 PLANTS REPORTED FROM THIS GENERAL AREA BY R. PRESTON IN 1998.

**Owner/Manager:** PVT-SPRR

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None **Global:** G2 **CNPS List:** 1B.2  
 State: None **State:** S2.1

**Habitat Associations**

**General:** CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OFTEN IN SERPENTINE GRASSLAND. 75-665M.

**Occurrence No.** 28 **Map Index:** 57000 **EO Index:** 57016 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1999-07-09  
**Origin:** Natural/Native occurrence **Site:** 1999-07-09  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-09-27

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.32391° / -120.67623° **Township:** 30S  
**UTM:** Zone-10 N3911442 E711227 **Range:** 12E  
**Area:** 11.9 acres **Mapping Precision:**SPECIFIC **Section:** 10 **Qtr:** S  
**Elevation:** 600 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** ALONG STENNER CREEK ROAD, ABOUT 0.5 MILE EAST OF RAILROAD TRESTLE, NORTH OF SAN LUIS OBISPO.  
**Ecological:** ADJACENT TO GRAVEL ROAD ON STEEP, N-FACING SLOPE. WITH ERIOPHYLLUM CONFERTIFLORUM, DUDLEYA, CLARKIA, CALOCHORTUS CLAVATUS, AND SILENE CALIFORNICA.  
**Threat:** ADJACENT TO GRAVEL ROAD.  
**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1999.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 29 **Map Index:** 57206 **EO Index:** 57265 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-05-27  
**Origin:** Natural/Native occurrence **Site:** 2003-05-27  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-02-10

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.23889° / -120.73916° **Township:** 31S  
**UTM:** Zone-10 N3901878 E705721 **Range:** 11E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 12 **Qtr:** SE  
**Elevation:** 411 ft **Symbol Type:**POINT **Meridian:** M

**Location:** SEE CANYON, APPROXIMATELY 0.7 AIRMILE SOUTHWEST OF HEADWATERS OF FROOM CREEK.  
**Location Detail:** MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 12.  
**Ecological:** IN A ROCKY SERPENTINE BUNCHGRASS COMMUNITY. NASELLA PULCHRA IS A COMMON COMPONENT OF THIS HABITAT.  
**General:** 50 PLANTS SEEN IN 2003. MANY OTHER RARE SPECIES IN THIS VICINITY, INCLUDING ARCTOSTAPHYLOS PECHOENSIS, LOMATIUM PARVIFOLIUM, DUDLEYA ABRAMSII SSP. MURINA, CHORIZANTHE BREWERI, C. PALMERI, CALOCHORTUS CLAVATUS SSP. CLAVATUS, ET AL.  
**Owner/Manager:** PVT

**Occurrence No.** 30 **Map Index:** 62789 **EO Index:** 62843 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-08-15  
**Origin:** Natural/Native occurrence **Site:** 2002-08-15  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2008-02-04

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.35086° / -120.66662° **Township:** 30S  
**UTM:** Zone-10 N3914452 E712031 **Range:** 12E  
**Area:** 15.0 acres **Mapping Precision:**SPECIFIC **Section:** 03 **Qtr:** NE  
**Elevation:** 1,500 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** CAMP SAN LUIS OBISPO, SOUTH TO SOUTHEAST OF PICK & SHOVEL MINE, TRAINING AREA X.  
**Location Detail:** MAPPED ALONG DIRT ROADS NEAR THE CENTER OF THE NE 1/4 OF SEC 3, IN THE NE 1/4 OF THE NE 1/4 OF SEC 3, AND IN THE SE 1/4 OF THE SE 1/4 OF SEC 34.  
**Ecological:** CHAPARRAL; CLAY; GENTLE TO MODERATE SLOPE. RARE ASSOCIATES INCLUDE ARCTOSTAPHYLOS OBISPOENSIS, CALOCHORTUS ARGILLOSUS, C. CLAVATUS SSP. CLAVATUS, AND CHORIZANTHE BREWERI.  
**Threat:** CATTLE; NON-NATIVE PLANTS; MILITARY TRAINING ACTIVITIES; IMPROPER FIRE REGIME, FERAL PIGS.  
**General:** <20 PLANTS SEEN IN 2000 IN W COLONY; UNKNOWN NUMBER IN 2002 IN MIDDLE COLONY; <20 IN 2002 IN N COLONY. AREA BURNED IN 1994 HIGHWAY 41 FIRE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Calochortus obispoensis**

La Panza mariposa-lily

Element Code: PML10D110

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.1

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OFTEN IN SERPENTINE GRASSLAND. 75-665M.

Occurrence No. 32 Map Index: 62791 EO Index: 62845 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2003-03-06  
 Origin: Natural/Native occurrence Site: 2003-03-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-10-04

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31498° / -120.74673° Township: 30S  
 UTM: Zone-10 N3910304 E704840 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 13 Qtr: SW  
 Elevation: 475 ft Symbol Type: POINT Meridian: M

Location: CAMP SAN LUIS OBISPO, FIRST RIDGE WEST OF CERRO ROMUALDO, EAST SIDE OF DRAINAGE CLOSEST TO EAST BOUNDARY FENCE.

Location Detail: TRAINING AREA A. MAPPED IN NE 1/4 OF SW 1/4 SEC 13.

Threat: CATTLE; NON-NATIVE PLANTS; MILITARY TRAINING ACTIVITIES; IMPROPER FIRE REGIME, FERAL PIGS.

General: UNKNOWN NUMBER OF PLANTS SEEN DURING 2003 SURVEY FOR DUDLEYA ABRAMSII SSP. BETTINAE.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 33 Map Index: 62792 EO Index: 62846 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2000-06-11  
 Origin: Natural/Native occurrence Site: 2000-06-11  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-10-04

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33329° / -120.68882° Township: 30S  
 UTM: Zone-10 N3912456 E710058 Range: 12E  
 Area: 4.9 acres Mapping Precision: SPECIFIC Section: 09 Qtr: NE  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO, BETWEEN CALIFORNIA MENS COLONY & CHORRO RESERVOIR, TRAINING AREA W.

Location Detail: MAPPED AS SEVERAL COLONIES.

Ecological: SERPENTINE OUTCROP. ASSOCIATES INCLUDE RHAMNUS CALIFORNICA, QUERCUS DURATA, LOTUS SCOPARIUS, CHLOROGALUM POMERIDIANUM, HEMIZONIA CONGESTA SSP. LUZULIFOLIA, CALOCHORTUS CLAVATUS, CHORIZANTHE PALMERI, NON-NATIVE ANNUAL GRASSES.

Threat: CATTLE; NON-NATIVE PLANTS; MILITARY TRAINING ACTIVITIES; IMPROPER FIRE REGIME, FERAL PIGS.

General: LESS THAN 20 PLANTS SEEN AT FOUR COLONIES IN 2000. RARE SPECIES IN THIS VICINITY INCLUDE DUDLEYA ABRAMSII. MURINA, CALOCHORTUS CLAVATUS SPP. CLAVATUS, CHORIZANTHE PALMERI.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 34 Map Index: 70778 EO Index: 71690 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2002-05-08  
 Origin: Natural/Native occurrence Site: 2002-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-02-04

Quad Summary: San Luis Obispo (3512036/246C), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31986° / -120.75049° Township: 30S  
 UTM: Zone-10 N3910836 E704487 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 13 Qtr: NW  
 Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: FIRST RIDGE W OF CERRO ROMUALDO, TRAINING AREA A, CAMP SAN LUIS OBISPO.

Ecological: STEEP SLOPE. OTHER RARE SPECIES: LAYIA JONESII, LOMATIUM PARVIFOLIUM, STREPTANTHUS ALBIDUS SSP. PERAMOENUS, DUDLEYA ABRAMSII SSP. BETTINAE, CALOCHORTUS CLAVATUS SPP. CLAVATUS, CHORIZANTHE BREWERI, C. PALMERI.

Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.

General: LESS THAN 20 PLANTS OBSERVED IN 2002.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Calochortus simulans**

San Luis Obispo mariposa-lily

Element Code: PML10D170

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.3

**Habitat Associations** \_\_\_\_\_  
 General: VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: DECOMPOSED GRANITE. 395-1100M.

**Occurrence No.** 1 **Map Index:** 59520 **EO Index:** 59556 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-05-27  
**Origin:** Natural/Native occurrence **Site:** 2003-05-27  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-02-17

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.23769° / -120.73744° **Township:** 31S  
**UTM:** Zone-10 N3901749 E705881 **Range:** 11E  
**Area:** 12.3 acres **Mapping Precision:**SPECIFIC **Section:** 12 **Qtr:** SE  
**Elevation:** 700 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** 4.0 AIR MILES NORTH OF AVILA BEACH. ON LA QUINTA DE AVILA RANCH.  
**Location Detail:** 1 COLONY IN SE 1/4 OF SE 1/4 OF SEC 12. SECOND COLONY IN SW 1/4 OF SW 1/4 OF SEC 7.  
**Ecological:** ON SERPENTINE INFLUENCED SOILS. NEARBY RARE SPECIES: LOMATIUM PARVIFOLIUM, DUDLEYA ABRAMSII SSP. MURINA, CHORIZANTHE BREWERI, CHORIZANTHE PALMERI, CALOCHORTUS OBISPOENSIS, CALOCHORTUS CLAVATUS SSP. CLAVATUS.  
**Threat:** GRAZING.  
**General:** 50 PLANTS OBSERVED IN 2003. OTHER NEARBY RARE SPECIES: CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, CALYSTEGIA SUBACAUULIS SSP. EPISCOPALIS.  
**Owner/Manager:** PVT

**Occurrence No.** 6 **Map Index:** 59540 **EO Index:** 59576 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1990-04-26  
**Origin:** Natural/Native occurrence **Site:** 1990-04-26  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-01-24

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.46553° / -120.52579° **Township:** 28S  
**UTM:** Zone-10 N3927484 E724512 **Range:** 13E  
**Area:** 4.4 acres **Mapping Precision:**SPECIFIC **Section:** 25 **Qtr:** N  
**Elevation:** 1,400 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** 7 AIR MILES NE OF SANTA MARGARITA. NEAR IRON SPRING. ABOUT 3.5-4.5 MI S OF CRESTON.  
**Location Detail:** 1 COLONY IN SW 1/4 OF NE 1/4 OF SEC 25, ABOVE CREEK BANK. 2 COLONIES IN EAST 1/2 OF NW 1/4 OF SEC 25.  
**Ecological:** VARIED HABITATS: IN DENSE ANNUAL GRASSES, IN GRASSY OPENINGS IN CHAMISE CHAPARRAL, IN BARE FIREBREAKS, IN FOOTHILL WOODLAND. ASSOC SPECIES: LONICERA, AVENA, BROMUS, BRODIAEA, PINUS SABINIANA, LIVE OAK.  
**Threat:** ALONG PROPOSED ROUTE FOR COASTAL AQUEDUCT. SAND & GRAVEL MINING ON HUERHUERO CREEK. HOUSING DEVELOPMENT NEARBY.  
**General:** 50 PLANTS SEEN IN COLONY ON HUERHUERO CREEK IN 1990. THE RARE MALACOTHAMNUS NIVEUS OCCURS NEARBY.  
**Owner/Manager:** PVT

**Occurrence No.** 7 **Map Index:** 59545 **EO Index:** 59581 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1992-05-11  
**Origin:** Natural/Native occurrence **Site:** 1992-05-11  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-01-24

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.45551° / -120.53528° **Township:** 28S  
**UTM:** Zone-10 N3926351 E723678 **Range:** 13E  
**Area:** 64.8 acres **Mapping Precision:**SPECIFIC **Section:** 35 **Qtr:** N  
**Elevation:** 1,500 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** 6 AIR MILES NE OF SANTA MARGARITA. BETWEEN CRESTON ROAD & MIDDLE HUERHUERO CREEK.  
**Location Detail:** 3 COLONIES NEAR ROADSIDES. LOCATED IN N1/2 SEC 35 AND SW1/4 SEC 25.  
**Ecological:** OAK WOODLAND & CHAMISE CHAPARRAL. DECOMPOSED GRANITE SOILS. ASSOC INCLUDE: QUERCUS DOUGLASII, QUERCUS AGRIFOLIA, PINUS SABINIANA, ERODIUM, AVENA, STIPA CERNUA, CLARKIA PURPUREA, DELPHINIUM.  
**Threat:** ALONG COASTAL AQUEDUCT RIGHT-OF-WAY. DEVELOPMENT PLANNED.  
**General:** 10 PLANTS OBSERVED IN THE SOUTHERNMOST COLONY IN 1989. >1000 OBSERVED IN THE 2 WESTERN COLONIES IN 1992.  
**Owner/Manager:** PVT

**Calochortus simulans**

San Luis Obispo mariposa-lily

Element Code: PMLI0D170

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.3	CNPS List: 1B.3

**Habitat Associations**

**General:** VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, CHAPARRAL.  
**Micro:** DECOMPOSED GRANITE. 395-1100M.

<b>Occurrence No.</b> 8	<b>Map Index:</b> 59546	<b>EO Index:</b> 59582	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1992-05-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-01-24

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.44488° / -120.54644°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3925147 E722695	<b>Range:</b> 13E
<b>Area:</b> 17.2 acres	<b>Section:</b> 35
<b>Elevation:</b> 1,600 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** ALONG CRESTON ROAD, 1.3 TO 1.8 ROAD MILES NORTH OF INTERSECTION WITH HIGHWAY 58.  
**Location Detail:** ON BOTH SIDES OF ROAD.

**Ecological:** OAK WOODLAND, SANDY, DECOMPOSED GRANITE SOIL. ASSOC INCLUDE: QUERCUS DOUGLASII, QUERCUS AGRIFOLIA, PINUS SABINIANA, BROMUS RUBENS, STIPA CERNUA, AVENA, CLARKIA PURPUREA, DELPHINIUM.

**Threat:** ON PROPOSED COASTAL AQUEDUCT ROUTE.

**General:** HUNDREDS OF PLANTS OBSERVED IN 1992 BETWEEN THIS EO AND EO 7.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 9	<b>Map Index:</b> 59547	<b>EO Index:</b> 59583	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1989-05-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1989-05-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-01-24

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41384° / -120.55782°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921678 E721747	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 11
<b>Elevation:</b> 1,100 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** ALONG HIGHWAY 58, 1.2 ROAD MILES SW OF INTERSECTION WITH CRESTON ROAD.

**Ecological:** EDGE OF CHAPARRAL/GRASSLAND & FOOTHILL WOODLAND. GENTLE SE FACING SLOPE. ASSOC SPECIES: CLARKIA AFFINIS.

**Threat:** ON PROPOSED COASTAL AQUEDUCT ROUTE.

**General:** <10 PLANTS OBSERVED IN 1989.

**Owner/Manager:** PVT

**Calochortus simulans**

San Luis Obispo mariposa-lily

Element Code: PML10D170

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.3

**Habitat Associations**

**General:** VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, CHAPARRAL.  
**Micro:** DECOMPOSED GRANITE. 395-1100M.

**Occurrence No.** 10      **Map Index:** 59550      **EO Index:** 59586      **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good      **Element:** 2003-06-01  
**Origin:** Natural/Native occurrence      **Site:** 2003-06-01  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2005-01-24

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.37639° / -120.58138°      **Township:** 29S  
**UTM:** Zone-10 N3917470 E719708      **Range:** 13E  
**Radius:** 80 meters      **Mapping Precision:** SPECIFIC      **Section:** 28      **Qtr:** NE  
**Elevation:** 1,200 ft      **Symbol Type:** POINT      **Meridian:** M

**Location:** 1.8 AIR MILES ESE OF SANTA MARGARITA.  
**Location Detail:** AT SANTA MARGARITA RANCH.  
**Ecological:** GRASSY OPENINGS IN BLUE OAK WOODLAND. DOMINANTS: NON-NATIVE ANNUAL GRASSES. ASSOC INCLUDE: LUPINUS BICOLOR, LUPINUS NANUS, BLOOMERIA CROCCEA, GALIUM ANGUSTIFOLIUM.  
**Threat:** GRAZING, POTENTIAL DEVELOPMENT, AND COMPETITION FROM EXOTICS.  
**General:** 20 PLANTS OBSERVED IN 2003. THE RARE PIPERIA MICHAELII & NAVARRERIA JAREDII OCCUR NEARBY.  
**Owner/Manager:** PVT

**Occurrence No.** 16      **Map Index:** 62524      **EO Index:** 62561      **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good      **Element:** 2005-04-29  
**Origin:** Natural/Native occurrence      **Site:** 2005-04-29  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2005-09-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.25859° / -120.66134°      **Township:** 31S  
**UTM:** Zone-10 N3904228 E712752      **Range:** 12E  
**Radius:** 80 meters      **Mapping Precision:** SPECIFIC      **Section:** 02      **Qtr:** NW  
**Elevation:** 170 ft      **Symbol Type:** POINT      **Meridian:** M

**Location:** CITY OF SAN LUIS OBISPO, END OF MARGARITA AVENUE, ABOUT 0.7 MILES EAST OF HIGHWAY 101.  
**Location Detail:** MAPPED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 2.  
**Ecological:** GRAZED GRASSLAND ON SERPENTINE CLAY SOILS.  
**Threat:** PROPOSED DEVELOPMENT AS OF 2005; PROJECT APPROVAL WILL PERMANENTLY IMPACT THIS OCCURRENCE.  
**General:** 25 PLANTS SEEN IN 2005. RARE PLANTS CASTILLEJA DENSIFLORA SSP. OBISPOENSIS AND DUDLEYA ABRAMSII SSP. MURINA ALSO OCCUR HERE.  
**Owner/Manager:** PVT



*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

Occurrence No. 1 Map Index: 28540 EO Index: 29812 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1993-05-19  
 Origin: Natural/Native occurrence Site: 1993-05-19  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-12-04

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.36392° / -120.63632° Township: 29S  
 UTM: Zone-10 N3915966 E714750 Range: 12E  
 Area: 3.8 acres Mapping Precision: SPECIFIC Section: 36 Qtr: NE  
 Elevation: 1,360 ft Symbol Type: POLYGON Meridian: M

Location: EAST OF SANTA MARGARITA CREEK ALONG CUESTA GRADE OF HIGHWAY 101, ABOUT 0.5 MILE NORTH OF CUESTA.  
 Location Detail: SITE MAPPED ON WEST-FACING SLOPE ABOUT 100 METERS EAST OF RR TRACKS.  
 Ecological: GRASSLAND BELOW QUERCUS AGRIFOLIA FOREST. ASSOCIATED WITH NASSELLA PULCHRA, MEDICAGO POLYMORPHA, BROMUS MOLLIS, ERODIUM BOTRYS, AND E. CICUTARIUM.  
 Threat: GRAZING PRESENT BUT DOES NOT APPEAR TO BE EXCESSIVE, WITHIN AQUEDUCT RIGHT OF WAY.  
 General: 200 PLANTS OBSERVED IN 1993.  
 Owner/Manager: PVT

Occurrence No. 2 Map Index: 28538 EO Index: 29814 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1995-05-03  
 Origin: Natural/Native occurrence Site: 1995-05-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-12-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33774° / -120.72959° Township: 30S  
 UTM: Zone-10 N3912863 E706341 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 7 Qtr: XX  
 Elevation: 320 ft Symbol Type: POINT Meridian: M

Location: EL CHORRO REGIONAL PARK, NORTH OF HIGHWAY 1 AND WEST OF CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
 Location Detail: MAPPED ABOUT 0.5 MILE NNE OF THE HIGHWAY AND 0.6 MILE NE OF RESERVATION BOUNDARY.  
 Ecological: IN GRASSLAND DOMINATED BY LOLIUM AND OTHER ANNUAL GRASSES. NASSELLA PULCHRA ALSO PRESENT SCATTERED IN THE  
 Threat: FUTURE SITE OF GOLF COURSE AND WATER PIPELINE.  
 General: THE RARE DUDLEYA BLOCHMANIAE BLOCHMANIAE OCCURS NEARBY.  
 Owner/Manager: SLO COUNTY-EL CHORRO RP

Occurrence No. 3 Map Index: 28539 EO Index: 29813 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-05-22  
 Origin: Natural/Native occurrence Site: 2002-05-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-02-02

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33297° / -120.71953° Township: 30S  
 UTM: Zone-10 N3912355 E707268 Range: 12E  
 Area: 11.5 acres Mapping Precision: SPECIFIC Section: 08 Qtr: XX  
 Elevation: 500 ft Symbol Type: POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION, NORTHWEST OF CALIFORNIA MENS COLONY AND NORTH OF HIGHWAY 1.  
 Location Detail: TRAINING AREA R. TWELVE OBSERVATIONS MAPPED AS EIGHT POLYGONS BY CNDDB.  
 Ecological: GRASSLAND ON GRANITE & GRANITE DERIVED GRAVELS, OUTCROP & THIN SOIL. ASSOCIATES INCLUDE HAZARDIA SQUAROSA, EPILOBIUM CANUM, CORETHREOGYNE FILAGINIFOLIA, CALOCHORTUS CLAVATUS SSP. CLAVATUS, DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE, ETC.  
 Threat: CATTLE GRAZING, MILITARY ACTIVITIES, NON-NATIVE PLANTS, IMPROPER FIRE REGIME, FERAL PIGS, AND WATER PIPELINE CONSTRUCTION.  
 General: 700-900 PLANTS OBSERVED IN 2000. 100-200 PLANTS SEEN IN 2001. LESS THAN 250 PLANTS SEEN IN 2002. THE RARE CALOCHORTUS CLAVATUS SSP. CLAVATUS, FRITILLARIA AGRESTIS, AND DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE ALSO OCCUR AT THIS SITE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

Occurrence No. 4 Map Index: 28543 EO Index: 12200 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1995-05-03  
 Origin: Natural/Native occurrence Site: 1995-05-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-12-10

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36651° / -120.83161° Township: 29S  
 UTM: Zone-10 N3915847 E696998 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 31 Qtr: XX  
 Elevation: 200 ft Symbol Type: POINT Meridian: M

Location: JUST EAST OF MORRO BAY ALONG HIGHWAY 1, ABOUT 0.6 MILE NORTH OF SUMMIT OF BLACK HILL.  
 Location Detail: MAPPED JUST NORTH OF THE HIGHWAY ON THE EAST EDGE OF THE CORPORATE BOUNDARY OF MORRO BAY.  
 Ecological: GRASSY HILLSIDE WITH NASSELLA PULCHRA AND ANNUAL GRASS SPECIES.  
 Threat: CATTLE GRAZING AND WATER PIPELINE CONSTRUCTION.

Owner/Manager: PVT

Occurrence No. 6 Map Index: 57149 EO Index: 57165 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-05-08  
 Origin: Natural/Native occurrence Site: 2003-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-10-01

Quad Summary: Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.24612° / -120.65643° Township: 31S  
 UTM: Zone-10 N3902855 E713231 Range: 12E  
 Area: Mapping Precision: NON-SPECIFIC Section: 11 Qtr: N  
 Elevation: 125 ft Symbol Type: POLYGON Meridian: M

Location: SOUTH END OF SAN LUIS OBISPO, JUST NORTHWEST OF SLO COUNTY AIRPORT, TANK FARM ROAD VICINITY.  
 Location Detail: MAPPED MOSTLY WITHIN THE N 1/2 OF SECTION 11.  
 Ecological: ASSOCIATES: NON-NATIVE ANNUAL GRASSES, PLANTAGO LANCEOLATA, AND SPARSE NATIVE PERENNIAL BUNCHGRASSES. OCCURS ON MANMADE SLOPES AND LEVEL TOPOGRAPHY.  
 Threat: CATTLE GRAZING, VEHICLE TRAFFIC, PREVIOUS INDUSTRIAL WORK ON PROPERTY. FUTURE PLANS FOR PROPERTY ARE UNKNOWN.  
 General: THOUSANDS OF PLANTS SEEN IN 2003. THE RARE CENTROMADIA SSP. CONGDONII AND ERYNGIUM ARISTULATUM VAR. HOOVERI WERE ALSO OBSERVED IN THIS VICINITY.

Owner/Manager: PVT

Occurrence No. 7 Map Index: 57153 EO Index: 57169 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-06  
 Origin: Natural/Native occurrence Site: 2003-05-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-10-01

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36590° / -120.59737° Township: 29S  
 UTM: Zone-10 N3916272 E718284 Range: 13E  
 Area: 9.3 acres Mapping Precision: SPECIFIC Section: 32 Qtr: NE  
 Elevation: 1,253 ft Symbol Type: POLYGON Meridian: M

Location: SANTA MARGARITA RANCH, SOUTH OF SANTA MARGARITA, SOUTHWEST OF MILLER FLAT, EAST SLOPE OF SANTA LUCIA MOUNTAINS.  
 Location Detail: JUST SOUTH OF POWER LINES. MAPPED WITHIN THE NE 1/4 OF THE NE 1/4 OF SECTION 32.  
 Ecological: CALIFORNIA ANNUAL GRASSLAND ON ROLLING FOOTHILLS ALONG A RIDGE WITH SERPENTINE OUTCROPS. NON-NATIVE ANNUAL GRASSES DOMINATE, WITH VIOLA PEDUNCULATA, CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, ET AL.  
 Threat: GRAZING.  
 General: 500-1000 PLANTS ESTIMATED IN 2003.

Owner/Manager: PVT-SANTA MARGARITA RANCH

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

Occurrence No. 11 Map Index: 47407 EO Index: 57183 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-27  
 Origin: Natural/Native occurrence Site: 2003-05-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-19

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.23492° / -120.74367° Township: 31S  
 UTM: Zone-10 N3901429 E705321 Range: 11E  
 Area: 12.2 acres Mapping Precision: SPECIFIC Section: 13 Qtr: NE  
 Elevation: 411 ft Symbol Type: POLYGON Meridian: M

Location: SEE CANYON, APPROXIMATELY 0.7 AIRMILE SOUTHWEST OF HEADWATERS OF FROOM CREEK.  
 Location Detail: LA QUINTA DE AVILA RANCH. PLANTS SCATTERED THROUGHOUT GRASSLAND.  
 Ecological: SERPENTINE INFLUENCED CALIFORNIA ANNUAL GRASSLAND. WITH CASTILLEJA DENSIFLORA SSP. OBISPOENSIS.  
 Threat: DEVELOPMENT.  
 General: A FEW HUNDRED PLANTS OBSERVED IN 2003. MANY RARE SPECIES OCCUR IN THIS VICINITY.  
 Owner/Manager: PVT

Occurrence No. 13 Map Index: 63673 EO Index: 63768 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2005-05-25  
 Origin: Natural/Native occurrence Site: 2005-05-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-25

Quad Summary: Arroyo Grande NE (3512025/221A), Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25106° / -120.60584° Township: 31S  
 UTM: Zone-10 N3903513 E717822 Range: 13E  
 Area: 5.1 acres Mapping Precision: SPECIFIC Section: 05 Qtr: XX  
 Elevation: 380 ft Symbol Type: POLYGON Meridian: M

Location: SOUTHEAST OF THE CITY OF SAN LUIS OBISPO, NORTHEAST OF ORCUTT ROAD, 1.2 AIRMILES ENE OF ISLAY HILL.  
 Location Detail: FOUR COLONIES OF PLANTS AT THIS SITE.  
 Ecological: GRAZED GRASSLAND HABITAT ON LOS OSOS-DIABLO SOIL COMPLEX. THE PLANTS WERE OFTEN, BUT NOT ALWAYS, NEAR ROCK OUTCROPS.  
 Threat: PROPOSED DEVELOPMENT. NO DEVELOPMENT PLAN AVAILABLE FOR REVIEW, IMPACTS UNKNOWN.  
 General: AT LEAST 100 PLANTS OBSERVED IN 2005. THE RARE CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCURS AT THIS SITE.  
 Owner/Manager: PVT

Occurrence No. 15 Map Index: 63675 EO Index: 63770 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2001-05-15  
 Origin: Natural/Native occurrence Site: 2001-05-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-12

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.36172° / -120.69092° Township: 29S  
 UTM: Zone-10 N3915605 E709794 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 33 Qtr: NE  
 Elevation: 1,550 ft Symbol Type: POINT Meridian: M

Location: CAMP SAN LUIS OBISPO, JUST SOUTH OF DUGHY SPRING.  
 Location Detail: TRAINING AREA U. MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY WETHERWAX AND PAINTER: UTM ZONE 10 NAD27 709890 3915412. MAPPED IN SW1/4 OF NE1/4 SEC 33.  
 Ecological: CLAY, ON MODERATE SLOPE. ASSOCIATES INCLUDE CEANOTHUS CUNEATUS SSP. RAMULOSUS AND THE RARE CHORIZANTHE PALMERI.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME.  
 General: LESS THAN 20 PLANTS OBSERVED IN 2003. AREA BURNED IN 1994 HIGHWAY 41 FIRE. THE RARE CHORIZANTHE PALMERI ALSO OCCURS AT THIS SITE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3T1 State: S1.2	CNPS List: 1B.2

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

<b>Occurrence No.</b> 16	<b>Map Index:</b> 63677	<b>EO Index:</b> 63772	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-01-12

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34196° / -120.68194°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913432 E710661	<b>Range:</b> 12E
<b>Area:</b> 3.0 acres	<b>Section:</b> 03 <b>Qtr:</b> SW
<b>Elevation:</b> 760 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** EAST OF CHORRO CREEK, ABOUT 0.4 AIRMILE NORTHEAST OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA X. BETWEEN CIRSIUM FONTINALE VAR. OBISPOENSE EXCLOSURE AND CHORRO CREEK.  
**Ecological:** GRASSLAND ON MODERATE TO STEEP SLOPE ON SHALLOW CLAY IN ROCK OUTCROP. ASSOCIATES INCLUDE BRACHYPODIUM DISTACHYON, BROMUS HORDEACEUS, AVENA BARBATA, NASSELLA, LOLIUM, CHLOROGALUM POMERIDIANUM, LACTUCA, MICROSERIS, ETC.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
**General:** LESS THAN 150 PLANTS OBSERVED AT SOUTH COLONY AND UNKNOWN NUMBER OF PLANTS AT NORTH COLONY IN 2003. THE RARE CALOCHORTUS OBISPOENSIS, C. ARGILLOSUS, AND SANICULA HOFFMANII ALSO OCCUR AT THIS SITE. AREA BURNED IN 1994 HIGHWAY 41 FIRE.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 17	<b>Map Index:</b> 63678	<b>EO Index:</b> 63773	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-04-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-04-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-01-19

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33581° / -120.69633°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912719 E709369	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 09 <b>Qtr:</b> NW
<b>Elevation:</b> 630 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** ROCK OUTCROP WSW OF CHORRO RESERVOIR, NEAR STORAGE RESERVOIR, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA N. NORTHWEST AND NORTH OF TWO OTHER STORAGE RESERVOIRS. MAPPED ACCORDING TO COORDINATES PROVIDED BY WETHERWAX AND PAINTER: UTM ZONE 10 NAD27 709466E 3912526N.  
**Ecological:** SERPENTINE ROCK OUTCROP. ASSOCIATES INCLUDE SIDALCEA MALVIFLORA, CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE, ERODIUM SPP., AND HEDYPNOIS CRETICA.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
**General:** LESS THAN 50 PLANTS OBSERVED IN 2000. THE RARE CASTILLEJA DENSIFLORA SSP. OBISPOENSIS AND DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE ALSO OCCUR AT THIS SITE.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

Occurrence No. 18 Map Index: 63781 EO Index: 63876 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-06-18  
 Origin: Natural/Native occurrence Site: 2002-06-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-01-26

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31704° / -120.73338° Township: 30S  
 UTM: Zone-10 N3910560 E706049 Range: 12E  
 Area: 4.9 acres Mapping Precision: SPECIFIC Section: 18 Qtr: N  
 Elevation: 630 ft Symbol Type: POLYGON Meridian: M

Location: NORTHWEST OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA V. MAPPED ACCORDING TO COORDINATES PROVIDED BY WETHERWAX AND PAINTER.  
 Ecological: OPENING IN COASTAL SCRUB/CHAPARRAL, SERPENTINE BARRENS, AND MEADOW/GRASSLAND. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, TOXICODENDRON, LOTUS STRIGOSUS, VICIA HASSEI, PSILOCARPUS TENELLUS, POGOGYNE SERPYLLIOIDES, AND SOLIVA SESSILIS.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
 General: LESS THAN 100 PLANTS SEEN IN 1999. MORE THAN 150 PLANTS OBSERVED IN 2000, PLANTS LOCALLY COMMON. MORE THAN 100-150 PLANTS IN 2002. THE RARE DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE & CALOCHORTUS CLAVATUS SSP. CLAVATUS ALSO OCCUR AT THIS SITE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 19 Map Index: 63877 EO Index: 63972 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2003-04-01  
 Origin: Natural/Native occurrence Site: 2003-04-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-02-02

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31501° / -120.72357° Township: 30S  
 UTM: Zone-10 N3910354 E706946 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 18 Qtr: SE  
 Elevation: 800 ft Symbol Type: POINT Meridian: M

Location: NORTHEAST OF SUMMIT OF CERRO ROMUALDO, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA V. MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY WETHERWAX AND PAINTER: NAD27 ZONE 10 707042E 3910161N.  
 Ecological: SMALL OPENING IN COASTAL-SAGE SCRUB, MODERATE SLOPE. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, BACCHARIS PILULARIS, MIMULUS AURANTIACUS, RHAMNUS CROCEA, SANICULA, SATUREJA DOUGLASII, POTENTILLA GLANDULOSA, MOSSES AND LICHENS.  
 Threat: EVIDENCE OF CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
 General: LESS THAN 50 PLANTS OBSERVED IN 2003.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3T1 State: S1.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** 60-500M.

<b>Occurrence No.</b> 20	<b>Map Index:</b> 63878	<b>EO Index:</b> 63973	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-05-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-02-02

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31344° / -120.71107°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910207 E708087	<b>Range:</b> 12E
<b>Area:</b> 4.3 acres	<b>Section:</b> 17
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** NORTHWEST SIDE OF CHUMASH PEAK, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA L.  
**Ecological:** MEADOW AND COASTAL SAGE SCRUB ON SERPENTINE ROCK AND CLAY SUBSTRATE. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, TOXICODENDRON DIVERSILOBUM, RHAMNUS CROCEA, MIMULUS AURANTIACUS, SALVIA SPATHACEA, AND LOTUS SCOPARIUS.  
**Threat:** EVIDENCE OF CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
**General:** 1100+ PLANTS OBSERVED IN 2002. THE RARE DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE ALSO OCCURS AT THIS SITE IN ASSOCIATED BARRENS. CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCURS HERE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 21	<b>Map Index:</b> 63881	<b>EO Index:</b> 63976	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-08-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-02-03

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33625° / -120.69035°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912781 E709911	<b>Range:</b> 12E
<b>Area:</b> 1.9 acres	<b>Section:</b> 09
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH OF CHORRO RESERVOIR, NEAR GATE ON RANGE ROAD, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREAS T AND W.  
**Ecological:** GRASSLAND/MEADOW; LOAM; GENTLE TO MODERATE SLOPE. ASSOCIATES INCLUDE MIMULUS GUTTATUS, CALANDRINIA CILIATA, PLANTAGO, LOTUS, HEMIZONIA, HEDYPTIS CRETICA, AND CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, ALIEN ANNUAL GRASSES.  
**Threat:** EVIDENCE OF CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
**General:** LESS THAN 100 PLANTS OBSERVED IN 2000 AND LESS THAN 50 PLANTS OBSERVED IN 2002. SITE ALSO VISITED IN 2003, UNKNOWN NUMBER OF PLANTS OBSERVED. THE RARE CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCURS AT THIS SITE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: 60-500M.

Occurrence No. 22 Map Index: 62394 EO Index: 63979 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-08-04  
 Origin: Natural/Native occurrence Site: 2003-08-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-02-02

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34072° / -120.69188° Township: 30S  
 UTM: Zone-10 N3913274 E709761 Range: 12E  
 Area: 1.9 acres Mapping Precision: SPECIFIC Section: 04 Qtr: SE  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: NORTHWEST OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREAS T AND U.  
 Ecological: GRASSLAND/MEADOW; CLAY; STEEP TO MODERATE SLOPE. ASSOCIATES INCLUDE TRIFOLIUM FUCATUM, ASTRAGALUS CURTIPES, LOTUS SALSUGINOSUS, LOMATIUM CARUIFOLIUM, LESSINGIA, PLANTAGO ERECTA, ESCHSCHOLZIA CALIFORNICA, ETC.  
 Threat: VEHICLES, EVIDENCE OF CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.  
 General: LESS THAN 200 PLANTS OBSERVED IN 2000. SITE ALSO VISITED IN 2001, 2002, AND 2003, UNKNOWN NUMBER OF PLANTS OBSERVED. THE RARE CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCURS AT THIS SITE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 25 Map Index: 64676 EO Index: 64755 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Poor Element: 2005-07-13  
 Origin: Natural/Native occurrence Site: 2005-07-13  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-05-12

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28088° / -120.65117° Township: 30S  
 UTM: Zone-10 N3906722 E713619 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 26 Qtr: SE  
 Elevation: 300 ft Symbol Type: POINT Meridian: M

Location: EAST SIDE OF THE INTERSECTION OF JOHNSON AVE & SAN LUIS DRIVE, SAN LUIS OBISPO.  
 Location Detail: BETWEEN PARKING LOTS FOR SAN LUIS HIGH SCHOOL AND ADULT SCHOOL.  
 Ecological: NASSELLA PULCHRA-DOMINATED AND WEED-DOMINATED RUDERAL / HIGHLY DISTURBED GRASSLAND WITH MANY WEEDS. ASSOCIATED WITH PICRIS, FOENICULUM, LACTUCA, LOLIUM, NASSELLA, AND AVENA. CLAY-LOAM SOIL.  
 Threat: SITE PROPOSED FOR RESIDENTIAL DEVELOPMENT AS OF 2005. TIRE TRACKS, FOOT PATHS, & MANY INVASIVES PRESENT.  
 General: >500 INDIVIDUAL PLANTS ESTIMATED IN 2005.  
 Owner/Manager: SAN LUIS COASTAL SCHOOL DIST

Occurrence No. 26 Map Index: 64677 EO Index: 64756 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1996-05-24  
 Origin: Natural/Native occurrence Site: 1996-05-24  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-05-12

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33545° / -120.80227° Township: 30S  
 UTM: Zone-10 N3912460 E699740 Range: 11E  
 Radius: 3/5 mile Mapping Precision: NON-SPECIFIC Section: 09 Qtr: XX  
 Elevation: 300 ft Symbol Type: POINT Meridian: M

Location: STATE PARK SYSTEM, NORTH OF TURRI RD AND 1.5 MILES EAST OF SOUTH BAY BLVD.  
 Location Detail: EXACT LOCATION UNKNOWN. DIRECTIONS CONFUSING. MORRO BAY STATE PARK LAND ENDS ABOUT 1.2 ROAD MI E OF SOUTH BAY BLVD ALONG TURRI RD. UNKNOWN IF 1.5 MI MEASUREMENT IS ROAD MI OR AIR MI. MAPPED BY CNDDDB AS BEST GUESS IN THE SE CORNER OF PARK.  
 Ecological: DRY PASTURE LAND WITH A SMALL, MOIST CREEK BED.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1996 COLLECTION BY HELMKAMP. NEEDS FIELDWORK.  
 Owner/Manager: DPR-MORRO BAY SP?

*Calystegia subacaulis* ssp. *episcopalis*

Cambria morning-glory

Element Code: PDCON040J1

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_

**Federal:** None

**Global:** G3T1

**CNPS List:** 1B.2

**State:** None

**State:** S1.2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** CHAPARRAL, CISMONTANE WOODLAND.

**Micro:** 60-500M.



**Camissonia hardhamiae**

Hardham's evening-primrose

Element Code: PDONA030N0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G1Q State: S1.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** DECOMPOSED CARBONATE. 330-500M.

<b>Occurrence No. 1</b>	<b>Map Index:</b> 13146	<b>EO Index:</b> 18881	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1992-05-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-16

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41461° / -120.56025°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921757 E721524	<b>Range:</b> 13E
<b>Area:</b> 32.5 acres	<b>Section:</b> 10
<b>Elevation:</b> 1,040 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** CALF CANYON, ALONG HIGHWAY 58 JUST EAST OF JUNCTION WITH PARK HILL ROAD, EAST OF SANTA MARGARITA.  
**Location Detail:** SEVERAL COLONIES ALONG EITHER SIDE OF HIGHWAY. MAPPED WITHIN THE E 1/4 SE 1/4 SECTION 10 AND THE W 1/4 SW 1/4 SECTION 11.  
**Ecological:** GROWING IN BURNED CHAPARRAL AND DISTURBED AREAS NEAR ROADS. SANDY SOIL. ASSOCIATED WITH QUERCUS AGRIFOLIA AND ADENOSTOMA FASCICULATUM.  
**Threat:** ROAD CONSTRUCTION/MAINTENANCE, GRAZING, AND TRAMPLING ARE POSSIBLE THREATS.  
**General:** TYPE LOCALITY. ABOUT 500 PLANTS SEEN ALONG ROAD IN 1987, 100 IN 1992. PLANTS APPEAR TO BE ASSOCIATED WITH SOME LEVEL OF DISTURBANCE.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No. 2</b>	<b>Map Index:</b> 13158	<b>EO Index:</b> 18884	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1995-04-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1995-04-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-16

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.42736° / -120.54714°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3923201 E722679	<b>Range:</b> 13E
<b>Area:</b> 36.8 acres	<b>Section:</b> 02
<b>Elevation:</b> 1,200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POLYGON	

**Location:** CRESTON ROAD, JUST NORTH OF CALF CANYON/HIGHWAY 58, EAST OF SANTA MARGARITA.  
**Location Detail:** 3 COLONIES ALONG ROAD; 1 ALONG HWY 58 JUST WEST OF CRESTON ROAD; TWO ALONG CRESTON ROAD, ABOUT 0.1 AND 0.6 MILES NORTH OF HWY 58.  
**Ecological:** IN CHAMISE CHAPARRAL AND RECENTLY BURNED CHAMISE CHAPARRAL. VARIABLE SLOPE AND ASPECT ON GRANITIC SOILS.  
**Threat:** NUMEROUS EASEMENTS, ADJACENT HIGHWAY, WATER PIPELINES, MINING, AND ROADSIDE TURNOUT ARE POTENTIAL THREATS.  
**General:** 1000 PLANTS OBSERVED ALONG CRESTON ROAD IN 1985 AND 1987. 500+ ALONG HIGHWAY 58 IN 1995.  
**Owner/Manager:** UNKNOWN, PVT

<b>Occurrence No. 3</b>	<b>Map Index:</b> 13128	<b>EO Index:</b> 18883	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1963-05-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1963-05-05
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-16

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41278° / -120.57340°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921525 E720335	<b>Range:</b> 13E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 10
<b>Elevation:</b> 1,100 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** QUARRY 3 MILES EAST OF SANTA MARGARITA.  
**Location Detail:** MAPPED ABOUT 1.2 MILES SOUTHEAST OF JUNCTION OF PARKHILL ROAD AND HWY 58 BY CALTRANS (BARKER 1980). M. MCLEOD SUGGESTS ACTUAL SITE IS FURTHER NORTH. SITE MAPPED TO REFLECT UNCERTAINTY.  
**Ecological:** SANDY SOIL IN OAK WOODLAND.  
**Threat:** QUARRY.  
**General:** MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1963 COLLECTION BY RAVEN. EXPANDED QUARRY OPERATION MAY HAVE ELIMINATED POPULATION (M. MCLEOD 1988).

**Camissonia hardhamiae**

Hardham's evening-primrose

Element Code: PDONA030N0

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G1Q	CNPS List: 1B.2
State: None	State: S1.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: DECOMPOSED CARBONATE. 330-500M.

Owner/Manager: UNKNOWN

Occurrence No. 8	Map Index: 39729	EO Index: 34731	_____ Dates Last Seen _____
Occ Rank: Excellent			Element: 1987-04-10
Origin: Natural/Native occurrence			Site: 1987-04-10
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-09-16

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39980° / -120.52284°	UTM: Zone-10 N3920198 E724963	Area: 22.8 acres	Elevation: 1,600 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 29S	Range: 14E	Section: 18	Meridian: M	Qtr: SW
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Location: ALONG PARK HILL ROAD ABOUT 2.4 MILES EAST OF HIGHWAY 58, EAST OF SANTA MARGARITA.  
 Location Detail: EAST SIDE OF ROAD NEAR HEAD OF S-DRAINING TRIBUTARY TO MORENO CANYON. MAPPED WITHIN THE NW 1/4 SW 1/4 SECTION 18.  
 Ecological: BURNED ADENOSTOMA CHAPARRAL ON SANDY, GRANITIC SUBSTRATE. WEST ASPECT, SLOPE VARIABLE.  
 General: 100+ PLANTS OBSERVED IN 1987. SITE BURNED IN 1986.

Owner/Manager: PVT

Occurrence No. 9	Map Index: 39730	EO Index: 34732	_____ Dates Last Seen _____
Occ Rank: Good			Element: 1992-05-11
Origin: Natural/Native occurrence			Site: 1992-05-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-09-16

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.46267° / -120.53322°	UTM: Zone-10 N3927150 E723846	Area: 13.8 acres	Elevation: 1,400 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 28S	Range: 13E	Section: 25	Meridian: M	Qtr: W
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Location: ABOUT 0.6 MILE WSW OF IRON SPRING BETWEEN CRESTON ROAD (HWY 229) AND HUERHUERO CREEK, NORTHEAST OF SANTA MARGARITA.  
 Location Detail: MAPPED ALONG DIRT ROAD NEAR THE CENTER OF THE W 1/4 SECTION 25.  
 Ecological: ON BARE GRANITIC SOIL IN CHAMISE CHAPARRAL WHICH BURNED SEVERAL YEARS AGO. ASSOCIATED WITH FILAGO AND ESCHSCHOLZIA CALIFORNICA. MOST COMMON ON A BARE S-FACING SLOPE BUT SCATTERED ELSEWHERE AMONG THE OPENINGS BETWEEN SHRUBS.  
 Threat: ON COASTAL AQUEDUCT ROUTE.  
 General: ABOUT 200 PLANTS OBSERVED BETWEEN THIS SITE AND OCCURRENCE #10. PLANTS APPEAR TO BE ASSOCIATED WITH DISTURBED SOIL FROM SMALL MAMMAL AND BULLDOZER ACTIVITY.

Owner/Manager: PVT

Occurrence No. 10	Map Index: 39731	EO Index: 34733	_____ Dates Last Seen _____
Occ Rank: Good			Element: 1992-05-11
Origin: Natural/Native occurrence			Site: 1992-05-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-09-16

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.45540° / -120.53969°	UTM: Zone-10 N3926328 E723279	Area: 14.1 acres	Elevation: 1,450 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 28S	Range: 13E	Section: 35	Meridian: M	Qtr: NE
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Location: ABOUT 1.2 MI SOUTHWEST OF IRON SPRING BETWEEN CRESTON ROAD (HWY 229) AND HUERHUERO CREEK, NORTHEAST OF SANTA MARGARITA.  
 Location Detail: MAPPED ALONG DIRT ROAD WITHIN THE SW 1/4 SE 1/4 SECTION 26 AND THE NW 1/4 NE 1/4 SECTION 35.  
 Ecological: ON RECENTLY BULLDOZED SOIL OF A ROAD REPAIR.  
 Threat: ON COASTAL AQUEDUCT ROUTE.  
 General: ABOUT 200 PLANTS OBSERVED BETWEEN THIS SITE AND OCCURRENCE #9. PLANTS APPEAR TO BE ASSOCIATED WITH DISTURBED SOIL FROM SMALL MAMMAL AND BULLDOZER ACTIVITY.

**Camissonia hardhamiae**

Hardham's evening-primrose

**Element Code:** PDONA030N0

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_

**Federal:** None

**Global:** G1Q

**CNPS List:** 1B.2

**State:** None

**State:** S1.2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** CHAPARRAL, CISMONTANE WOODLAND.

**Micro:** DECOMPOSED CARBONATE. 330-500M.

**Owner/Manager:** PVT

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Carex obispoensis

San Luis Obispo sedge

Element Code: PMCYP039J0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL PRAIRIE, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** USUALLY IN TRANSITION ZONE ON SAND, CLAY, OR SERPENTINE; IN SEEPS. 5-790M.

<b>Occurrence No.</b> 10	<b>Map Index:</b> 12778	<b>EO Index:</b> 13477	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1998-06-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-06-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-09

**Quad Summary:** San Luis Obispo (3512036/246C), Atascadero (3512046/246B)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36779° / -120.66927°	<b>UTM:</b> Zone-10 N3916324 E711746	<b>Area:</b> 119.3 acres	<b>Elevation:</b> 2,465 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 35	<b>Qtr:</b> NW	<b>Meridian:</b> M
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**Location:** CUESTA RIDGE WEST, ABOUT 2-4 MILES NORTHWEST FROM CUESTA PASS, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** POPULATION IS NEARLY CONTINUOUS THROUGH THE SARGENT CYPRESSES. MAPPED ALONG AND ADJACENT TO RIDGE-TOP ROAD FROM THE TV TOWER NEAR THE CENTER OF SECTION 35 NW TO THE SE 1/4 SECTION 28.  
**Ecological:** UNDERSTORY OF THE SARGENT CYPRESS. IN THE OPEN AT SOME LOCATIONS IN VICINITY OF BROOKS AND STREAMS ON SERPENTINE SOIL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS, RHAMNUS CROCEA, QUERCUS DURATA, GARRYA VEATCHII, HETEROMELES, AND ADENOSTOMA.  
**Threat:** EROSION ALONG PHONE CABLE ALIGNMENT & RELATED DISTURBANCES ALONG RIGHT-OF-WAY.  
**General:** 1000+ PLANTS ALONG ENTIRE POPULATION IN 1984. 100S OF PLANTS JUST EAST OF TV TOWER IN 1998. SEVERAL HERBARIUM SPECIMENS FROM THIS LOCALITY.  
**Owner/Manager:** USFS-LOS PADRES NF

<b>Occurrence No.</b> 11	<b>Map Index:</b> 12774	<b>EO Index:</b> 22226	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-02-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-02-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-01-29

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36043° / -120.67046°	<b>UTM:</b> Zone-10 N3915506 E711657	<b>Radius:</b> 1/10 mile	<b>Elevation:</b> 1,800 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 34	<b>Qtr:</b> SE	<b>Meridian:</b> M
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**Location:** AT PICK AND SHOVEL MINE 0.75 MILE WEST OF TV TOWER NORTHWEST OF CUESTA PASS; NEAR CHORRO CREEK.  
**Ecological:** UNDER SARGENT CYPRESS IN VICINITY OF BROOKS AND STREAMS AND ON SERPENTINE SOILS. OCCASIONALLY IN CHAPARRAL AND IN OPEN AREAS.  
**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1992. SEVERAL COLLECTIONS ATTRIBUTED TO THIS OCCURRENCE.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD

<b>Occurrence No.</b> 12	<b>Map Index:</b> 12782	<b>EO Index:</b> 22223	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1959-04-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1959-04-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32830° / -120.66684°	<b>UTM:</b> Zone-10 N3911949 E712070	<b>Radius:</b> 1 mile	<b>Elevation:</b> 500 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 10	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** STENNER (STEINER) CREEK, NORTH OF SAN LUIS OBISPO.  
**Ecological:** ON BOGGY SLOPES AND MUDDY EDGES ON SERPENTINE.

**Owner/Manager:** UNKNOWN

Carex obispoensis

San Luis Obispo sedge

Element Code: PMCYP039J0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL PRAIRIE, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: USUALLY IN TRANSITION ZONE ON SAND, CLAY, OR SERPENTINE; IN SEEPS. 5-790M.

Occurrence No. 14 Map Index: 12637 EO Index: 22222 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1977-10-XX  
 Origin: Natural/Native occurrence Site: 1977-10-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1989-08-11

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.41763° / -120.73944° Township: 29S  
 UTM: Zone-10 N3921705 E705243 Range: 11E  
 Radius: 1/5 mile Mapping PrecisionNON-SPECIFIC Section: 12 Qtr: SE  
 Elevation: 1,600 ft Symbol Type:POINT Meridian: M

Location: NW SLOPES OF CERRO ALTO, APPROX 5 AIRMI SW OF ATASCADERO.  
 Ecological: UNDER SARGENT CYPRESSES IN VICINITY OF BROOKS AND STREAMS ON SERPENTINE SOILS. OCCASIONALLY IN CHAPARRAL AND IN OPEN AREAS.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 16 Map Index: 40956 EO Index: 40956 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1938-06-14  
 Origin: Natural/Native occurrence Site: 1938-06-14  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1999-03-05

Quad Summary: Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26565° / -120.73209° Township: 30S  
 UTM: Zone-10 N3904861 E706297 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 31 Qtr: XX  
 Elevation: 400 ft Symbol Type:POLYGON Meridian: M

Location: PREFUMO CANYON, WEST OF SAN LUIS OBISPO.  
 Location Detail: EXACT LOCATION NOT KNOWN; SITE MAPPED ALONG ENTIRE LENGTH OF CANYON TO REFLECT UNCERTAINTY.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1938 COLLECTION BY A. EASTWOOD AND J.T. HOWELL.

Owner/Manager: UNKNOWN

Occurrence No. 18 Map Index: 55747 EO Index: 55785 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-06-06  
 Origin: Natural/Native occurrence Site: 2001-06-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-09-27

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25471° / -120.76418° Township: 31S  
 UTM: Zone-10 N3903582 E703404 Range: 11E  
 Area: 4.7 acres Mapping PrecisionSPECIFIC Section: 02 Qtr: SW  
 Elevation: 1,250 ft Symbol Type:POLYGON Meridian: M

Location: EAST END OF IRISH HILLS, ALONG PREFUMO CANYON ROAD NEAR HEAD OF COOK CREEK, SOUTHWEST OF SAN LUIS OBISPO.  
 Location Detail: IN WET OPENINGS. MAPPED WITHIN THE NW 1/4 OF THE SW 1/4 OF SECTION 2.  
 Ecological: NORTH-FACING SERPENTINE BOG ADJACENT TO PERENNIAL STREAM. IN QUERCUS AGRIFOLIA WOODLAND AND CEANOTHUS CUNEATUS CHAPARRAL WITH PICKERINGIA MONTANA AND HETEROMELES ARBUTIFOLIA.  
 General: UNKNOWN NUMBER OF PLANTS SEEN IN DURING A 2001 SURVEY FOR CIRSIUM FONTINALE VAR. OBISPOENSIS. SITE IS IN EXCELLENT CONDITION. OWNERS HAVE EXPRESSED INTEREST IN PROTECTING THIS POPULATION.

Owner/Manager: PVT

Carex obispoensis

San Luis Obispo sedge

Element Code: PMCYP039J0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL PRAIRIE, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** USUALLY IN TRANSITION ZONE ON SAND, CLAY, OR SERPENTINE; IN SEEPS. 5-790M.

<b>Occurrence No.</b> 21	<b>Map Index:</b> 62886	<b>EO Index:</b> 62940	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-08-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-19

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35659° / -120.68668°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915045 E710193	<b>Range:</b> 12E
<b>Area:</b> 6.4 acres	<b>Section:</b> 33
<b>Elevation:</b> 1,000 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTHEAST OF PRIMERA MINE, NORTHEAST OF NEW LONDON MINE, CAMP SAN LUIS OBISPO.  
**Location Detail:** ABOVE AREA LOCALLY KNOWN AS 'GRAND CANYON'. TRAINING AREA X. 4 PATCHES MAPPED WITHIN THE E 1/2 OF THE SE 1/4 OF SECTION 33 AND THE NE 1/4 OF THE NE 1/4 OF SECTION 4 (ESTIMATED).  
**Ecological:** MARGIN OF CHAPARRAL; SOIL SERPENTINE-DERIVED. ASSOCIATES: ARCTOSTAPHYLOS OBISPOENSIS, CEANOTHUS CUNEATUS VAR. RAMULOSUS, C. FOLIOSUS VAR. MEDIUS, CUPRESSUS SARGENTII, RANUNCULUS CALIFORNICUS, SISYRINCHIUM BELLUM.  
**Threat:** CATTLE, FERAL PIGS, NON-NATIVE PLANTS, IMPROPER BURNING REGIME, MILITARY TRAINING ACTIVITIES, ROAD MAINTENANCE, MINING.  
**General:** LESS THAN 30 PLANTS SEEN IN 2001 AND MORE THAN 100 PLANTS SEEN IN 2003. AREA BURNED IN 1994 HIGHWAY 41 FIRE. THE RARE SIDALCEA HICKMANII SSP. ANOMALA, ARCTOSTAPHYLOS OBISPOENSIS, CHORIZANTHE BREWERI ALSO HERE.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 22	<b>Map Index:</b> 62887	<b>EO Index:</b> 62941	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-06-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-06-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-19

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35014° / -120.66995°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914365 E711730	<b>Range:</b> 12E
<b>Area:</b> 3.2 acres	<b>Section:</b> 03
<b>Elevation:</b> 1,300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH OF PICK & SHOVEL MINE, NORTHEAST OF CHORROS RESERVOIR, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA X. TWO PATCHES MAPPED THE SE 1/4 OF THE NE 1/4 OF SECTION 3 AND THE SW 1/4 OF THE SE 1/4 OF SECTION 34.  
**Ecological:** ALONG STREAM ON SERPENTINE; CHAPARRAL/RIPARIAN INTERFACE. ALSO FOUND IN GRASSY MEADOW ON ADOBE CLAY. ASSOCIATES: QUERCUS DURATA, ADENOSTOMA FASCICULATUM, HETEROMELES ARBUTIFOLIA, ARCTOSTAPHYLOS OBISPOENSIS, MIMULUS AURANTIACUS, ETC  
**Threat:** CATTLE, FERAL PIGS, NON-NATIVE PLANTS, IMPROPER BURNING REGIME, MILITARY TRAINING ACTIVITIES, ROAD MAINTENANCE, MINING.  
**General:** LESS THAN 10 PLANTS SEEN IN 2000 AND IN 2002. AREA BURNED IN 1994 HIGHWAY 41 FIRE. THE RARE ARCTOSTAPHYLOS OBISPOENSIS AND CALOCHORTUS ARGILLOSUS ALSO OCCUR AT THIS SITE.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

Carex obispoensis

San Luis Obispo sedge

Element Code: PMCYP039J0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL PRAIRIE, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** USUALLY IN TRANSITION ZONE ON SAND, CLAY, OR SERPENTINE; IN SEEPS. 5-790M.

<b>Occurrence No.</b> 23	<b>Map Index:</b> 62890	<b>EO Index:</b> 62944	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-06-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-06-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-19

**Quad Summary:** Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31916° / -120.75046°	<b>UTM:</b> Zone-10 N3910759 E704490	<b>Radius:</b> 80 meters	<b>Elevation:</b> 420 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 11E	<b>Section:</b> 13	<b>Qtr:</b> NW	<b>Meridian:</b> M
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**Location:** FIRST RIDGE WEST OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
**Location Detail:** CANYON AND EPHEMERAL STREAM, TRAINING AREA A.  
**Ecological:** RIPARIAN, GRAVELLY CLAY-LOAM. ASSOCIATES INCLUDE QUERCUS AGRIFOLIA, UMBELLULARIA CALIFORNICA, CRYPTANTHA CLEVELANDII, PTERIDIUM AQUILINUM, SISYRINCHIUM BELLUM, ACHILLEA MILLEFOLIUM, AND NASSELLA PULCHRA.  
**Threat:** CATTLE, FERAL PIGS, NON-NATIVE PLANTS, IMPROPER BURNING REGIME, MILITARY TRAINING ACTIVITIES, ROAD MAINTENANCE, MINING.  
**General:** LESS THAN 10 PLANTS SEEN IN 2000. THE RARE SANICULA HOFFMANNII ALSO OCCURS AT THIS SITE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 25	<b>Map Index:</b> 62896	<b>EO Index:</b> 62950	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1979-05-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1979-05-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-19

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.39491° / -120.71201°	<b>UTM:</b> Zone-10 N3919242 E707792	<b>Area:</b>	<b>Elevation:</b> 2,500 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 20	<b>Qtr:</b> NW	<b>Meridian:</b> M
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**Location:** EAGLE RANCH LAND EXCHANGE, ALONG CUESTA RIDGE ROAD JUST WEST OF RADIO FACILITY, CUESTA RIDGE BOTANICAL AREA.  
**Location Detail:** MAPPED ALONG CUESTA RIDGE ROAD JUST WEST OF THE RADIO FACILITY, WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 20.  
**Ecological:** SERPENTINE, UNDER CUPRESSUS SARGENTII.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1979 COLLECTION BY KRANTZ. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 26	<b>Map Index:</b> 62898	<b>EO Index:</b> 62952	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1987-08-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-08-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-20

**Quad Summary:** Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28030° / -120.61975°	<b>UTM:</b> Zone-10 N3906726 E716478	<b>Area:</b>	<b>Elevation:</b> 1,000 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 30S	<b>Range:</b> 13E	<b>Section:</b> 30	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** RESERVOIR CANYON.  
**Location Detail:** EXACT LOCATION UNKNOWN, MAPPED ON NORTH FACING SLOPES OF RESERVOIR CANYON. 1987 COLLECTION BY PENKALA AND RYAN (#170 UCSB #59917) FROM 1 MILE UP RESERVOIR ROAD ALONG RESERVOIR CANYON TRAIL, ON STEEP NE-FACING SLOPE ATTRIBUTED TO THIS SITE.  
**Ecological:** UPPER N-FACING SERPENTINE SLOPES UNDER QUERCUS AGRIFOLIA.  
**General:** COLLECTED HERE IN 1979 BY KEIL AND 1987 BY PENKALA AND RYAN. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

Carex obispoensis

San Luis Obispo sedge

Element Code: PMCYP039J0

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL PRAIRIE, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: USUALLY IN TRANSITION ZONE ON SAND, CLAY, OR SERPENTINE; IN SEEPS. 5-790M.

Occurrence No. 27	Map Index: 70764	EO Index: 71675	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1993-03-20
Origin: Natural/Native occurrence			Site: 1993-03-20
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2008-01-29

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34647° / -120.68204°	Township: 30S
UTM: Zone-10 N3913933 E710640	Range: 12E
Area:	Section: 03
Elevation:	Meridian: M
	Qtr: N
	Mapping Precision: NON-SPECIFIC
	Symbol Type: POLYGON

Location: CHORRO CREEK, 1 KM N OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO.  
 Location Detail: MAPPED AS BEST GUESS BY CNDDDB ALONG CHORRO CREEK FROM 0.5 TO 1.5 AIR KM N OF CHORRO RESERVOIR.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1993 JOHNSON & YOUNG COLLECTION. NEEDS FIELDWORK.  
 Owner/Manager: DOD-ARMY NATIONAL GUARD



Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 1	<b>Map Index:</b> 47407	<b>EO Index:</b> 47407	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-09

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.23492° / -120.74367°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3901429 E705321	<b>Range:</b> 11E
<b>Area:</b> 12.2 acres	<b>Section:</b> 13
<b>Elevation:</b> 411 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POLYGON	

**Location:** SEE CANYON, APPROXIMATELY 0.7 AIRMILE SOUTHWEST OF HEADWATERS OF FROOM CREEK.  
**Location Detail:** TWO COLONIES MAPPED PRIMARILY IN THE NORTHEAST 1/4 OF SECTION 13.  
**Ecological:** SERPENTINE INFLUENCED CALIFORNIA ANNUAL GRASSLAND. WITH CALYSTEGIA SUBACALIS SSP. EPISCOPALIS.  
**General:** A FEW HUNDRED PLANTS OBSERVED IN 2003. INITIAL 1908 COLLECTION BY CONDIT (SN UC) "SEE CANYON" ATTRIBUTED TO SITE.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 2	<b>Map Index:</b> 47408	<b>EO Index:</b> 47408	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-04-03
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-03
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14582° / -120.62679°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891793 E716195	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 18
<b>Elevation:</b> 195 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** EAST OF PISMO CREEK, NEAR EASTERN BOUNDARY OF PISMO BEACH TOWN.  
**Ecological:** IN ANNUAL GRASSLAND OUTCROP ON RIDGETOP, IN OPENING BETWEEN SCRUB HABITAT. ASSOCIATED WITH ANNUAL GRASSES AND FORBES, SITE WEEDY.  
**Threat:** POTENTIAL DEVELOPMENT.  
**General:** 50-75 PLANTS OBSERVED IN 2003 BY CURLETTE. MUNZ COLLECTION FROM "PISMO BEACH" ATTRIBUTED TO THIS SITE.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 3	<b>Map Index:</b> 47409	<b>EO Index:</b> 47409	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1987-04-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-04-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-03-12

**Quad Summary:** Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28146° / -120.61486°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906865 E716921	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 30
<b>Elevation:</b> 700 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** RESERVOIR CANYON.  
**Location Detail:** ON THE NORTHERN SIDE.  
**Ecological:** AMONG GRASSES IN OPEN AREA, IN CLAY SOIL NEAR SERPENTINE OUTCROPS.  
**General:** NEEDS FIELDWORK. COLLECTION FROM "2.2 MILES WEST-SOUTHWEST OF PINEY RIDGE" (N. CARLSON #238) ALSO ATTRIBUTED TO THIS SITE.  
**Owner/Manager:** UNKNOWN

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 4	<b>Map Index:</b> 47410	<b>EO Index:</b> 47410	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2005-03-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-03-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-29

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25882° / -120.66243°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904251 E712652	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 02
<b>Elevation:</b> 170 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** PROPERTY AT END OF MARGARITA AVENUE, 0.6 MILE EAST OF HIGHWAY 101, SAN LUIS OBISPO.  
**Location Detail:** ON SHALLOW SOIL AREAS WHERE ANNUAL GRASSES ARE LESS DENSE. PLANTS OBSERVED IN THREE GENERAL AREAS ON THE PROPERTY. MORE SPECIFIC MAP DETAIL NEEDED.  
**Ecological:** GRAZED GRASSLAND HABITAT ON SERPENTINE CLAY SOILS. TWO SEASONAL STREAMS AND WETLAND SEEPS OCCUR ON THE PROPERTY.  
**Threat:** PROPOSED DEVELOPMENT. THE FLAT AREAS AT THE FOOT OF THE SERPENTINE HILLSIDE WILL BE DEVELOPED.  
**General:** 3000 PLANTS OBSERVED IN 2005. SEVERAL OLD COLLECTIONS FROM SAN LUIS OBISPO ATTRIBUTED TO THIS SITE. THE RARE CALOCHORTUS SIMULANS, DUDLEYA ABRAMSII SSP. MURINA, AND ASTRAGALUS DIDYMOCARPUS VAR. MILESIANUS ALSO OCCUR AT THIS SITE.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 5	<b>Map Index:</b> 44531	<b>EO Index:</b> 47411	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> XXXX-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> XXXX-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-03-12

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32640° / -120.67655°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911717 E7111192	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 10
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** NEAR CHORRO.  
**General:** NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 6	<b>Map Index:</b> 40956	<b>EO Index:</b> 47412	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1908-04-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1908-04-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-03-12

**Quad Summary:** Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26565° / -120.73209°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3904861 E706297	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 31
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** "PERFUMO" [PREFUMO] CANYON.  
**Location Detail:** LOCATION INFORMATION IS VAGUE.  
**General:** NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION IS COLLECTION FROM 1908 BY E. UNANGST.  
**Owner/Manager:** UNKNOWN

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5T2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations: \_\_\_\_\_  
 General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

Occurrence No. 7 Map Index: 44509 EO Index: 47413 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1936-03-25  
 Origin: Natural/Native occurrence Site: 1936-03-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2002-03-12

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.27255° / -120.81660° Township: 30S  
 UTM: Zone-10 N3905454 E698592 Range: 11E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 32 Qtr: XX  
 Elevation: 1,300 ft Symbol Type:POLYGON Meridian: M

Location: 3.6 MILES EAST-NORTHEAST OF VALENCIA PEAK.

Location Detail:SECTION 32.

Ecological: ON SERPENTINE.

General: NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No. 8 Map Index: 12462 EO Index: 47414 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1978-05-20  
 Origin: Natural/Native occurrence Site: 1978-05-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2002-03-12

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.34635° / -120.83017° Township: 30S  
 UTM: Zone-10 N3913613 E697178 Range: 11E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 06 Qtr: E  
 Elevation: 5 ft Symbol Type:POINT Meridian: M

Location: SAN BERNARDO CREEK, EAST OF MORRO BAY.

Location Detail:LOCATION INFORMATION IS VAGUE. MAPPED AS BEST GUESS TO INCLUDE AREA SOUTH OF CITY OF MORRO BAY ALONG SAN BERNARDO CREEK BY CNDDDB.

Ecological: ON OPEN GRASSY SLOPE.

General: COLLECTION FROM "SOUTH END OF MORRO BAY" (T. CHUANG #7698) ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: UNKNOWN

Occurrence No. 9 Map Index: 47415 EO Index: 47415 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1940-05-09  
 Origin: Natural/Native occurrence Site: 1940-05-09  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2002-03-13

Quad Summary: Morro Bay South (3512037/247D), Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.37733° / -120.85459° Township: 29S  
 UTM: Zone-10 N3917002 E694884 Range: 10E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 25 Qtr: XX  
 Elevation: 100 ft Symbol Type:POLYGON Meridian: M

Location: 1 MILE NORTH OF MORRO.

Location Detail:MAPPED AS BEST GUESS 1 MILE NORTH OF MORRO BAY ALONG MAIN STREET AND HWY 1 BY CNDDDB.

Ecological: ON GRASSY SLOPE IN VIEW OF THE OCEAN.

General: TYPE LOCATION. COLLECTION FROM "NORTH OF MORRO BAY" (F. PENNELL #25346) ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: UNKNOWN

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 18	<b>Map Index:</b> 28508	<b>EO Index:</b> 55799	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-03-22
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-03-22
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-09

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18636° / -120.71440°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3896102 E708109	<b>Range:</b> 12E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 32
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 0.6 MILE NNE OF SYCAMORE SPRINGS.  
**Location Detail:** EXACT LOCATION UNKNOWN, MAPPED IN THE VICINITY OF SYCAMORE SPRINGS.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY CARLSON. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 19	<b>Map Index:</b> 55784	<b>EO Index:</b> 55800	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-09

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13814° / -120.58411°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891034 E720104	<b>Range:</b> 13E
<b>Area:</b> 10.0 acres	<b>Section:</b> 16
<b>Elevation:</b> 290 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIRMILE WSE OF POORMAN CANYON.  
**Location Detail:** TWO COLONIES MAPPED AS ONE POLYGON LOCATED PRIMARILY IN THE WESTERN 1/2 OF THE SE 1/4 OF SECTION 16.  
**Ecological:** CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND.  
**Threat:** FUTURE DEVELOPMENT, HISTORICAL GRAZING. WEEDS.  
**General:** 30+ INDIVIDUALS OBSERVED IN 2003. CASTILLEJA PRIMARILY FOUND IN AREAS OF THIN EHRHARTA CALYCINA GROWTH.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 20	<b>Map Index:</b> 62798	<b>EO Index:</b> 55801	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-18

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14195° / -120.57027°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891487 E721355	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 15
<b>Elevation:</b> 250 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** CARPENTER CANYON, APPROXIMATELY 0.5 AIRMILE NORTH OF CONFLUENCE WITH POORMAN CANYON, NORTH OF ARROYO GRANDE.  
**Location Detail:** ONE COLONY MAPPED FROM COORDINATES PROVIDED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 15.  
**Ecological:** PLANTS LOCATED IN ANNUAL GRASSLAND AT THE TOE OF SLOPE IN SANDY SOILS. CHAPARRAL, COAST LIVE OAK WOODLAND AND ANNUAL GRASSLANDS ARE THE DOMINANT HABITATS ON A 27 ACRE PARCEL ON CARPENTER CANYON ROAD (HWY 227) IN ARROYO GRANDE.  
**Threat:** FUTURE DEVELOPMENT, COMPETITION FROM EHRHARTA CALYCINA.  
**General:** 150-200 INDIVIDUALS OBSERVED IN 2003.  
**Owner/Manager:** PVT

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5T2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations: \_\_\_\_\_  
 General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

Occurrence No. 21 Map Index: 55786 EO Index: 55802 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-09  
 Origin: Natural/Native occurrence Site: 2003-05-09  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-06-09

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.13546° / -120.59195° Township: 32S  
 UTM: Zone-10 N3890720 E719397 Range: 13E  
 Radius: 1/10 mile Mapping PrecisionNON-SPECIFIC Section: 16 Qtr: SW  
 Elevation: 159 ft Symbol Type:POINT Meridian: M

Location: EAST OF CENTRAL NOYES ROAD, APPROXIMATELY 0.6 AIRMILE NORTH OF ST. PATRICKS SCHOOL, NORTH OF ARROYO GRANDE.  
 Location Detail: ONE COLONY MAPPED AT THE CORNER OF LA CANADA AND JAMES WAY. LOCATED IN THE SW 1/4 OF THE SW 1/4 OF SECTION 16.  
 Ecological: PLANTS LOCATED ACROSS OPEN GRASSY AREAS BETWEEN QUERCUS AGRIFOLIA IN SANDY SOILS. CLARKIA SPECIOSA SSP. IMMACULATA PRESENT.  
 Threat: VELDT GRASS, COMPETITION FROM OTHER SPECIES.  
 General: 100 INDIVIDUALS OBSERVED IN 2003. THIS AREA IS DESIGNATED AS OPEN SPACE.  
 Owner/Manager: PVT

Occurrence No. 22 Map Index: 55787 EO Index: 55803 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Poor Element: 2003-05-01  
 Origin: Natural/Native occurrence Site: 2003-05-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-06-09

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35330° / -120.54188° Township: 29S  
 UTM: Zone-10 N3914998 E723361 Range: 13E  
 Radius: 1/5 mile Mapping PrecisionNON-SPECIFIC Section: 35 Qtr: SE  
 Elevation: 1,138 ft Symbol Type:POINT Meridian: M

Location: WEST OF POZO ROAD, IN VICINITY OF FIVEMILE BRIDGE.  
 Location Detail: MAPPED FROM MAP PROVIDED, SITE LOCATED ALONG ACCESS ROAD TO CUESTA RIDGE VINEYARD, ALONG TACO CREEK.  
 Ecological: PLANT GROWING IN GRASSY AREA, PLOWED IN PAST YEARS BUT NOW A FALLOW STRIP OF LAND IN A SAFE HARBOR AREA FOR CALIFORNIA RED-LEGGED FROG.  
 Threat: WEED CONTROL COULD AFFECT THIS SPECIES.  
 General: 1 INDIVIDUAL OBSERVED IN 2003.  
 Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 23 Map Index: 55788 EO Index: 55804 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2003-05-06  
 Origin: Natural/Native occurrence Site: 2003-05-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-06-09

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36583° / -120.59777° Township: 29S  
 UTM: Zone-10 N3916263 E718248 Range: 13E  
 Radius: 1/10 mile Mapping PrecisionNON-SPECIFIC Section: 32 Qtr: NE  
 Elevation: 1,253 ft Symbol Type:POINT Meridian: M

Location: WEST OF MILLER FLAT, EAST SLOPE OF SANTA LUCIA MOUNTAINS.  
 Location Detail: MAPPED FROM COORDINATES PROVIDED. SITE LOCATED IN THE NE 1/4 OF THE NE 1/4 OF SECTION 32.  
 Ecological: CALIFORNIA ANNUAL GRASSLAND ON ROLLING FOOTHILLS. PLANTS LOCATED ALONG RIDGE WITH SERPENTINE OUTCROPS. NON-NATIVE GRASSES DOMINATE.  
 General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 2003, PART OF SURVEY FOR CALYSTEGIA SUBACALIS SSP. EPISCOPALIS.  
 Owner/Manager: PVT-SANTA MARGARITA RANCH

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5T2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations: \_\_\_\_\_  
 General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

Occurrence No. 24 Map Index: 55792 EO Index: 55808 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-04-29  
 Origin: Natural/Native occurrence Site: 2003-04-29  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-08-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33276° / -120.69280° Township: 30S  
 UTM: Zone-10 N3912388 E709698 Range: 12E  
 Area: 8.7 acres Mapping Precision: SPECIFIC Section: 09 Qtr: N  
 Elevation: 480 ft Symbol Type: POLYGON Meridian: M

Location: BOTH SIDES OF CHORRO CREEK, APPROXIMATELY 0.5 AIRMILE NORTH OF THE CALIFORNIA MENS COLONY.  
 Location Detail: 4 COLONIES OF PLANTS OBSERVED AT THIS SITE.  
 Ecological: DISTURBED GRAZED GRASSLAND ON SERPENTINE CLAY SOILS. SHALLOW SOIL TO BEDROCK. PLANTS OCCUR ON EAST AND NORTH-FACING GENTLE SLOPES.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, AND FERAL PIGS.  
 General: LESS THAN 100 PLANTS OBSERVED IN 2000 AT TWO NORTHERN COLONIES, LESS THAN 50 PLANTS OBSERVED IN 2002 AT EASTERN COLONY, AND ABOUT 500 PLANTS OBSERVED IN 2003 AT SOUTHERN COLONY. THE RARE CALYSTEGIA SUBACUALIS SUBACAULIS ALSO FOUND HERE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 26 Map Index: 62374 EO Index: 62411 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2005-04-01  
 Origin: Natural/Native occurrence Site: 2005-04-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-08-24

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.18858° / -120.60948° Township: 31S  
 UTM: Zone-10 N3896573 E717658 Range: 13E  
 Area: 7.8 acres Mapping Precision: SPECIFIC Section: 32 Qtr: NW  
 Elevation: 200 ft Symbol Type: POLYGON Meridian: M

Location: EAST OF PISMO CREEK AND NORTH OF CANADA VERDE, ABOUT 1 MILE SOUTH OF EDNA.  
 Ecological: GRAZED ANNUAL GRASSLAND WITH SHALLOW TO MODERATE SLOPE. ASSOCIATED WITH LUPINUS BICOLOR, MEDICAGO POLYMORPHA, LOLIUM MULTIFLORUM, BROMUS HORDEACEOUS, VULPIA MYUROS, RUMEX ACETOSELLA, AND ERODIUM CICUTARIUM.  
 Threat: EVIDENCE OF PERIODIC GRAZING, BUT NO CURRENT THREATS APPARENT AS OF 2005.  
 General: 1500 PLANTS OBSERVED IN 2005.  
 Owner/Manager: UNKNOWN

Occurrence No. 30 Map Index: 62384 EO Index: 62421 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-18  
 Origin: Natural/Native occurrence Site: 2003-05-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-08-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31574° / -120.74614° Township: 30S  
 UTM: Zone-10 N3910389 E704892 Range: 11E  
 Area: 1.9 acres Mapping Precision: SPECIFIC Section: 13 Qtr: N  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: FIRST RIDGE WEST OF CERRO ROMAULDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA A.  
 Ecological: SERPENTINE OUTCROP, ON STEEP SLOPE WITH ERIOPHYLLUM CONFERTIFLORUM, CHORIZANTHE PALMERI, OROBANCHE CALIFORNICA SSP. GRANDIS, AND O. FASCICULATA.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.  
 General: LESS THAN 50 PLANTS SEEN AT NORTHERN COLONY AND LESS THAN 100 PLANTS SEEN AT SOUTHERN COLONY IN 2003. THE RARE CHORIZANTHE PALMERI, DUDLEYA ABRAMSII SSP. BETTINAE, AND MONARDELLA PALMERI ALSO OCCUR IN THIS VICINITY.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 31	<b>Map Index:</b> 62385	<b>EO Index:</b> 62422	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-04-22
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-04-22
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31885° / -120.73798°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910751 E705627	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 13
<b>Elevation:</b> 200 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** WEST BASE OF CERRO ROMAULDO, NEAR GATE FOR ROAD TO WATER TOWER, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA V.  
**Ecological:** IN GRASSLAND/MEADOW WITH CLAY SOILS ON MODERATE SLOPE. ASSOCIATES INCLUDE NASELLA PULCHRA, ALIEN ANNUAL GRASSES, MICROSERIS DOUGLASII, LAGOPHYLLA RAMOSISSIMA, TRIFOLIUM, AND MEDICAGO.  
**Threat:** ROAD MAINTENANCE, CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.  
**General:** 4 PLANTS SEEN IN 2002.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 32	<b>Map Index:</b> 62386	<b>EO Index:</b> 62423	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-04-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31513° / -120.72204°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910371 E707085	<b>Range:</b> 12E
<b>Area:</b> 1.9 acres	<b>Section:</b> 18
<b>Elevation:</b> 600 ft	<b>Qtr:</b> E
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** NORTHEAST SIDE OF CERRO ROMUALDO, ABOUT 0.35 MILE FROM SUMMIT, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA K.  
**Ecological:** FERAL GRASSLAND/MEADOW WITH CASTILLEJA ATTENUATA, TRIFOLIUM DEPAUPERATUM, TRIPHYSARIA PUSILLA, VIOLA, ERODIUM, HYPOCHAERIS GLABRA, MEDICAGO, NASELLA, AND ARTEMISIA CALIFORNICA.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.  
**General:** IN 2003, UNKNOWN NUMBER OF PLANTS SEEN AT NORTHERN COLONY AND MORE THAN 50 PLANTS SEEN AT SOUTHERN COLONY.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 33	<b>Map Index:</b> 62387	<b>EO Index:</b> 62424	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-05-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31277° / -120.71242°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910129 E707965	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 17
<b>Elevation:</b> 500 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** WEST SIDE OF CHUMASH PEAK, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA L.  
**Ecological:** IN MEADOW ON MODERATE SLOPE. ASSOCIATES: TRIFOLIUM, TRYPHYSARIA, CLARKIA AFFINIS, CENTAUREUM, DAVYI, CHLOROGALUM POMERIDIANUM, SISYRINCHIUM BELLUM, SIDALCEA MALVIFLORA, CALYSTEGIA SUBACALIS SPP. EPISOCOPALIS, ANAGALLIS ARVENSIS, ETC.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.  
**General:** MORE THAN 1000 PLANTS SEEN IN 2002.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G5T2 State: S2.2	CNPS List: 1B.2

**Habitat Associations**  
 General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 34	<b>Map Index:</b> 62389	<b>EO Index:</b> 62426	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-04-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32971° / -120.69842°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912039 E709195	<b>Range:</b> 12E
<b>Area:</b> 2.4 acres	<b>Section:</b> 09
<b>Elevation:</b> 500 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** CHORRO VALLEY ROAD, ABOUT 0.25 AIRMILE NORTHWEST OF THE CALIFORNIA MEN'S COLONY, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREAS N AND T.  
**Ecological:** IN FERAL GRASSLAND/BARRENS ON GENTLE SLOPE. ASSOCIATES INCLUDE ANNUAL GRASSES, LESSINGIA, ASTRAGALUS CURTIPES, PLANTAGO ERRECTA, TRIFOLIUM HIRTUM, ALLIUM HAEMATOCHEITON, AND LOMUS STRIGOSUS.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, AND IMPROPER FIRE REGIME.  
**General:** LESS THAN 50 PLANTS SEEN IN 2003. THE RARE DUDLEYA BLOCHMANIAE ALSO OCCURS AT THIS SITE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 35	<b>Map Index:</b> 62394	<b>EO Index:</b> 62431	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-04-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-04-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34072° / -120.69188°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913274 E709761	<b>Range:</b> 12E
<b>Area:</b> 1.9 acres	<b>Section:</b> 04
<b>Elevation:</b> 700 ft	<b>Qtr:</b> SE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** NORTHWEST OF CHORRO RESERVOIR, NEAR GATE ON RANGE ROAD, CAMP SAN LUIS OBISPO.  
**Location Detail:** SOUTH OF LARGE SERPENTINE OUTCROP, AT BASE OF OUTCROP AND SLOPE BELOW. TRAINING AREAS T AND N.  
**Ecological:** FERAL GRASSLAND/ MEADOW ON STEEP TO MODERATE SLOPE.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.  
**General:** LESS THAN 100 PLANTS SEEN IN 2000.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 38	<b>Map Index:</b> 62405	<b>EO Index:</b> 62442	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1998-05-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-05-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-25

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27861° / -120.77974°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906201 E701929	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 34
<b>Elevation:</b> 450 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** IRISH HILLS, 3.1 MILES SOUTHEAST OF LOS OSOS VALLEY ROAD ON CLARK VALLEY ROAD, SOUTHEAST OF LOS OSOS.  
**Location Detail:** WRITTEN DIRECTIONS, COORDINATES, AND ELEVATION PROVIDED ON HERBARIUM LABEL DO NOT MATCH. MAPPED ACCORDING TO WRITTEN DIRECTIONS ALONG CLARK VALLEY ROAD 3.1 MILES SOUTHEAST OF LOS OSOS VALLEY ROAD.  
**Ecological:** OAK WOODLAND, GRASSY OPENINGS.  
**General:** PLANTS OCCASIONAL IN 1998. NEEDS FIELDWORK TO VERIFY LOCATION.  
**Owner/Manager:** UNKNOWN



Castilleja densiflora ssp. obispoensis

San Luis Obispo owl's-clover

Element Code: PDSCR0D453

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 10-215M.

<b>Occurrence No.</b> 39	<b>Map Index:</b> 62411	<b>EO Index:</b> 62448	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2005-04-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-04-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-29

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18881° / -120.69151°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3896423 E710187	<b>Range:</b> 12E
<b>Area:</b> 8.1 acres	<b>Section:</b> 33
<b>Elevation:</b> 250 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH SLOPE OF SQUIRE CANYON, EAST OF MONTE ROAD, SAN LUIS OBISPO.  
**Location Detail:** IN OLD DIRT ROADWAY WHERE SOILS ARE SHALLOW.  
**Ecological:** VALLEY AND SOUTHERN COASTAL GRASSLAND ON THIN SANDY SOILS UNDERLAID BY SHALLOW DECOMPOSING SANDSTONE BEDROCK. ASSOCIATES INCLUDE NASSELLA PULCHRA, BROMUS HORDEACEOUS, VULPIA MYUROS, PLANTAGO ERECTA, AND ERODIUM SPP.  
**Threat:** INCREASING RESIDENTIAL DEVELOPMENT. IMPACTS UNKNOWN.  
**General:** 11,000 PLANTS SEEN IN 2005. THE RARE ARCTOSTAPHYLOS WELLSII AND AGROSTIS HOOVERI OCCUR IN THE NEAR VICINITY.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 40	<b>Map Index:</b> 62413	<b>EO Index:</b> 62450	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2005-05-25
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-05-25
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-29

**Quad Summary:** Arroyo Grande NE (3512025/221A), Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25025° / -120.60282°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3903430 E718099	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 05
<b>Elevation:</b> 370 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** NORTHEAST OF ORCUTT ROAD, ABOUT 1.25 AIRMILE ENE OF TOP OF ISLAY HILL, SOUTHEAST OF SAN LUIS OBISPO.  
**Location Detail:** PARCEL #APN-044-051-018.  
**Ecological:** ON A ROCKY HILLTOP IN LOS OSOS-DIABLO COMPLEX SOIL TYPE IN GRAZED GRASSLAND HABITAT.  
**Threat:** PROPOSED DEVELOPMENT. IMPACT UNKNOWN.  
**General:** 50 PLANTS OBSERVED IN 2005. ONE PLANT WAS IN FLOWER, THE REST WERE IN FRUIT. THE RARE CALYSTEGIA SUBCAULIS SSP. EPISCOPALIS ALSO OCCURS AT THIS SITE.  
**Owner/Manager:** PVT

Central Dune Scrub

Element Code: CTT21320CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2  
 State: None State: S2.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
 General:  
 Micro:

Occurrence No. 12 Map Index: 12361 EO Index: 16418 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1985-03-19  
 Origin: Natural/Native occurrence Site: 1985-03-19  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-13

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33708° / -120.86170° Township: 30S  
 UTM: Zone-10 N3912522 E694334 Range: 10E  
 Area: 310.6 acres Mapping Precision: SPECIFIC Section: 11 Qtr: NE  
 Elevation: 40 ft Symbol Type: POLYGON Meridian: M

Location: ON 3 MI LONG SAND SPIT, MORRO BAY STATE PARK.  
 Ecological: DUNES ON SPIT TO 85 FT, SOME LOCALLY UNSTABILIZED. DOMINANTS INCLUDE LUPINUS CHAMISSONIS, ERICAMERIA ERICOIDES, ERIOPHYLLUM STAECHADIFOLIUM.  
 Threat: RECOVERING AFTER ORV CLOSURE. DPR PATROLS, PERMITS HORSE AND FOOT TRAFFIC. CARPOBROTUS REMOVAL 1982.  
 General: PROPOSED AS RESERVE, 1975. RARE TAXA IN AREA. THIS WAS OCC #012 OF CTT21320CA.  
 Owner/Manager: DPR-MORRO BAY SP

Occurrence No. 19 Map Index: 16032 EO Index: 26333 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1983-XX-XX  
 Origin: Natural/Native occurrence Site: 1983-XX-XX  
 Presence: Presumed Extant  
 Trend: Decreasing Record Last Updated: 1998-07-13

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28980° / -120.87961° Township: 30S  
 UTM: Zone-10 N3907243 E692819 Range: 10E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: XX  
 Elevation: 160 ft Symbol Type: POINT Meridian: M

Location: MONTANA DE ORO STATE PARK, (DUNES TO N OF HAZARD CR).  
 Ecological: VEG A TRANSITION BETWEEN DUNE SCRUB & COASTAL SAGE SCRUB PER HANSON, 1983. SPECIES INFO IN NC ELF 21320. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.  
 Threat: VEG CLEARED DURING CLEANUP OF WWII MILITARY ORDINANCE. NATIVE SCRUB SPP RETURNING, BUT MUCH CARPOBROTUS PER GRIGGS 1980.  
 General: BETTER INFO ON COMPOSITION, CONDITION NEEDED. SEE NC ELF 21320 FOR SOME SPECIES INFO PER HOLLAND, R. F.  
 Owner/Manager: DPR-MONTANA DE ORO SP

Central Foredunes

Element Code: CTT21220CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1  
 State: None State: S1.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
 General:  
 Micro:

Occurrence No. 5 Map Index: 20582 EO Index: 9756 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 1980-10-10  
 Origin: Natural/Native occurrence Site: 1980-10-10  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-13

Quad Summary: Pismo Beach (3512026/221B), Oceano (3512015/221D)  
 County Summary: San Luis Obispo

Lat/Long: 35.11697° / -120.63267° Township: 32S  
 UTM: Zone-10 N3888579 E715736 Range: 12E  
 Area: 26.0 acres Mapping Precision: SPECIFIC Section: 25 Qtr: XX  
 Elevation: 40 ft Symbol Type: POLYGON Meridian: M

Location: DUE WEST OF GRAND AVE IN GROVER CITY AND EXTENDING ONE MILE IN BOTH THE NORTH AND SOUTH DIRECTIONS.  
 Location Detail: AREA BORDERED BY THE BEACH TO THE WEST AND DUNE SCRUB TO THE EAST.  
 Ecological: ABRONIA LATIFOLIA, A. MARITIMA, MALACOTHRIX INCANA, CAKILE CARPROBROTUS, CALYSTEGIA SOLDANELLA, AMBROSIA CHAMISSONIS.  
 Threat: HEAVY RECREATIONAL AND ORV USE.  
 General: THIS WAS OCC #005 OF CTT21220CA.  
 Owner/Manager: UNKNOWN

Central Maritime Chaparral

Element Code: CTT37C20CA

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	
State: None	State: S2.2	
_____ Habitat Associations _____		
General:		
Micro:		

Occurrence No. 2	Map Index: 12793	EO Index: 25333	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1980-XX-XX
Origin: Natural/Native occurrence			Site: 1980-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-07-14

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.19774° / -120.65767°	UTM: Zone-10 N3897485 E713246	Radius: 1 mile	Elevation: 750 ft	Mapping PrecisionNON-SPECIFIC	Symbol Type:POINT	Township: 31S	Range: 12E	Section: 26	Qtr: XX	Meridian: M
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Location: INDIAN KNOB TAR SANDS, ABOUT 4 MILES NORTH OF PISMO BEACH, SOUTH OF SAN LUIS OBISPO.  
 Ecological: DOMINATED BY ARCTOSTAPHYLOS PILOSULA. OTHER RARE SPECIES INCLUDE ERIODICTYON ALTISSIMUM, CALOCHORTUS OBISPOENSIS, AND AGROSTIS HOOVERI. VEGETATION ASSOCIATED WITH EDNA TAR SANDS DEPOSITS.  
 Threat: AREA TO BE MINED VIA INDIVIDUAL OIL PUMPS.  
 General: MORE ECOLOGICAL INFO AND OWNERSHIP INFO IN NC ELF. VAN80R03. THIS WAS OCC #002 OF CTT37C20CA.  
 Owner/Manager: UNKNOWN

Occurrence No. 18	Map Index: 12334	EO Index: 14056	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1985-03-19
Origin: Natural/Native occurrence			Site: 1985-03-19
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-07-14

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28614° / -120.86673°	UTM: Zone-10 N3906862 E693999	Area: 33.7 acres	Elevation: 680 ft	Mapping PrecisionSPECIFIC	Symbol Type:POLYGON	Township: 30S	Range: 10E	Section: 26	Qtr: SE	Meridian: M
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Location: RIDGE SOUTH OF HAZARD CYN, 1.6 MI N OF VALENCIA PEAK, MON- TANA DE ORO STATE PARK.  
 Location Detail: ON WEST ASPECT.  
 Ecological: IMPENETRABLY DENSE CHAPARRAL, MOSTLY ARCTOSTAPHYLOS MORROENSIS, W/ SCATTERED QUERCUS AGRIFOLIA. ON DRY OPEN SLOPE.  
 General: THIS WAS OCC #018 OF CTT37C20CA.  
 Owner/Manager: DPR-MONTANA DE ORO SP

Occurrence No. 19	Map Index: 12516	EO Index: 9735	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1984-05-09
Origin: Natural/Native occurrence			Site: 1984-05-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-07-14

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.34535° / -120.80831°	UTM: Zone-10 N3913546 E699167	Area: 49.6 acres	Elevation: 520 ft	Mapping PrecisionSPECIFIC	Symbol Type:POLYGON	Township: 30S	Range: 11E	Section: 04	Qtr: SW	Meridian: M
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Location: PARK RIDGE SE OF CERRO CABRILLO, W OF HOLLISTER PK, SE OF MORRO BAY (TOWN).  
 Ecological: HUNDREDS OF ARCTOSTAPHYLOS CRUZENSIS SHRUBS IN WELL-DEVELOPED CHAPARRAL. ASSOCIATES INCLUDE CEANOTHUS PAPILLOSUS, MIMULUS AURANTIACUS, GARRYA ELLIPTICA, AND QUERCUS AGRIFOLIA.  
 Threat: UNDISTURBED, NO KNOWN THREATS PER COX, 1984.  
 General: THIS WAS OCC #019 OF CTT37C20CA.  
 Owner/Manager: PVT

Central Maritime Chaparral

Element Code: CTT37C20CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2  
 State: None State: S2.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
 General:  
 Micro:

Occurrence No. 20 Map Index: 20252 EO Index: 12728 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 1980-04-03  
 Origin: Natural/Native occurrence Site: 1980-04-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-14

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29847° / -120.85605° Township: 30S  
 UTM: Zone-10 N3908251 E694941 Range: 10E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 24 Qtr: NW  
 Elevation: 250 ft Symbol Type:POLYGON Meridian: M

Location: ONE-HALF MILE NORTHEAST OF HAZARD CANYON ON SOUTHEAST SIDE OF PECHO ROAD.  
 Ecological: DOMINATED BY ARCTOSTAPHYLOS MORROENSIS WITH ADENDOSTOMA FASCICULATUM, SALVIA MELLIFERA, CEANOTHUS CUNEATUS, MIMULUS AURANTIACUS, TOXICODENDRON DIVERSILOBUM, QUERCUS AGRIFOLIA, BACCHARIS PILULARIS, AND ASSORTED ANNUAL GRASSES.  
 Threat: DEVELOPMENT.  
 General: NEAR HOUSING TRACT. OCCURS ON BAYWOOD SANDY LOAM. MORRO BAY KANGAROO RAT KNOWN FROM VICINITY. THIS WAS OCC #020 OF CTT37C20CA.

Owner/Manager: UNKNOWN

Occurrence No. 21 Map Index: 20605 EO Index: 9736 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1982-03-18  
 Origin: Natural/Native occurrence Site: 1982-03-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-14

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33980° / -120.78746° Township: 30S  
 UTM: Zone-10 N3912973 E701076 Range: 11E  
 Area: 6.8 acres Mapping PrecisionSPECIFIC Section: 3 Qtr: XX  
 Elevation: 102 ft Symbol Type:POLYGON Meridian: M

Location: SOUTH FLANKS OF HOLLISTER PEAK WEST OF HWY 1, EAST OF MORRO BAY.  
 Location Detail: TWO DISTINCT PATCHES.  
 Ecological: INCLUDES RARE ARCTOSTAPHYLOS CRUZENSIS, ALSO CEANOTHUS GRISEUS AND ADENOSTOMA FASCICULATUM.  
 Threat: SOME DISTURBANCE ALONG OLD ROAD.  
 General: THIS WAS OCC #021 OF CTT37C20CA.

Owner/Manager: UNKNOWN

**Centromadia parryi ssp. congdonii**

Congdon's tarplant

Element Code: PDAST4R0P1

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G4T3	CNPS List: 1B.2
State: None	State: S3.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: ALKALINE SOILS, SOMETIMES DESCRIBED AS HEAVY WHITE CLAY. 1-230M.

Occurrence No. 13	Map Index: 25136	EO Index: 6125	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1969-08-15
Origin: Natural/Native occurrence			Site: 1969-08-15
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-23

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.29342° / -120.72287°	UTM: Zone-10 N3907961 E707065	Radius: 1 mile	Elevation: 200 ft	Mapping PrecisionNON-SPECIFIC	Symbol Type:POINT	Township: 30S	Range: 12E	Section: 30	Qtr: XX	Meridian: M
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Location: VALLEY WEST OF MT. BISHOP (BISHOP PEAK). WEST OF SAN LUIS OBISPO.  
 Location Detail: TWO COLLECTIONS FROM "LOS OSOS VALLEY" ALSO ATTRIBUTED TO THIS SITE.  
 Ecological: STUBBLE FIELD.  
 General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1965 COLLECTION BY R. HOOVER. ABUNDANT IN 1965.  
 Owner/Manager: UNKNOWN

Occurrence No. 14	Map Index: 49061	EO Index: 21810	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2001-05-11
Origin: Natural/Native occurrence			Site: 2001-05-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-23

Quad Summary: Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.25057° / -120.68713°	UTM: Zone-10 N3903282 E710426	Radius: 80 meters	Elevation: 140 ft	Mapping PrecisionSPECIFIC	Symbol Type:POINT	Township: 31S	Range: 12E	Section: 04	Qtr: SE	Meridian: M
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Location: FROM RANCH, NORTH OF FROM CREEK, 0.5 MILE NNW OF JUNCTION OF LOS OSOS VALLEY ROAD AND US 101, SAN LUIS OBISPO.  
 Location Detail: PLANT OCCURS IN SWALES AROUND THE HOME DEPOT CONSTRUCTION SITE.  
 Ecological: PLANT OCCURS IN SWALES CREATED BY THE CONSTRUCTION PROCESS. SWALES ARE TO BE MAINTAINED AS PART OF THE SITE DRAINAGE PLAN.  
 Threat: CONSTRUCTION OF HOME DEPOT. SWALE HAVING THE LARGEST POPULATION OF PLANTS IS SCHEDULED TO BE FILLED.  
 General: 150 PLANTS OBSERVED IN 2001. COLLECTIONS ATTRIBUTED HERE FROM "LAGUNA," "SOUTH END OF LAGUNA DE SAN LUIS OBISPO," AND "LAGOON AT SAN LUIS OBISPO". INCLUDES FORMER OCCURRENCE #55.  
 Owner/Manager: PVT

Occurrence No. 61	Map Index: 53654	EO Index: 53654	_____ Dates Last Seen _____
Occ Rank: Poor			Element: 2003-10-23
Origin: Natural/Native occurrence			Site: 2003-10-23
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-12-19

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.32306° / -120.74748°	UTM: Zone-10 N3911198 E704751	Radius: 80 meters	Elevation: 295 ft	Mapping PrecisionSPECIFIC	Symbol Type:POINT	Township: 30S	Range: 11E	Section: 13	Qtr: VW	Meridian: M
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Location: CAMP SAN LUIS OBISPO, ON NORTH & SOUTH SIDES OF WASHINGTON ROAD, SOUTH OF O'SULLIVAN AIRFIELD.  
 Location Detail: ON NORTH AND SOUTH SIDES OF WASHINGTON ROAD, ABOUT 0.2-0.25 MILES WEST OF INTERSECTION OF GLENN AND WASHINGTON ROADS. GROWING AT SIDE OF ROAD AND AMONG CONCRETE, PIPE, AND CULVERT DEBRIS IN EQUIPMENT YARD. AT 280-310 FEET IN ELEVATION.  
 Ecological: RUDERAL HABITAT ON CLAY SOIL WITH SMALL GRAVEL. ASSOCIATED WITH PICRIS ECHIOIDES, SALSOLA TRAGUS, HETEROTHECA GRANDIFLORA, BACCHARIS PILULARIS, CENTAUREA SOLSTITIALIS.  
 Threat: DEBRIS STORAGE, ROADSIDE GRADING & HERBICIDE APPLICATION, WEEDS.  
 General: FEWER THAN 10 PLANTS NORTH OF ROAD AND 2 PLANTS SOUTH OF ROAD IN 2003.  
 Owner/Manager: DOD-ARMY

**Centromadia parryi ssp. congdonii**

Congdon's tarplant

Element Code: PDAST4R0P1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4T3	CNPS List: 1B.2
State: None	State: S3.2	

**Habitat Associations**

**General:** VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** ALKALINE SOILS, SOMETIMES DESCRIBED AS HEAVY WHITE CLAY. 1-230M.

<b>Occurrence No.</b> 64	<b>Map Index:</b> 57149	<b>EO Index:</b> 60644	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-05-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-03-17

**Quad Summary:** Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24612° / -120.65643°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902855 E713231	<b>Range:</b> 12E
<b>Area:</b>	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 125 ft	<b>Section:</b> 11 <b>Qtr:</b> N
	<b>Symbol Type:</b> POLYGON
	<b>Meridian:</b> M

**Location:** SOUTH END OF SAN LUIS OBISPO, JUST NORTHWEST OF SAN LUIS OBISPO COUNTY AIRPORT, TANK FARM ROAD VICINITY.  
**Location Detail:** MAPPED MOSTLY WITHIN THE N 1/2 OF SECTION 11. PLANTS SCATTERED THROUGHOUT SITE.  
**Ecological:** IN SHALLOW DEPRESSIONS AND SWALES AT THE NON-NATIVE ANNUAL GRASSLAND AND WETLAND INTERFACE. ASSOCIATED WITH LOLIUM MULTIFLORUM, PICRIS ECHIOIDES, LOTUS CORNICULATUS, XANTHIUM STRUMARIUM, CYPERUS ERAGROSTIS, DISTICHLIS SPICATA, ETC.  
**Threat:** CATTLE GRAZING, VEHICLE TRAFFIC. FUTURE PLANS FOR PROPERTY UNKNOWN AS OF 2003.  
**General:** THOUSANDS OF PLANTS SEEN IN 2003. THE RARE CALYSTEGIA SUBCAULIS AND ERYNGIUM ARISTULATUM VAR. HOOVERI WERE ALSO OBSERVED IN VICINITY.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 69	<b>Map Index:</b> 60845	<b>EO Index:</b> 60881	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 2004-08-03
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-08-03
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-04-05

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.23988° / -120.67500°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902123 E711558	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Mapping Precision:</b> SPECIFIC
<b>Elevation:</b> 125 ft	<b>Section:</b> 10 <b>Qtr:</b> SE
	<b>Symbol Type:</b> POINT
	<b>Meridian:</b> M

**Location:** SOUTH END OF SAN LUIS OBISPO, JUST EAST OF LOS VERDES MONTESSORI SCHOOL.  
**Location Detail:** ON THE RUDERAL MARGINS OF A ROW-CROP FIELD, ON THE EAST & NORTHEAST PERIMETER OF PARCEL 17, HARFORD & CHAPMAN'S SUBDIVISION. MAPPED IN THE NW 1/4 OF THE SE 1/4 OF SECTION 10, EAST OF VACHELL LANE BETWEEN HIGUERA STREET & BUCKLEY ROAD.  
**Ecological:** ON RUDERAL MARGINS OF ROW-CROP FIELD. ASSOCIATED WITH PICRIS ECHIOIDES, CONVULVULUS ARVENSIS, CENTAUREA SOLSITALIS, POLYGONUM ARENASTRUM, PHYSALIS PHILADELPHICA, AND HORDEUM VULGARE.  
**Threat:** PARCEL PROPOSED FOR DEVELOPMENT AS OF 2004. WEEDS.  
**General:** 23 PLANTS SEEN IN 2004. ADJACENT PARCEL TO SOUTH REPORTEDLY HAD HUNDREDS OF PLANTS THAT ARE NOW EXTIRPATED BY DEVELOPMENT.  
**Owner/Manager:** PVT

**Centromadia parryi ssp. congdonii**

Congdon's tarplant

Element Code: PDAST4R0P1

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G4T3	CNPS List: 1B.2
State: None	State: S3.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: VALLEY AND FOOTHILL GRASSLAND.

Micro: ALKALINE SOILS, SOMETIMES DESCRIBED AS HEAVY WHITE CLAY. 1-230M.

Occurrence No. 75	Map Index: 63747	EO Index: 63842	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2005-10-19
Origin: Natural/Native occurrence			Site: 2005-10-19
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-24

Quad Summary: Pismo Beach (3512026/221B)

County Summary: San Luis Obispo

Lat/Long: 35.23043° / -120.68506°		Township: 31S
UTM: Zone-10 N3901054 E710667		Range: 12E
Area: 17.1 acres	Mapping Precision: SPECIFIC	Section: 16
Elevation: 100 ft	Symbol Type: POLYGON	Meridian: M
		Qtr: NE

Location: SOUTHERN END OF SAN LUIS OBISPO, ALONG SOUTH HIGUERA ST.  
 Location Detail: 4675 S HIGUERA ST, ALONG A DIRT AGRICULTURAL ROAD.  
 Ecological: MESIC GRASSLAND AND WETLAND.  
 Threat: PROPOSED RESIDENTIAL DEVELOPMENT & ACCESS ROAD MAY DESTROY ~50 PLANTS.  
 General: 1000 PLANTS OBSERVED IN 2005.  
 Owner/Manager: CITY OF SAN LUIS OBISPO, PVT

Occurrence No. 76	Map Index: 63749	EO Index: 63844	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2005-07-13
Origin: Natural/Native occurrence			Site: 2005-07-13
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-24

Quad Summary: Pismo Beach (3512026/221B)

County Summary: San Luis Obispo

Lat/Long: 35.23220° / -120.6853°		Township: 31S
UTM: Zone-10 N3901284 E712167		Range: 12E
Area: 10.0 acres	Mapping Precision: SPECIFIC	Section: 15
Elevation: 300 ft	Symbol Type: POLYGON	Meridian: M
		Qtr: NE

Location: SOUTH OF SAN LUIS OBISPO. WEST OF JESPERSEN RD & SOUTH OF BUCKLEY RD.  
 Location Detail: BORDERED BY JESPERSEN RD AND DRIVEWAY.  
 Ecological: WEEDY PASTURE DOMINATED BY PHALARIS BRACHYSTACHYS, PHALARIS PARADOXA, LOLIUM MULTIFLORUM. WEEDY ASSOCIATES: LACTUCA SERRIOLA, L. SALIGNA, ANTHEMIS COTULA, PICRIS ECHIOIDES, CENTAUREA MELITENSIS, CONVULVULUS ARVENSIS, CICHORIUM INTYBUS, ETC.  
 Threat: SITE PROPOSED FOR RESIDENTIAL DEVELOPMENT AS OF 2005. COMPETITION FROM EXOTICS.  
 General: APPROX 35 PLANTS OBSERVED IN 2005 AS SCATTERED INDIVIDUALS AND IN CLUSTERS.  
 Owner/Manager: PVT

Occurrence No. 77	Map Index: 46372	EO Index: 63847	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1940-08-11
Origin: Natural/Native occurrence			Site: 1940-08-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-01-24

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.31192° / -120.67407°		Township: 30S
UTM: Zone-10 N3910116 E711455		Range: 12E
Radius: 1 mile	Mapping Precision: NON-SPECIFIC	Section: 15
Elevation: 400 ft	Symbol Type: POINT	Meridian: M
		Qtr: XX

Location: ONE MILE NORTH OF SAN LUIS OBISPO.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS.  
 Ecological: OPEN CULTIVATED FIELD.  
 Threat: PROBABLY AGRICULTURE.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1940 COLLECTION BY MIOSSI & MIOSSI. NEEDS FIELDWORK. SITE MAY BE EXTIRPATED.  
 Owner/Manager: UNKNOWN



**Charadrius alexandrinus nivosus**

western snowy plover

Element Code: ABNNB03031

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T3	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** SANDY BEACHES, SALT POND LEVEES & SHORES OF LARGE ALKALI LAKES.  
**Micro:** NEEDS SANDY, GRAVELLY OR FRIABLE SOILS FOR NESTING.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12874	<b>EO Index:</b> 25772	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1965-04-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1978-XX-XX
<b>Presence:</b> Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-10-09

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14198° / -120.64512°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891326 E714535	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 13 <b>Qtr:</b> XX
<b>Elevation:</b> 120 ft	<b>Meridian:</b> M

**Location:** PISMO STATE BEACH; 500 YARDS EAST OF OCEAN, 800 YARDS WNW OF CAMPGROUND.  
**Ecological:** DURING A 1978 SURVEY THE HABITAT WAS DEEMED NO LONGER SUITABLE DUE TO DEVELOPMENT AND/OR HUMAN ACTIVITY.  
**General:** 3 EGGS SEEN ON EACH OF TWO NESTS ON SAND DUNES IN 1965. DURING A MAY TO JULY 1978 SURVEY NO BIRDS WERE OBSERVED.  
**Owner/Manager:** DPR-PISMO SB

<b>Occurrence No.</b> 109	<b>Map Index:</b> 12354	<b>EO Index:</b> 13030	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1986-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1986-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-12-20

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.39379° / -120.86517°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3918807 E693883	<b>Range:</b> 10E
<b>Area:</b>	<b>Section:</b> 23 <b>Qtr:</b> XX
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M

**Location:** ATASCADERO STATE BEACH, ON NORTH END OF MORRO BAY.  
**General:** 16 NESTS OBSERVED AT ATASCADERO STATE BEACH AND TORO CREEK BEACH (EO #110). 38% OF CLUTCHES HATCHED; 58% OF 12 CHICKS FLEDGED (0.44 FLEDGLINGS PER NEST). HIGH TIDES DESTROYED SEVEN NESTS, GULLS TWO, AND PEOPLE ONE.  
**Owner/Manager:** DPR-ATASCADERO SB

<b>Occurrence No.</b> 110	<b>Map Index:</b> 12321	<b>EO Index:</b> 25720	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-06-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-06-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Decreasing			<b>Record Last Updated:</b> 2003-09-02

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41339° / -120.87390°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3920964 E693043	<b>Range:</b> 10E
<b>Area:</b>	<b>Section:</b> 11 <b>Qtr:</b> XX
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M

**Location:** TORO CREEK BEACH, AT THE MOUTH OF TORO CREEK, BETWEEN MORRO BAY AND CAYUCOS  
**Location Detail:** IN 1986, HIGH TIDES DESTROYED SEVEN NESTS, GULLS TWO, AND PEOPLE ONE.  
**Ecological:** HABITAT CONSISTS OF BEACH STRAND WITH LOW BLUFFS INLAND. HEAVY RECREATIONAL USE BY DOGS AND HUMANS HAS DECREASED THE PRODUCTIVITY OF THIS SITE.  
**Threat:** THREATENED BY UNCONTROLLED, OFF-LEASH DOGS DURING NESTING SEASON.  
**General:** IN 1986, 16 NESTS OBSERVED AT TORO CREEK BEACH AND ATASCADERO STATE BEACH (EO #109). 38% OF CLUTCHES HATCHED; 58% OF 12 CHICKS FLEDGED (0.44 FLEDGLINGS PER NEST). TWO ACTIVE NESTS OBSERVED ON 1 JUN 2003.  
**Owner/Manager:** UNKNOWN

**Chlorogalum pomeridianum var. minus**

dwarf soaproot

Element Code: PMLIL0G042

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T1	CNPS List: 1B.2
State: None	State: S1.2	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** SERPENTINE. 240-970M.

<b>Occurrence No.</b> 1	<b>Map Index:</b> 12860	<b>EO Index:</b> 853	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1965-06-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1965-06-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-10-28

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34969° / -120.64684°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914364 E713832	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 1
<b>Elevation:</b> 1,600 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** RIDGE NORTHWEST OF CUESTA PASS, SANTA LUCIA RANGE.  
**Location Detail:** IN "THE VASCULAR PLANTS OF SAN LUIS OBISPO CO, CA" HOOVER NOTES DISTRIBUTION OF C. P. MINUS FROM "RIDGE NW OF CUESTA PASS AND NEAR SAN LUIS OBISPO TO HILLS EAST OF MORRO BAY", BUT ONLY THE CUESTA PASS SITE IS MAPPABLE AT CNDDB.  
**Ecological:** SERPENTINE ROCK.  
**General:** THE MAIN SOURCE OF INFO FOR THIS SITE IS 1965 COLLECTION BY HOOVER.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 2	<b>Map Index:</b> 27720	<b>EO Index:</b> 709	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1992-05-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-12-19

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25866° / -120.58871°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3904393 E719361	<b>Range:</b> 13E
<b>Area:</b> 34.9 acres	<b>Section:</b> 4
<b>Elevation:</b> 1,000 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** RIDGE ABOUT 3 MILES EAST OF SAN LUIS OBISPO, SOUTHWEST OF WEST CORRAL DE PIEDRA CREEK.  
**Location Detail:** MAPPED ABOUT 1.3 MILES SSW OF BALD HILL.  
**Ecological:** SERPENTINE GRASSLAND ASSOCIATED WITH CALOCHORTUS OBISPOENSIS, DUDLEYA ABRAMSII MURINA, CHORIZANTHE PALMERI, AND NASSELLA PULCHRA.  
**Threat:** GROWING ALONG PROPOSED ACCESS ROAD TO COASTAL AQUEDUCT.  
**General:** 100+ PLANTS OBSERVED IN 1992.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 17	<b>Map Index:</b> 62352	<b>EO Index:</b> 62389	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-08-19

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36181° / -120.69193°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915612 E709702	<b>Range:</b> 12E
<b>Area:</b> 5.9 acres	<b>Section:</b> 33
<b>Elevation:</b> 1,500 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** NEAR DUGHY SPRING IN CAMP SAN LUIS OBISPO.  
**Location Detail:** 2 COLONIES IN TRAINING AREA U. ONE COLONY 0.17 AIR MILE SW OF DUGHY SPRING. SECOND COLONY 0.24 AIR MILE SSW OF DUGHY SPRING.  
**Ecological:** IN MEADOW OPENINGS IN CHAPARRAL. ADOBE CLAY SOIL. ASSOC WITH HEMIZONIA CONGESTA SSP. LUZULIFOLIA, DICHELOSTEMMA CAPITATUM, HEDYPNOSIS CRETICA, ARCTOSTAPHYLOS OBISPOENSIS, CHORIZANTHE PALMERI, AND CALOCHORTUS ARGILLOSUS.  
**Threat:** CATTLE GRAZING, FERAL PIGS, MILITARY TRAINING ACTIVITIES, TOO FREQUENT FIRES & / OR FIRES IN THE WRONG SEASON.  
**General:** <25 PLANTS OBSERVED IN EACH OF THE TWO COLONIES IN 2003. THIS AREA BURNED IN 1994. ALSO ASSOC WITH NASSELLA, BRACHYPODIUM DISTACHYON, LOLIUM, AVENA BARBATA, AND ALIEN ANNUAL GRASSES.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Chlorogalum pomeridianum var. minus**

dwarf soaproot

Element Code: PML10G042

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: SERPENTINE. 240-970M.

Occurrence No. 18 Map Index: 62353 EO Index: 62390 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 2001-06-14  
 Origin: Natural/Native occurrence Site: 2001-06-14  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-08-19

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33314° / -120.71829° Township: 30S  
 UTM: Zone-10 N3912377 E707380 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 08 Qtr: NW  
 Elevation: 800 ft Symbol Type: POINT Meridian: M

Location: GUARD HILL AT CAMP SAN LUIS OBISPO.  
 Location Detail: WITHIN TRAINING AREA R.

Ecological: EDGE OF COASTAL SAGE SCRUB. EPHEMERAL STREAM EDGE ON STEEP NNE-FACING SLOPE OF ADOBE CLAY. ASSOC WITH BACCHARIS PILULARIS, ARTEMISIA CALIFORNICA, ROSA SPITHAMEA, POTENTILLA GLANDULOSA, EPILOBIUM CANUM, HEMIZONIA CONGESTA SSP. LUZULIFOLIA.

Threat: EROSION, FERAL PIGS, ROAD MAINTENANCE, CATTLE GRAZING, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME.

General: <10 PLANTS OBSERVED IN 2001. ALSO ASSOC WITH CENTAUREA CALCITRAPA, HIRSCHFELDIA INCANA, CALOCHORTUS CLAVATUS SSP. CLAVATUS, AND ALIEN ANNUAL GRASSES.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 2 Map Index: 36740 EO Index: 21145 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1958-06-20  
 Origin: Natural/Native occurrence Site: 1958-06-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.32331° / -120.67849° Township: 30S  
 UTM: Zone-10 N3911370 E711024 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 15 Qtr: XX  
 Elevation: 550 ft Symbol Type:POLYGON Meridian: M

Location: STENNER CREEK NEAR SAN LUIS OBISPO.  
 Location Detail: EXACT LOCATION NOT KNOWN; SITE MAPPED ALONG CREEK NORTH FROM SAN LUIS OBISPO. CREEK SPELLED "STEINER" ON HERB LABEL.  
 Ecological: SERPENTINE SOIL.  
 General: MAIN SOURCE OF INFO FOR THIS SITE IS 1958 COLLECTION BY HARDHAM. HISTORICAL COLLECTIONS FROM GENERAL AREA OF SAN LUIS OBISPO ARE ATTRIBUTED TO THIS SITE, INCL. BREWER'S 1861 TYPE COLL. FROM "SAN LUIS OBISPO". OCC 1 LUMPED W/THIS SITE.  
 Owner/Manager: PVT

Occurrence No. 3 Map Index: 43063 EO Index: 21144 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2001-05-15  
 Origin: Natural/Native occurrence Site: 2001-05-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-20

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33934° / -120.68927° Township: 30S  
 UTM: Zone-10 N3913126 E710002 Range: 12E  
 Area: 5.9 acres Mapping PrecisionSPECIFIC Section: 04 Qtr: E  
 Elevation: 780 ft Symbol Type:POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO, RIDGE NORTHWEST OF CHORRO RESERVOIR, NORTH OF SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA X. MAPPED AS SEVEN SMALL POLYGONS.  
 Ecological: SERPENTINE OUTCROP/RIDGE. ALONG OLD ROAD CUT WITH YUCCA WHIPPLEI, AVENA SPP., NASSELLA SPP., AND HEMIZONIA SPP. ALSO IN THIS AREA IS THE RARE CALOCHORTUS OBISPOENSIS AND C. CLAVATUS CLAVATUS.  
 Threat: ACTIVE MILITARY USE & CATTLE GRAZING.  
 General: 20 PLANTS OBSERVED IN 1995. ABOUT 50 PLANTS SEEN IN 1999 AND MORE THAN 250 IN 2000. UNKNOWN NUMBER SEEN IN 2001. AREA BURNED IN 1994 HIGHWAY 41 FIRE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 4 Map Index: 12820 EO Index: 21146 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1984-04-23  
 Origin: Natural/Native occurrence Site: 1984-04-23  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31018° / -120.65196° Township: 30S  
 UTM: Zone-10 N3909971 E713470 Range: 12E  
 Area: 7.3 acres Mapping PrecisionSPECIFIC Section: 14 Qtr: SE  
 Elevation: 650 ft Symbol Type:POLYGON Meridian: M

Location: BRIZZIOLARI (POLY) CANYON ABOUT 0.5 MILE NORTHEAST OF CAL POLY S.L.O., SAN LUIS OBISPO.  
 Location Detail: MAPPED ALONG BOTH SIDES OF ROAD ALONG CANYON BOTTOM WITHIN THE S 1/2 SE 1/4 SECTION 14.  
 Ecological: IN BARRENS AND AREAS WITH SERPENTINE GRAVELS. SURROUNDING COMMUNITIES INCLUDE YUCCA SCRUB, LIVE OAK WOODLAND, CHAPARRAL, AND COASTAL SAGE SCRUB. GROWING ON STEEP, NW- FACING AND SW-FACING SLOPES.  
 General: 10+ PLANTS OBSERVED IN EAST COLONY AND 50+ PLANTS IN WEST COLONY IN 1984. INCLUDES FORMER OCCURRENCE #5.  
 Owner/Manager: CAL POLY-SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.3
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12931	<b>EO Index:</b> 21142	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1984-04-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1984-04-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29660° / -120.64453°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908480 E714182	<b>Range:</b> 12E
<b>Area:</b> 5.9 acres	<b>Section:</b> 24
<b>Elevation:</b> 550 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** EAST OF CAL POLY S.L.O. ALONG S-END OF RIDGE BETWEEN BRIZIOLARI CREEK AND SAN LUIS OBISPO CREEK, NE OF SAN LUIS OBISPO.  
**Location Detail:** TWO COLONIES MAPPED ON LOWER SLOPES OF RIDGE ABOVE OLD HIGHWAY 101 (NOW CALLED MIOSSI ROAD).  
**Ecological:** FOUND ALONG STEEP FACE OF SERPENTINE RIDGE ON SERPENTINE SOILS. ASSOCIATED WITH ERIOGONUM FASCICULATUM AND SELGINELLA BIGELOVII.  
**General:** 100+ PLANTS OBSERVED IN 1984.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 7	<b>Map Index:</b> 36732	<b>EO Index:</b> 21141	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1984-04-25
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1984-04-25
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-24

**Quad Summary:** Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28982° / -120.62660°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3907767 E715830	<b>Range:</b> 13E
<b>Area:</b> 4.2 acres	<b>Section:</b> 30
<b>Elevation:</b> 450 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** MOUTH OF RESERVOIR CANYON ABOUT 0.5 MILE SOUTH OF HIGHWAY 101, EAST OF SAN LUIS OBISPO.  
**Location Detail:** ON AND ABOVE (NORTH OF) OLD ROAD CUT.  
**Ecological:** FOUND ON LOOSE SERPENTINE ROCK ON SOUTHWEST-FACING OLD ROAD CUT. LITTLE VEGETATION ON CUT. ASSOCIATED WITH CALOCHORTUS OBISPOENSIS.  
**Threat:** MOVEMENT OF ROCK ON SLOPE.  
**General:** 50+ PLANTS OBSERVED IN 1984  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

<b>Occurrence No.</b> 8	<b>Map Index:</b> 13111	<b>EO Index:</b> 21138	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1987-05-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-05-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-24

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.22996° / -120.57492°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3901240 E720693	<b>Range:</b> 13E
<b>Area:</b> 20.9 acres	<b>Section:</b> 15
<b>Elevation:</b> 750 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** ABOUT 1.5 MILES EAST OF BIDDLE RANCH ROAD (ORCUTT ROAD), NORTH OF EAST CORRAL DE PIEDRA CREEK AND SE OF SAN LUIS OBISPO.  
**Location Detail:** ON WEST FACING SLOPE DUE EAST OF RAYMOND BALL HOUSE. MAPPED ALONG RIDGE BETWEEN EAST CORRAL DE PIEDRA CREEK AND SOUTH BRANCH OF WEST CORRAL DE PIEDRA CREEK.  
**Ecological:** GROWING WITH DUDLEYA ABRAMSII SSP. MURINA AND ANNUAL GRASSES ON SERPENTINE ROCK AND SOIL.  
**Threat:** POSSIBLE GRAZING THREAT.  
**General:** 200+ PLANTS OBSERVED IN 1987.  
**Owner/Manager:** PVT

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

----- Status ----- NDDB Element Ranks ----- Other Lists -----  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 9 Map Index: 58259 EO Index: 21140 ----- Dates Last Seen -----  
 Occ Rank: Unknown Element: 1963-06-05  
 Origin: Natural/Native occurrence Site: 1963-06-05  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-12-17

Quad Summary: Atascadero (3512046/246B), Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.41578° / -120.73559° Township: 29S  
 UTM: Zone-10 N3921508 E705597 Range: 12E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 07 Qtr: XX  
 Elevation: 1,500 ft Symbol Type:POINT Meridian: M

Location: CERRO ALTO.  
 Ecological: FOUND ON OPENINGS IN CHAPARRAL ON SERPENTINE.  
 General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1963 COLLECTION BY HARDHAM. PLANTS ALSO COLLECTED HERE BY HARDHAM IN 1958 (#3289 CAS).  
 Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 10 Map Index: 12761 EO Index: 21139 ----- Dates Last Seen -----  
 Occ Rank: Unknown Element: 1979-05-XX  
 Origin: Natural/Native occurrence Site: 1979-05-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.41797° / -120.67563° Township: 29S  
 UTM: Zone-10 N3921877 E711037 Range: 12E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 10 Qtr: SW  
 Elevation: 1,600 ft Symbol Type:POINT Meridian: M

Location: ABOUT 0.9 MILE SOUTHEAST OF EAGLE PEAK ALONG ROAD ON NORTH SIDE OF KATHLEEN VALLEY, SOUTH OF ATASCADERO.  
 Location Detail: MAPPED SOUTH OF ROAD WITHIN THE NE 1/4 SW 1/4 SECTION 10.  
 General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY T. KRANTZ. BREWER COLLECTION (#894, 1861) FROM ATASCADERO RANCH ATTRIBUTED TO THIS SITE.  
 Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 11 Map Index: 12709 EO Index: 21136 ----- Dates Last Seen -----  
 Occ Rank: Excellent Element: 1979-05-29  
 Origin: Natural/Native occurrence Site: 1979-05-29  
 Presence: Presumed Extant  
 Trend: Stable Record Last Updated: 1998-09-24

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.42452° / -120.69669° Township: 29S  
 UTM: Zone-10 N3922559 E709107 Range: 12E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 09 Qtr: NW  
 Elevation: 1,400 ft Symbol Type:POINT Meridian: M

Location: ABOUT 0.5 MILE WEST OF EAGLE PEAK NEAR CONFLUENCE OF HALE CREEK AND ATASCADERO CREEK, SOUTH OF ATASCADERO.  
 Location Detail: MAPPED EAST OF ROAD AND CONFLUENCE OF CREEKS WITHIN THE NE 1/4 NW 1/4 SECTION 9.  
 Ecological: FOUND ON SERPENTINE OUTCROP. SOUTHWEST EXPOSURE QUITE DISTINCT FROM SURROUNDING VEGETATION AS OPENINGS IN CHAMISE-CANYON OAK COVER. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, QUERCUS CHRYSOLEPIS, YUCCA WHIPPLEI, AND MONARDELLA PALMERI.  
 General: PLANTS OBSERVED OVER 0.1 HECTARE IN 1979. POPULATION IS STABLE OR INCREASING, UNDISTURBED.  
 Owner/Manager: USFS-LOS PADRES NF

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 12 Map Index: 12871 EO Index: 14227 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1977-XX-XX  
 Origin: Natural/Native occurrence Site: 1977-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35084° / -120.64820° Township: 30S  
 UTM: Zone-10 N3914489 E713705 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 02 Qtr: XX  
 Elevation: 2,000 ft Symbol Type:POLYGON Meridian: M

Location: ALONG CUESTA RIDGE ABOUT 1 MILE WEST OF HIGHWAY 101 AT CUESTA PASS, NORTHEAST OF SAN LUIS OBISPO.  
 Location Detail: MAPPED MOSTLY WITHIN THE W 1/2 NW 1/4 SECTION 1 AND THE NE 1/4 NE 1/4 SECTION 2. ACCORDING TO J. SHEVOCK, MAP PROVIDED BY FAIRFAX IS NOT ACCURATE. SITE MAPPED AS NON-SPECIFIC POLYGON AT CNDDB.  
 Ecological: DRY DISTURBED GROUND IN AREAS OF ALTERED SERPENTINE ROCK.  
 General: LOCALLY ABUNDANT IN 1987. ALSO COLLECTED HERE BY HOOVER IN 1964.  
 Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 13 Map Index: 12760 EO Index: 14226 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1998-06-15  
 Origin: Natural/Native occurrence Site: 1998-06-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-01-30

Quad Summary: Atascadero (3512046/246B), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.37037° / -120.67868° Township: 29S  
 UTM: Zone-10 N3916590 E710884 Range: 12E  
 Area: 209.8 acres Mapping PrecisionSPECIFIC Section: 27 Qtr: SW  
 Elevation: 2,500 ft Symbol Type:POLYGON Meridian: M

Location: CUESTA RIDGE; FROM TV TOWER ABOUT 1.7 MI WNW OF CUESTA PASS NORTH TO HEAD OF SAN LUISITO CREEK, N OF SAN LUIS OBISPO.  
 Location Detail: IN OPEN PLACES WITH DISTURBED RED SOILS AROUND SARGENT CYPRESS. MAPPED ALONG RIDGELINE ROAD FOR NEARLY 3 MILES OF CUESTA RIDGE; FROM SE 1/4 SW 1/4 SECTION 21 IN THE NORTH TO SW 1/4 SE 1/4 SECTION 35 IN THE SOUTH.  
 Ecological: SARGENT CYPRESS FOREST OR SERPENTINE CHAPARRAL WITH CUPRESSUS SARGENTII, ARCTOSTAPHYLOS OBISPOENSIS, QUERCUS DURATA, CALOCHORTUS OBISPOENSIS, AND CAREX OBISPOENSIS. HARD, RED, SERPENTINE SOILS.  
 Threat: MOTORCYCLES AND OTHER ORV'S.  
 General: 1000+ PLANTS OBSERVED IN 1984. 100'S OF PLANTS OBSERVED JUST SOUTH OF TV TOWER IN 1998. 1989 JUNAK AND AYERS COLLECTIONS FROM LOCATIONS "WEST OF PICK AND SHOVEL MINE" ATTRIBUTED TO THIS OCCURRENCE.  
 Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 14 Map Index: 12729 EO Index: 21137 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1987-09-26  
 Origin: Natural/Native occurrence Site: 1987-09-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.24443° / -120.68730° Township: 31S  
 UTM: Zone-10 N3902601 E710427 Range: 12E  
 Area: 2.4 acres Mapping PrecisionSPECIFIC Section: 09 Qtr: NE  
 Elevation: 150 ft Symbol Type:POLYGON Meridian: M

Location: FROOM RANCH, ABOUT 0.3 MILE WSW OF LOS OSOS VALLEY ROAD AT HIGHWAY 101, JUST SW OF SAN LUIS OBISPO CITY LIMITS.  
 Location Detail: TWO COLONIES MAPPED JUST WEST OF FROOM CREEK ALONG LOWER SLOPES OF MINE HILL.  
 Ecological: IN GRASSLAND AND COASTAL SCRUB ON DRY SERPENTINE SLOPES, SOMETIMES PURE SERPENTINE.  
 Threat: AREA WAS PLANNED FOR DEVELOPMENT IN 1987.  
 General: FEWER THAN 1000 PLANTS OBSERVED IN 1987. KEIL SAYS THERE ARE A FEW LOCATIONS OF THIS PLANT IN VICINITY OF THIS OCCURRENCE.  
 Owner/Manager: PVT

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 15 Map Index: 39800 EO Index: 34802 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1977-03-21  
 Origin: Natural/Native occurrence Site: 1977-03-21  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.18848° / -120.61746° Township: 31S  
 UTM: Zone-10 N3896545 E716932 Range: 13E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 31 Qtr: XX  
 Elevation: 200 ft Symbol Type: POINT Meridian: M

Location: PRICE CANYON ROAD ABOUT 1 MILE SOUTHWEST OF HIGHWAY 227, SOUTH OF SAN LUIS OBISPO.  
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1977 COLLECTION BY IMPER CITED BY REVEAL AND HARDHAM (PHYTOLOGIA, 1989).  
 Owner/Manager: UNKNOWN

Occurrence No. 16 Map Index: 39801 EO Index: 34803 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1987-04-26  
 Origin: Natural/Native occurrence Site: 1987-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29048° / -120.60858° Township: 30S  
 UTM: Zone-10 N3907880 E717468 Range: 13E  
 Area: 9.1 acres Mapping Precision: SPECIFIC Section: 29 Qtr: NW  
 Elevation: 850 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 1.1 MILE EAST OF RESERVOIR IN RESERVOIR CANYON AND 1.8 MILES WSW OF LOPEZ MOUNTAIN, EAST OF SAN LUIS OBISPO.  
 Location Detail: ON SOUTHWEST-FACING SERPENTINE RIDGE AND SLOPE JUST BELOW 1009' MARK ON MAP. MAPPED WITHIN THE SE 1/4 NW 1/4 SECTION 29.  
 Ecological: SERPENTINE ROCK, VERY LITTLE SOIL. SOME YUCCA, SURROUNDED BY GRASSLAND. GROWING WITH DUDLEYA ABRAMSII MURINA ON WEST-RUNNING RIDGE BUT FOUND ON NORTH, SOUTH, AND WEST-FACING SLOPES.  
 Threat: POSSIBLE THREAT FROM GRAZING.  
 General: 1000+ PLANTS OBSERVED IN 1987. 1986 COLLECTION BY KEIL AND WALTERS ATTRIBUTED FOR THIS SITE.  
 Owner/Manager: PVT

Occurrence No. 17 Map Index: 39802 EO Index: 34804 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1987-04-26  
 Origin: Natural/Native occurrence Site: 1987-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30038° / -120.62003° Township: 30S  
 UTM: Zone-10 N3908953 E716400 Range: 13E  
 Area: 24.7 acres Mapping Precision: SPECIFIC Section: 19 Qtr: SE  
 Elevation: 800 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 1 MILE NORTH OF RESERVOIR CANYON & 0.3 MILE EAST OF HIGHWAY 101, EAST OF SAN LUIS OBISPO.  
 Location Detail: ABOUT 0.5 MILE NORTH OF WATER TANK NORTH OF RESERVOIR CANYON. POPULATION RUNS FROM 848' HILLTOP EAST ALONG RIDGE TO INTERMITTENT STREAM VALLEY AND ADJOINING W-FACING SLOPE.  
 Ecological: ON EXPOSED SERPENTINE RIDGETOP SURROUNDED BY GRASSLAND. GROWING WITH YUCCA AND DUDLEYA ABRAMSII MURINA. GROWING ON SOUTH, WEST, AND NORTH-FACING SLOPES. LAYIA JONESII IN THIS VICINITY TOO.  
 Threat: POSSIBLE THREAT FROM GRAZING.  
 General: 100+ PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT



**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 18 Map Index: 39803 EO Index: 34805 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1987-04-27  
 Origin: Natural/Native occurrence Site: 1987-04-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31272° / -120.61945° Township: 30S  
 UTM: Zone-10 N3910323 E716419 Range: 13E  
 Area: 25.7 acres Mapping Precision: SPECIFIC Section: 18 Qtr: SE  
 Elevation: 800 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 0.2 MILE SE OF HIGHWAY 101 AT SAN LUIS OBISPO CREEK CROSSING AND 1 MILE WSW OF MOUNT LOWE, NE OF SAN LUIS OBISPO.  
 Location Detail: EAST SIDE OF HWY AT BOTTOM OF CUESTA GRADE. ON SERPENTINE RIDGE 1.8 MI SE OF REAL ESTATE OFFICE AND APARTMENT COMPLEX AND UNDER POWERLINES 0.7 MI SOUTH OF WHERE THEY CROSS HWY. WITHIN W 1/2 SE 1/4 SECTION 18.  
 Ecological: ALONG TOP AND SLOPE OF ROCKY SERPENTINE RIDGE. GROWING WITH DUDLEYA ABRAMSII MURINA, SURROUNDED BY GRASSLAND.  
 Threat: POSSIBLE THREAT FROM GRAZING.  
 General: ABOUT 100 PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT

Occurrence No. 19 Map Index: 39804 EO Index: 34806 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1992-05-20  
 Origin: Natural/Native occurrence Site: 1992-05-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33839° / -120.65899° Township: 30S  
 UTM: Zone-10 N3913085 E712757 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 11 Qtr: XX  
 Elevation: 800 ft Symbol Type: POINT Meridian: M

Location: NEAR AQUEDUCT ABOUT 0.6 MILE SOUTHWEST OF SOUTH PORTAL OF CUESTA TUNNEL, NORTH OF SAN LUIS OBISPO.  
 Location Detail: ALONG SLOPE ABOVE DIRT ROAD 1 AIR MI EAST OF CAMP SAN LUIS OBISPO BOUNDARY.  
 Ecological: BARREN, ROCKY SERPENTINE SLOPES WITH S OR SE EXPOSURE. GROWING WITH YUCCA WHIPPLEI AND CHORIZANTHE PALMERI.  
 Threat: WIDENING OF COASTAL AQUEDUCT ACCESS ROAD & POWER LINE CONSTRUCTION.  
 General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1992.  
 Owner/Manager: PVT-SPRR, STATE

Occurrence No. 20 Map Index: 54012 EO Index: 34809 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-08-04  
 Origin: Natural/Native occurrence Site: 2003-08-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-01-30

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35857° / -120.69327° Township: 29S  
 UTM: Zone-10 N3915251 E709588 Range: 12E  
 Area: 6.1 acres Mapping Precision: SPECIFIC Section: 33 Qtr: S  
 Elevation: 1,300 ft Symbol Type: POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO, UPPER CHORRO CREEK RESERVOIR NEAR SPRINGS AND MINING SITES, NORTH OF SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA X. MAPPED AS SEVEN SMALL POLYGONS IN THE S MIDDLE OF SEC 33 AND THE NW1/4 SEC 33.  
 Ecological: STEEP ERODED SLOPES AND LEVEL GRADED ROADS ON SERPENTINE SOILS. SERPENTINE CHAPARRAL/WOODLAND, RECENTLY BURNED. PINUS SABINIANA, HETEROMELES, YUCCA WHIPPLEI, AND NASSELLA SPP. ARE DOMINANTS IN UNDISTURBED AREAS. PRIOR MINING AREA.  
 Threat: ACTIVE MILITARY SITE; POSSIBLE EROSION. MAJOR ROAD REPAIR IN 2000, 2001. RECLAMATION WORK ON TAILINGS BEGAN IN 2002.  
 General: 1000 PLANTS OBSERVED IN 1995 AND 1999. LESS THAN 170 PLANTS SEEN IN 2001. LESS THAN 45 PLANTS SEEN IN 2002. MORE THAN 100 PLANTS SEEN IN 2003. OTHER RARE PLANTS IN THIS AREA INCLUDE CALOCHORTUS OBISPOENSIS AND C. CLAVATUS SSP. CLAVATUS.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.3
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

<b>Occurrence No.:</b> 21	<b>Map Index:</b> 39714	<b>EO Index:</b> 34810	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1994-05-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-26
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-07-21

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26789° / -120.68159°	<b>UTM:</b> Zone-10 N3905216 E710886	<b>Area:</b> 28.0 acres	<b>Elevation:</b> 400 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 34	<b>Qtr:</b> SW	<b>Meridian:</b> M
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**Location:** HILLSIDE EAST OF LAGUNA LAKE IN LAGUNA LAKE PARK, NORTH OF MADONNA ROAD, SAN LUIS OBISPO. NEAR MADONNA INN.  
**Location Detail:** 150-250 YARDS FROM PARKING LOT UP FROM ELECTRICAL TOWER ON HILLSIDE; ACROSS FROM EUCALYPTUS IN PARK.  
**Ecological:** SERPENTINE GRASSLAND ON MODERATELY STEEP SW-FACING SLOPE. DOMINATED BY HORDEUM CALIFORNICUM, NASSELLA, DUDLEYA ABRAMSII MURINA, CALOCHORTUS OBISPOENSIS, LOMATIUM PARVIFOLIUM, AND CIRSIUM FONTINALE OBISPOENSE.  
**Threat:** GRAZING AND RECREATION ARE CURRENT USES OF THIS SITE.  
**General:** PLANTS COLLECTED IN THIS VICINITY BY SMELTZER & TURNQUIST (#109 OBI) IN 1982. ALSO SIGHTED HERE IN 1988 DURING CALOCHORTUS OBISPOENSIS SURVEY. ALSO COLLECTED IN THIS VICINITY (DIRECTLY BEHIND AND W OF MADONNA INN) BY TAYLOR IN 1994.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

<b>Occurrence No.:</b> 22	<b>Map Index:</b> 39809	<b>EO Index:</b> 34811	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1993-08-03
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-08-03
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35926° / -120.64062°	<b>UTM:</b> Zone-10 N3915440 E714372	<b>Radius:</b> 80 meters	<b>Elevation:</b> 1,360 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 36	<b>Qtr:</b> SW	<b>Meridian:</b> M
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**Location:** ALONG ROAD JUST WEST OF NORTH PORTAL OF CUESTA TUNNEL, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** ON ROADCUT AND ROADBED WITHIN THE NE 1/4 SW 1/4 SECTION 36.  
**Ecological:** ON BARE, ROCKY SERPENTINE SUBSTRATE. GROWING IN LITTLE-USED ROAD.  
**Threat:** POSSIBLE SPOIL AREA FOR COASTAL AQUEDUCT BRANCH CONSTRUCTION.  
**General:** 100-200 PLANTS OBSERVED IN 1993.  
**Owner/Manager:** PVT

<b>Occurrence No.:</b> 23	<b>Map Index:</b> 39805	<b>EO Index:</b> 34807	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1992-05-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34434° / -120.65457°	<b>UTM:</b> Zone-10 N3913754 E713143	<b>Radius:</b> 80 meters	<b>Elevation:</b> 1,100 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 02	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** ALONG ROAD ABOUT 0.2 MILE SOUTHWEST OF SOUTH PORTAL OF CUESTA TUNNEL, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** MAPPED SOUTH OF ROAD AND NORTH OF AQUEDUCT.  
**Ecological:** BARREN, ROCKY SERPENTINE SLOPES WITH S OR SE EXPOSURE. GROWING WITH YUCCA WHIPPLEI AND CHORIZANTHE PALMERI.  
**Threat:** WIDENING OF COASTAL AQUEDUCT ACCESS ROAD & POWER LINE CONSTRUCTION.  
**General:** UNKNOWN NUMBER OF PLANTS OBSERVED IN 1992.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 24 Map Index: 57206 EO Index: 62065 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-27  
 Origin: Natural/Native occurrence Site: 2003-05-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-20

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.23889° / -120.73916° Township: 31S  
 UTM: Zone-10 N3901878 E705721 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 12 Qtr: SE  
 Elevation: 411 ft Symbol Type: POINT Meridian: M

Location: SEE CANYON, APPROXIMATELY 0.7 AIRMILE SOUTHWEST OF HEADWATERS OF FROOM CREEK.  
 Location Detail: TWO POPULATIONS MAPPED AS ONE POLYGON BY CNDDB. MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 12.  
 Ecological: ON A SERPENTINE OUTCROP AND ASSOCIATED SOILS.

General: 1000 PLANTS SEEN IN 2003. MANY OTHER RARE SPECIES IN THIS VICINITY, INCLUDING LOMATIUM PARVIFOLIUM, DUDLEYA ABRAMSII SSP. MURINA, CHORIZANTHE PALMERI, CALOCHORTUS OBISPOENSIS, C. CLAVATUS SSP. CLAVATUS, C. SIMULANS, CASTILLEJA DENSIFLORA.

Owner/Manager: PVT

Occurrence No. 25 Map Index: 62036 EO Index: 62072 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-04-03  
 Origin: Natural/Native occurrence Site: 2003-04-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-20

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.36265° / -120.68831° Township: 29S  
 UTM: Zone-10 N3915714 E710029 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 33 Qtr: NE  
 Elevation: 1,600 ft Symbol Type: POINT Meridian: M

Location: CAMP SAN LUIS OBISPO, TAILINGS AT LA TRINIDAD MINE, ABOUT 0.5 MILE EAST OF WHISKEY SPRING.  
 Location Detail: MAPPED WITHIN THE S 1/2 OF THE NE 1/4 OF SECTION 33. ALONG DIRT ROAD TO MINE, IN TRAINING AREA X.  
 Ecological: SERPENTINE SCREE. ASSOCIATES INCLUDE ARCTOSTAPHYLOS OBISPOENSIS, PINUS SABINIANA, CEANOTHUS CUNEATUS VAR. RAMULOSUS, HETEROMELES ARBUTIFOLIA, ESCHSCHOLZIA CALIFORNICA, NASSELLA PULCHRA, AND AVENA SPP.

Threat: CATTLE, RECLAMATION OF MINE & TAILINGS, NON-NATIVE PLANTS, MILITARY TRAINING, FERAL PIGS, & IMPROPER FIRE REGIME.

General: UNKNOWN NUMBER OF PLANTS SEEN IN 2001 AND 2003. AREA BURNED IN 1994 HIGHWAY 41 FIRE.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 26 Map Index: 62037 EO Index: 62073 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2002-06-18  
 Origin: Natural/Native occurrence Site: 2002-06-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-20

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35414° / -120.66526° Township: 29S  
 UTM: Zone-10 N3914818 E712146 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 34 Qtr: SE  
 Elevation: 1,675 ft Symbol Type: POINT Meridian: M

Location: CAMP SAN LUIS OBISPO, SOUTHEAST OF PICK & SHOVEL MINE, SW OF TV TOWERS ON CUESTA RIDGE.  
 Location Detail: TRAINING AREA X. MAPPED IN THE SE 1/4 OF THE SE 1/4 OF SECTION 34.  
 Ecological: CHAPARRAL WITH CEANOTHUS CUNEATUS VAR. RAMULOSUS, ARCTOSTAPHYLOS OBISPOENSIS, CALOCHORTUS OBISPOENSIS, CALOCHORTUS CLAVATUS, CALOCHORTUS ARGILLOSUS.

Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER FIRE REGIME, FERAL PIGS.

General: FEWER THAN 50 PLANTS SEEN IN 2002. AREA BURNED IN 1994 HIGHWAY 41 FIRE.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.3
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

<b>Occurrence No. 27</b>	<b>Map Index: 62041</b>	<b>EO Index: 62077</b>	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-06-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-06-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-07-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34463° / -120.67698°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913739 E711105	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 03 <b>Qtr:</b> SW
<b>Elevation:</b> 1,200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** CAMP SAN LUIS OBISPO, CHORRO CREEK ROAD, ABOUT 0.35 AIRMILE EAST OF CHORRO CREEK, NORTHEAST OF CHORRO RESERVOIR.  
**Location Detail:** TRAINING AREA X.  
**Ecological:** SERPENTINE RUBBLE WITH HETEROMELES ARBUTIFOLIA, ADENOSTOMA FASCICULATUM, HEPSEROYUCCA WHIPPLEI, MIMULUS AURANTIACUS, AND LOTUS SCOPARIUS.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
**General:** LESS THAN 20 PLANT SEEN IN 2000. AREA BURNED IN 1994 HIGHWAY 41 FILE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No. 28</b>	<b>Map Index: 62042</b>	<b>EO Index: 62078</b>	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-06-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-06-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-07-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33064° / -120.68599°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912168 E710323	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 09 <b>Qtr:</b> SE
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** CAMP SAN LUIS OBISPO, BETWEEN CALIFORNIA MENS COLONY & CHORRO RESERVOIR.  
**Location Detail:** TRAINING AREA W. MAPPED IN NE1/4 OF SE1/4 SEC 9.  
**Ecological:** SERPENTINE OUTCROP; RIDGECREST BELOW THE SUMMIT. ASSOCIATES INCLUDE ERIOPHYLLUM CONFERTIFLORUM, GILIA ACHILLEIFOLIA, LOMATIUM UTRICULATUM, ESCHSCHOLZIA CALIFORNICA, CHORIZANTHE PALMERI, NASSELLA PULCHRA, N. LEPIDA, & ALIEN ANNUAL GRASSES  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
**General:** LESS THAN 20 PLANTS SEEN IN 2000.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No. 29</b>	<b>Map Index: 62043</b>	<b>EO Index: 62079</b>	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-04-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-07-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31727° / -120.74864°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910553 E704661	<b>Range:</b> 11E
<b>Area:</b> 3.2 acres	<b>Section:</b> 13 <b>Qtr:</b> NW
<b>Elevation:</b> 420 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** CAMP SAN LUIS OBISPO, FIRST RIDGE WEST OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK.  
**Location Detail:** TRAINING AREA A. SEVERAL GPS POINTS MAPPED AS THREE POLYGONS.  
**Ecological:** SERPENTINE OUTCROP ON STEEP SLOPE. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, PHACELIA IMBRICATA, GILIA ACHILLEAFOLIA, LOTUS SCOPARIUS, ESCHSCHOLZIA CALIFORNICA, NASSELLA, AND SELAGINELLA BIGELOVIA.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
**General:** 20-30 PLANTS SEEN IN 2000. ABOUT 50 PLANTS SEEN IN 2002. LESS THAN 50 PLANTS SEEN IN 2003.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Chorizanthe breweri**

Brewer's spineflower

Element Code: PDPGN04050

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.3  
 State: None State: S2.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: ROCKY OR GRAVELLY SERPENTINE SITES; USUALLY IN BARREN AREAS. 45-800M.

Occurrence No. 30 Map Index: 55747 EO Index: 62080 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-06-06  
 Origin: Natural/Native occurrence Site: 2001-06-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-20

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25471° / -120.76418° Township: 31S  
 UTM: Zone-10 N3903582 E703404 Range: 11E  
 Area: 4.7 acres Mapping Precision: SPECIFIC Section: 02 Qtr: SW  
 Elevation: 1,250 ft Symbol Type: POLYGON Meridian: M

Location: EAST END OF IRISH HILLS, ALONG PREFUMO CANYON ROAD NEAR HEAD OF COOK CREEK, SOUTHWEST OF SAN LUIS OBISPO.  
 Location Detail: IN WET OPENINGS. MAPPED WITHIN THE NW 1/4 OF THE SW 1/4 OF SECTION 2.  
 Ecological: NORTH-FACING SERPENTINE BOG ADJACENT TO PERENNIAL STREAM. IN CERCUS AGRIFOLIA WOODLAND AND CEANOTHUS CUNEATUS CHAPARRAL WITH PICKERINGIA MONTANA AND HETEROMELES ARBUTIFOLIA.  
 General: UNKNOWN NUMBER OF PLANTS SEEN IN DURING A 2001 SURVEY FOR CIRSIUM FONTINALE VAR. OBISPOENSIS. SITE IS IN EXCELLENT CONDITION. OWNERS HAVE EXPRESSED INTEREST IN PROTECTING THIS AREA.  
 Owner/Manager: PVT

Occurrence No. 32 Map Index: 62082 EO Index: 62118 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1993-05-20  
 Origin: Natural/Native occurrence Site: 1993-05-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-21

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.27934° / -120.61082° Township: 30S  
 UTM: Zone-10 N3906639 E717294 Range: 13E  
 Area: \_\_\_\_\_ Mapping Precision: NON-SPECIFIC Section: 32 Qtr: XX  
 Elevation: 1,200 ft Symbol Type: POLYGON Meridian: M

Location: RESERVOIR CANYON, MIDPARTS OF CANYON ON LOWER SLOPES AT LEAST 15 METERS ABOVE CREEK.  
 Location Detail: LOCATION VAGUE. MAPPED AS BEST GUESS ON LOWER SLOPES OF MIDDLE PORTION OF RESERVOIR CANYON AT ELEVATION GIVEN ON LABEL (1200').  
 Ecological: OPEN DRY SLOPES AND FORMERLY DISTURBED AREAS OF SERPENTINE ALLUVIUM.  
 General: ONLY SOURCE OF INFORMATION IS 1993 COLLECTION BY HRUSA. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.3  
 State: None State: S1.2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

**Occurrence No.** 4      **Map Index:** 13214      **EO Index:** 21120      **Dates Last Seen**  
**Occ Rank:** Excellent      **Element:** 1991-07-25  
**Origin:** Natural/Native occurrence      **Site:** 1991-07-25  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 1998-09-28

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.40393° / -120.50254°      **Township:** 29S  
**UTM:** Zone-10 N3920703 E726795      **Range:** 14E  
**Area:** 7.6 acres      **Mapping Precision:**SPECIFIC      **Section:** 17      **Qtr:** NW  
**Elevation:** 1,900 ft      **Symbol Type:**POLYGON      **Meridian:** M

**Location:** NORTH SIDE OF PARK HILL ROAD, ABOUT 6 AIR MILES EAST OF SANTA MARGARITA.  
**Location Detail:** MAPPED ABOUT 0.2 MILE NORTH OF PARK HILL ROAD NEAR THE CENTER OF THE W 1/2 SECTION 17.  
**Ecological:** CHAMISE CHAPARRAL WITH ACOURTIA MICROCEPHALA, ADENOSTOMA FASCICULATUM, QUERCUS BERBERIDIFOLIA, ERIODICTYON TOMENTOSUM, BROMUS RUBENS, VULPIA MYUROS, ALCHEMILLA OCCIDENTALIS, AND THE RARE ERIASTRUM LUTEUM.  
**Threat:** POTENTIAL MECHANIZED DISTURBANCE MAY INCREASE SPREAD OF WEEDY SP.  
**General:** 3000 PLANTS OBSERVED BETWEEN OCCURRENCE #4 AND 16 IN 1991. COLLECTIONS BY FERRIS #12855 (DS) AND BACIGALUPI #5237 (JEPS) FROM ABOUT 7.5 MILES EAST OF SANTA MARGARITA ARE ATTRIBUTED TO THIS SITE.  
**Owner/Manager:** BLM-CALIENTE RA, PVT

**Occurrence No.** 5      **Map Index:** 13205      **EO Index:** 21121      **Dates Last Seen**  
**Occ Rank:** Fair      **Element:** 2003-04-11  
**Origin:** Natural/Native occurrence      **Site:** 2003-04-11  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2005-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.43495° / -120.52774°      **Township:** 29S  
**UTM:** Zone-10 N3924087 E724419      **Range:** 13E  
**Area:** 8.7 acres      **Mapping Precision:**SPECIFIC      **Section:** 01      **Qtr:** NE  
**Elevation:** 1,600 ft      **Symbol Type:**POLYGON      **Meridian:** M

**Location:** UPPER END OF CALF CANYON, ALONG HWY 58 ABOUT 1.5 MILES NORTHEAST OF CRESTON RD (HWY 229), NORTHEAST OF SANTA MARGARITA.  
**Location Detail:** FOUND BETWEEN A ROADCUT FOR HWY 58 AND A PRIVATE ROAD. MAPPED NEAR THE CENTER OF THE S 1/2 NE 1/4 SECTION 1.  
**Ecological:** SOUTH-FACING SLOPE ON COARSE GRAVEL AND IN BARE OPENINGS IN CHAMISE-DOMINATED CHAPARRAL.  
**Threat:** GRADING ACTIVITY ON EITHER SIDE OF ROAD COULD AFFECT POPULATION. FUTURE HOUSING DEVELOPMENT WOULD ALSO THREATEN.  
**General:** 100+ PLANTS REPORTED IN 1982, ABOUT 75 PLANTS SEEN IN 1984. 300 PLANTS SEEN AT NEW EASTERN COLONY IN 2003.  
**Owner/Manager:** PVT

**Occurrence No.** 6      **Map Index:** 13164      **EO Index:** 21119      **Dates Last Seen**  
**Occ Rank:** Unknown      **Element:** 1989-05-23  
**Origin:** Natural/Native occurrence      **Site:** 1989-05-23  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 1998-09-28

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.43684° / -120.54141°      **Township:** 29S  
**UTM:** Zone-10 N3924266 E723174      **Range:** 13E  
**Radius:** 80 meters      **Mapping Precision:**SPECIFIC      **Section:** 02      **Qtr:** NE  
**Elevation:** 1,700 ft      **Symbol Type:**POINT      **Meridian:** M

**Location:** SUMMIT OF CRESTON ROAD (HWY 229) ABOUT 1 MILE NORTH OF JCT WITH HWY 58 IN CALF CANYON, NORTHEAST OF SANTA MARGARTIA.  
**Location Detail:** ALONG RIDGETOP JUST EAST OF CRESTON ROAD, WITHIN THE E 1/4 NE 1/4 SECTION 1.  
**Ecological:** GRANITIC SAND OPENINGS IN CHAMISE CHAPARRAL ON RIDGETOP. NOT IN NEABY STEEP OPENINGS LOWER ON SLOPES.  
**Threat:** POTENTIAL GRADING DUE TO ADJACENT ORV TRAIL, INCREASING DEVELOPMENT IN AREA, NEAR PROPOSED AQUEDUCT.  
**General:** 300 PLANTS OBSERVED IN 1988, ABOUT 200 PLANTS IN 1989. INCLUDES FORMER OCCURRENCE #8 FROM GENERAL VICINITY OF SANTA MARGARITA.  
**Owner/Manager:** BLM-CALIENTE RA

**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G1 State: S1.2	CNPS List: 1B.3

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
**Micro:** OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

<b>Occurrence No.</b> 7	<b>Map Index:</b> 13008	<b>EO Index:</b> 21118	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good	<b>Origin:</b> Natural/Native occurrence		<b>Element:</b> 2004-04-23
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown		<b>Site:</b> 2004-04-23
			<b>Record Last Updated:</b> 2005-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.47183° / -120.59156°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3928036 E718526	<b>Range:</b> 13E
<b>Area:</b> 1.7 acres	<b>Section:</b> 20
<b>Elevation:</b> 1,200 ft	<b>Qtr:</b> SE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** ROCKY CANYON ROAD, EAST OF ATASCADERO AND NORTH OF SANTA MARGARITA.  
**Location Detail:** THREE PATCHES ON EITHER SIDE OF ROAD, IN OPENINGS IN CHAPARRAL. MAPPED MOSTLY WITHIN THE S 1/2 OF THE SE 1/4 OF SECTION 20.  
**Ecological:** ON DECOMPOSED GRANITE IN OPENINGS OF ADENOSTOMA FASCICULATUM CHAPARRAL.  
**Threat:** BRUSH CLEARING FOR FIRE CONTROL MAY IMPACT. HOME CONSTRUCTION ON SITE. APPLICATION ON FILE FOR SUBDIVISION.  
**General:** 500 PLANTS OBSERVED BY ALTHOUSE AND DART IN 2004. TWO COLLECTIONS ATTRIBUTED TO THIS SITE; HARDHAM SN (SBBG) AND BUTTERWORTH SN (SBBG, RSA), BOTH IN 1960.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 9	<b>Map Index:</b> 39828	<b>EO Index:</b> 34830	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown	<b>Origin:</b> Natural/Native occurrence		<b>Element:</b> 1959-06-19
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown		<b>Site:</b> 1959-06-19
			<b>Record Last Updated:</b> 1998-09-28

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.43344° / -120.65898°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3923629 E712508	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 02
<b>Elevation:</b> 1,000 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** SANTA BARBARA ROAD, ATASCADERO.  
**Location Detail:** EXACT LOCATION ALONG ROAD NOT KNOWN; MAPPED TO INCLUDE ROAD AND ADJACENT HILLS.  
**Ecological:** SHALE HILLS.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE ARE 1959 COLLECTIONS BY HARDHAM #4804 AND 4843 (CAS).  
**Owner/Manager:** UNKNOWN

**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.3  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

Occurrence No. 13 Map Index: 39832 EO Index: 34834 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1988-07-07  
 Origin: Natural/Native occurrence Site: 1988-07-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-28

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.44718° / -120.55550° Township: 28S  
 UTM: Zone-10 N3925381 E721866 Range: 13E  
 Area: 2.7 acres Mapping Precision: SPECIFIC Section: 34 Qtr: SE  
 Elevation: 1,650 ft Symbol Type: POLYGON Meridian: M

Location: EAST END OF GRANITE RIDGE ABOUT 0.4 MILE EAST OF CRESTON RD (HWY 229) AND 1.8 MI NORTH OF HWY 58, NE OF SANTA MARGARITA.  
 Location Detail: ALONG RIDGE ABOUT 0.4 MILE NE OF "SAND" BENCHMARK. MAPPED WITHIN THE NE 1/4 SE 1/4 SECTION 34.  
 Ecological: SHORT SPARSE ANNUAL GRASSES IN OLD, WIDE FIREBREAK ON NE-FACING SLOPE NEAR RIDGETOP IN CHAMISE CHAPARRAL.  
 Threat: INCREASING HOUSING DEVELOPMENT IN AREA. SITE IS WITHIN STUDY AREA OF COASTAL AQUEDUCT.  
 General: 300 PLANTS OBSERVED IN 1988.  
 Owner/Manager: UNKNOWN

Occurrence No. 14 Map Index: 39833 EO Index: 34835 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1988-07-06  
 Origin: Natural/Native occurrence Site: 1988-07-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-28

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.44387° / -120.54406° Township: 28S  
 UTM: Zone-10 N3925040 E722914 Range: 13E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 35 Qtr: SW  
 Elevation: 1,700 ft Symbol Type: POINT Meridian: M

Location: EAST SIDE OF CRESTON ROAD (HWY 229) ABOUT 1.5 MILES NORTH OF HIGHWAY 58 IN CALF CANYON, NORTHEAST OF SANTA MARGARITA.  
 Location Detail: ALONG KNOB ON RIDGETOP ABOUT 150M EAST OF CRESTON ROAD, WITHIN THE SE 1/4 SW 1/4 SECTION 35.  
 Ecological: OPENING IN CHAMISE CHAPARRAL ON GRANITIC SUBSTRATE.  
 Threat: INCREASING HOUSING DEVELOPMENT IN AREA. SITE IS WITHIN STUDY AREA OF COASTAL AQUEDUCT.  
 General: 100 PLANTS OBSERVED IN 1988.  
 Owner/Manager: UNKNOWN

Occurrence No. 15 Map Index: 39835 EO Index: 34837 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1988-06-10  
 Origin: Natural/Native occurrence Site: 1988-06-10  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-28

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.46623° / -120.53089° Township: 28S  
 UTM: Zone-10 N3927550 E724047 Range: 13E  
 Area: 14.2 acres Mapping Precision: SPECIFIC Section: 25 Qtr: NW  
 Elevation: 1,350 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 0.5 MILE WEST OF IRON SPRING AND MIDDLE BRANCH HUERHUERO CREEK, NORTHEAST OF SANTA MARGARITA.  
 Location Detail: SEVERAL COLONIES MAPPED AS SIX POLYGONS ALONG DIRT ROADS AND JEEP TRAILS WITHIN THE W 1/2 NW 1/4 SECTION 25 AND THE SW 1/4 SW 1/4 SECTION 24.  
 Ecological: BULLDOZED OPENINGS IN CHAMISE CHAPARRAL. MOSTLY ON BARE, DECOMPOSED GRANITIC SAND WITH OCCASIONAL ANNUAL GRASSES, CLARKIA, AND PLAGIOBOTHRYDS.  
 Threat: INCREASING HOUSING DEVELOPMENT IN AREA. SITE IS WITHIN STUDY AREA OF COASTAL AQUEDUCT.  
 General: 1550 PLANTS OBSERVED IN 1988.  
 Owner/Manager: UNKNOWN



**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.3  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

Occurrence No. 16 Map Index: 39836 EO Index: 34838 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1991-07-25  
 Origin: Natural/Native occurrence Site: 1991-07-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-28

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39030° / -120.50308° Township: 29S  
 UTM: Zone-10 N3919190 E726784 Range: 14E  
 Area: 103.7 acres Mapping Precision: SPECIFIC Section: 20 Qtr: N  
 Elevation: 1,800 ft Symbol Type: POLYGON Meridian: M

Location: RIDGE SOUTH OF PARK HILL ROAD, ABOUT 6 AIR MILES EAST OF SANTA MARGARITA.

Location Detail: MAPPED THROUGHOUT THE W 1/4 SECTION 20.

Ecological: CHAMISE CHAPARRAL WITH ACOURTIA MICROCEPHALA, ADENOSTOMA FASCICULATUM, QUERCUS BERBERIDIFOLIA, ERIODICTYON TOMENTOSUM, BROMUS RUBENS, VULPIA MYUROS, ALCHEMILLA OCCIDENTALIS, AND THE RARE ERIASTRUM LUTEUM.

Threat: POTENTIAL MECHANIZED DISTURBANCE MAY INCREASE SPREAD OF WEEDY SP.

General: 3000 PLANTS OBSERVED BETWEEN OCCURRENCE #4 AND 16 IN 1991. COLLECTIONS BY FERRIS #12855 (DS) AND BACIGALUPI #5237 (JEPS) FROM ABOUT 7.5 MILES EAST OF SANTA MARGARITA ARE ATTRIBUTED TO ADJACENT OCCURRENCE #4.

Owner/Manager: BLM-CALIENTE RA, UNKNOWN

Occurrence No. 19 Map Index: 62797 EO Index: 62851 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-06-16  
 Origin: Natural/Native occurrence Site: 2003-06-16  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-10-06

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.15527° / -120.56304° Township: 32S  
 UTM: Zone-10 N3892982 E721978 Range: 13E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 10 Qtr: NE  
 Elevation: 365 ft Symbol Type: POINT Meridian: M

Location: BADGER CANYON LANE, OFF CORBETT (CORBITT?) CANYON ROAD, JUST SOUTH OF BEE CANYON, ARROYO GRANDE.

Location Detail: IN DISTURBED OPEN AREA. MAPPED IN SE1/4 OF NE1/4 SEC 10.

Ecological: LARGEST POPULATION FOUND BENEATH A CROP OF COMEMRCIAL RYE. THE OTHER POPULATION FOUND IN A DISTURBED OPEN AREA WITH QUERCUS AGRIFOLIA AND ARCTOSTAPHYLOS WELLSII IN VICINITY. WEEDY GRASSES, CHORIZANTHE STATICOIDES, C. DIFFUSA ALSO HERE.

Threat: FUTURE DEVELOPMENT.

General: IN 2003, THREE POPULATIONS MAPPED TOTALING MORE THAN 2000 PLANTS. ARCTOSTAPHYLOS WELLSII ALSO OCCURS AT THIS SITE.

Owner/Manager: PVT

Occurrence No. 20 Map Index: 62798 EO Index: 62852 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-05-08  
 Origin: Natural/Native occurrence Site: 2003-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-10-06

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.14195° / -120.57027° Township: 32S  
 UTM: Zone-10 N3891487 E721355 Range: 13E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 15 Qtr: NW  
 Elevation: 250 ft Symbol Type: POINT Meridian: M

Location: CARPENTER CANYON, JUST WEST OF CARPENTER CANYON ROAD (HWY 227) ABOUT 0.5 MILE NORTH OF PRINTZ ROAD, ARROYO GRANDE.

Location Detail: TWO POPULATIONS IDENTIFIED ON DISTURBED GROUND NEAR A DIRT ACCESS ROAD. ONLY ONE SET OF COORDINATES PROVIDED BY ALTHOUSE AND DART. MAPPED IN SE1/4 OF NW1/4 SEC 15.

Ecological: CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL GRASSLANDS ARE DOMINANT HABITATS ON THIS PARCEL. WEEDY GRASSES, INCLUDING EHRHARTA CALYCINA ARE DOMINANT. CAST LIVE OAK AND BLUE GUM EUCCLYPTUS WOODLANDS ARE ADJACENT.

Threat: FUTURE DEVELOPMENT. NONNATIVES?

General: 4000 PLANTS SEEN IN 2003. THE RARE ARCTOSTAPHYLOS WELLSII AND CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCUR ON SITE.

**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G1	CNPS List: 1B.3
State: None	State: S1.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

Owner/Manager: PVT

Occurrence No. 21	Map Index: 62799	EO Index: 62853	_____ Dates Last Seen _____
Occ Rank: Good			Element: 2003-07-18
Origin: Natural/Native occurrence			Site: 2003-07-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-10-06

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.14111° / -120.59388°	UTM: Zone-10 N3891342 E719206	Radius: 80 meters	Elevation: 325 ft	Mapping Precision: SPECIFIC	Symbol Type: POINT	Township: 32S	Range: 13E	Section: 16	Meridian: M	Qtr: SW
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Location: SOUTH SLOPE OF CANYON NO. 2, ABOUT 0.3 MILE WEST OF OLD OAK PARK BLVD AT NOYES ROAD, EAST OF ARROYO GRANDE.  
 Location Detail: SINGLE PATCH FOUND AT WGS84 35 08 28 / 120 35 38. MAPPED IN NW1/4 OF SW1/4 SEC 16.  
 Ecological: OPEN SANDY AREAS IN COASTAL SCRUB DOMINATED BY MIMULUS AURANTIACUS AND ARTEMISIA CALIFORNICA AT THE EDGES OF A QUERCUS AGRIFOLIA WOODLAND WITH COASTAL SCRUB UNDERSTORY. ASPECT NW.  
 Threat: FUTURE DEVELOPMENT.  
 General: 50+ PLANTS OBSERVED IN 2003.

Owner/Manager: PVT

Occurrence No. 22	Map Index: 13014	EO Index: 62854	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2003-07-18
Origin: Natural/Native occurrence			Site: 2003-07-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-10-18

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.13667° / -120.59041°	UTM: Zone-10 N3890857 E719535	Area: 7.0 acres	Elevation: 120 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 32S	Range: 13E	Section: 16	Meridian: M	Qtr: S
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Location: 1 MILE NE OF JCT OF HWY 101 AND N. OAK PARK BLVD, AT THE JUNCTION OF JAMES WAY AND LA CANADA, NORTH OF HWY 101.  
 Location Detail: TRACT 1998. 2 COLONIES MAPPED, BOTH IN SW1/4 SEC 16.  
 Ecological: QUERCUS AGRIFOLIA AND ANNUAL GRASSES. SANDY SOILS ARE TYPICAL OF THE EAST ARROYO GRANDE AREA.  
 Threat: AREA DESIGNATED AS OPEN SPACE. POSSIBLY THREATENED BY INVASION BY EXOTIC SPECIES. FUTURE DEVELOPMENT.  
 General: 300 PLANTS FOUND AT EASTERN COLONY IN 2003. PLANTS RESEMBLING CHORIZANTHE RECTISPINA OBSERVED IN 2003 AT WESTERN COLONY DURING SURVEY FOR CASTILLEJA DENSIFLORA SSP. OBISPOENSIS; NEEDS REVISIT TO CONFIRM IDENTIFICATION.

Owner/Manager: PVT

**Chorizanthe rectispina**

straight-awned spineflower

Element Code: PDPGN040N0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CNPS List: 1B.3
State: None	State: S1.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
**Micro:** OFTEN ON GRANITE IN CHAPARRAL. 355-1035M.

<b>Occurrence No.:</b> 23	<b>Map Index:</b> 24010	<b>EO Index:</b> 62856	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-07-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-07-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-18

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35451° / -120.55121°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915110 E722509	<b>Range:</b> 13E
<b>Area:</b> 2.1 acres	<b>Section:</b> 35
<b>Elevation:</b> 1,200 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** SANTA MARGARITA RANCH, APPROX 0.6 MILE WEST OF JCT OF POZO ROAD AND LAS PILITAS ROAD, CUESTA RIDGE VINEYARD.  
**Location Detail:** WEST OF UNMAPPED DIRT ROAD ON THE NE SIDE OF LOW RIDGE. MAPPED IN SE1/4 OF SW1/4 SEC 35.  
**Ecological:** IN GRASSLAND/SAVANNA WITH VALLEY OAK. ASSOCIATED WITH CHORIZANTHE RECTISPINA, TRICHOSTEMMA LANCEOLATUM, CLARKIA SPECIOSA SSP. SPECIOSA, LESSINGIA FILAGINIFOLIA, LINANTHUS LINIFLORUS, NAVARRRETIA ATRACTYLOIDES, BROMUS HORDEACEUS, ETC.  
**Threat:** VINEYARD CONVERSION, GRAZING FOR WEED CONTROL.  
**General:** 30 PLANTS OVER ABOUT 1/20 ACRE IN 1993. 250 PLANTS SEEN IN 2004. PLANTS WERE NOT EXTIRPATED BY VINEYARD INSTALLATION IN 2000.  
**Owner/Manager:** PVT

<b>Occurrence No.:</b> 26	<b>Map Index:</b> 62838	<b>EO Index:</b> 62892	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-07-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-07-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-10-18

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14498° / -120.58964°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891781 E719581	<b>Range:</b> 13E
<b>Area:</b> 1.7 acres	<b>Section:</b> 16
<b>Elevation:</b> 300 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** JUST NORTH OF WATER TANK WEST OF NOYES ROAD AND SOUTH OF PRINTZ ROAD, EAST OF ARROYO GRANDE.  
**Ecological:** OPEN, SANDY AREAS IN COASTAL SCRUB DOMINATED BY MIMULUS AURANTIACUS AND ARTEMISIA CALIFORNICA AT THE EDGES OF A QUERCUS AGRIFOLIA WOODLAND WITH COASTAL SCRUB. ASPECT NW.  
**Threat:** FUTURE DEVELOPMENT.  
**General:** 550+ PLANTS OBSERVED IN THREE PATCHES IN 2003.  
**Owner/Manager:** PVT

**Cicindela hirticollis gravida**

sandy beach tiger beetle

Element Code: IICOL02101

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G5T2	CDFG Status:
State: None	State: S1	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

**General:** INHABITS AREAS ADJACENT TO NON-BRACKISH WATER ALONG THE COAST OF CALIFORNIA FROM SAN FRANCISCO BAY TO NORTHERN MEXICO.  
**Micro:** CLEAN, DRY, LIGHT-COLORED SAND IN THE UPPER ZONE. SUBTERRANEAN LARVAE PREFER MOIST SAND NOT AFFECTED BY WAVE ACTION.

Occurrence No. 34	Map Index: 60077	EO Index: 60113	_____ Dates Last Seen _____
Occ Rank: None			Element: 1962-08-27
Origin: Natural/Native occurrence			Site: 1962-08-27
Presence: Extirpated			
Trend: Unknown			Record Last Updated: 2005-04-29

**Quad Summary:** Morro Bay North (3512047/247A), Cayucos (3512048/247B)  
**County Summary:** San Luis Obispo

Lat/Long: 35.43396° / -120.88756°	Township: 29S
UTM: Zone-10 N3923219 E691754	Range: 10E
Area:	Mapping PrecisionNON-SPECIFIC
Elevation: 10 ft	Section: 03
	Meridian: M
	Qtr: XX
	Symbol Type:POLYGON

**Location:** CAYUCOS.

**General:** HISTORICAL RECORD. (SPELLED COYUCOS IN SOURCE DOCUMENTS). 9 COLLECTED 27 AUG 1962 BY ANDREWS, DEPOSITED IN THE CALIFORNIA STATE COLLECTION OF ARTHROPODS (CDFA).

**Owner/Manager:** UNKNOWN

Occurrence No. 37	Map Index: 12874	EO Index: 60119	_____ Dates Last Seen _____
Occ Rank: None			Element: 1955-09-03
Origin: Natural/Native occurrence			Site: 1955-09-03
Presence: Extirpated			
Trend: Unknown			Record Last Updated: 2005-02-18

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

Lat/Long: 35.14198° / -120.64512°	Township: 32S
UTM: Zone-10 N3891326 E714535	Range: 12E
Area:	Mapping PrecisionNON-SPECIFIC
Elevation: 120 ft	Section: 13
	Meridian: M
	Qtr: XX
	Symbol Type:POLYGON

**Location:** PISMO BEACH.

**General:** HISTORICAL RECORDS. 3 COLLECTED 7 JUN 1916; 2 COLLECTED 31 JUL 1924; UNKNOWN NUMBER COLLECTED 12 JUN 1939; 6 COLLECTED 3 SEP 1955.

**Owner/Manager:** DPR-PISMO SB

Occurrence No. 38	Map Index: 60096	EO Index: 60132	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1985-09-19
Origin: Natural/Native occurrence			Site: 1985-09-19
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-02-18

**Quad Summary:** Morro Bay South (3512037/247D), Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

Lat/Long: 35.39101° / -120.86527°	Township: 29S
UTM: Zone-10 N3918499 E693880	Range: 10E
Area:	Mapping PrecisionNON-SPECIFIC
Elevation: 10 ft	Section: 23
	Meridian: M
	Qtr: XX
	Symbol Type:POLYGON

**Location:** MORRO STRAND BEACH.

**General:** UNKNOWN NUMBER COLLECTED 19 SEP 1985.

**Owner/Manager:** DPR-MORRO STRAND SB

**Cirsium fontinale var. obispoense**

San Luis Obispo fountain thistle

Element Code: PDAST2E162

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G2T1	CNPS List: 1B.2
State: Endangered	State: S1.2	

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE SEEPS. 35-365M.

<b>Occurrence No. 2</b>	<b>Map Index:</b> 12738	<b>EO Index:</b> 845	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2006-03-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-03-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-07-25

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26783° / -120.68376°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3905204 E710688	<b>Range:</b> 12E
<b>Area:</b> 12.2 acres	<b>Section:</b> 34
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** LAGUNA LAKE PARK, ON NEARBY HILLSIDE N OF LAKE.  
**Location Detail:** SOME PLANTS NE OF MAIN PARKING LOT FOR LAGUNA LAKE.  
**Ecological:** IN SUN ON S-FACING SLOPE OF SERPENTINE OUTCROP IN SEEP W/CAREX OBISPOENSIS. 7 SMALL COLONIES IN SEPARATE SEEPS. ALSO W/CALOCHORTUS OBISPOENSIS AND DUDLEYA MURINA. SEEN IN 3 SMALL DRAINAGES ON LOWER SLOPES OF HILL BEHIND EUCALYPTUS (1990).  
**Threat:** GRAZING THREATENS.  
**General:** ABOUT 1000 PLANTS SEEN IN 1981 OVER A 2.5 ACRE AREA. ALSO SEEN IN 1986. ABOUT 100 SEEN IN 1989, 82 FLOWERING STALKS SEEN IN 1990 IN 3 DRAINAGES, 1025 IN 1993, 1000S IN 1999, UNK # SEEN IN 2006.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO, PVT

<b>Occurrence No. 3</b>	<b>Map Index:</b> 12746	<b>EO Index:</b> 256	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-08-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-08

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34302° / -120.68178°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913550 E710673	<b>Range:</b> 12E
<b>Area:</b> 26.0 acres	<b>Section:</b> 03
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION; ABOUT 0.5 MI NE OF CHORRO RESERVOIR, NEAR HEADWATERS OF CHORRO CREEK.  
**Location Detail:** PLANTS FOUND IN 1993 IN THE CROOK OF A LONG BEND IN THE MIDDLE ROAD, WHICH CLIMBS TO THE NE BELOW THE SPRING, BENDS AROUND ITS E END, AND CLIMBS TO THE SW ALONG THE NE FLANK OF THE SPRING.  
**Ecological:** IN BOGGY FLAT ON OR ADJACENT TO SERPENTINE, ON MORE GENTLE SLOPES AND TERRACES. ASSOCIATED WITH JUNCUS, SCIRPUS, CAREX, AND HELENIUM BIGELOVII.  
**Threat:** ARMY VEHICLES & TRAINING, EROSION, NON-NATIVE PLANTS, FERAL PIGS, INSECT DAMAGE TO FRUIT, HEAVY GRAZING, FIRE.  
**General:** TYPE LOCALITY. 200-300 PLANTS IN 1993. 1845 IN 1994. 2871 IN 1995, 1782 IN 1996, 1055 IN 1997. 822 IN 1998. 4644 IN 1999. 4433 IN 2000. 2792 IN 2001. 3393 IN 2002. 643 IN 2003.  
**Owner/Manager:** DOD-CALIFORNIA NATIONAL GUARD

**Cirsium fontinale var. obispoense**

San Luis Obispo fountain thistle

Element Code: PDAST2E162

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G2T1	CNPS List: 1B.2
State: Endangered	State: S1.2	

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE SEEPS. 35-365M.

<b>Occurrence No.</b> 4	<b>Map Index:</b> 12670	<b>EO Index:</b> 848	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1993-05-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-05-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-08

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26154° / -120.71560°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904439 E707808	<b>Range:</b> 12E
<b>Area:</b> 24.8 acres	<b>Section:</b> 5 <b>Qtr:</b> XX
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** PREFUMO CANYON, NEAR WATERFALL; S SIDE OF PREFUMO CANYON ROAD. ABOUT 1.0 AIRMI SW OF ARM OF LAGUNA LAKE.  
**Location Detail:** PLANTS FOUND IN 1993 IN 3 SEPARATE GULLYS.  
**Ecological:** ON STEEP SERPENTINE BANK ADJACENT TO WATERFALL AND STREAM WITHIN CHAPARRAL OAK WOODLAND. ASSOCIATED WITH QUERCUS DURATA, CAREX OBISPOENSIS, AND NASSELLA PULCHRA.  
**Threat:** DEVELOPMENT IN THE VICINITY. ROAD MAINTENANCE ACTIVITIES COULD ALSO THREATEN.  
**General:** 150 PLANTS SEEN IN 1986, TOTAL OF AT LEAST 300 PLANTS IN 1993.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 5	<b>Map Index:</b> 12658	<b>EO Index:</b> 849	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1993-05-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-05-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-08

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26450° / -120.72168°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904755 E707247	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 6 <b>Qtr:</b> XX
<b>Elevation:</b> 350 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** ALONG PREFUMO CYN RD APPROX 1.2 MI FROM GATE NEAR RESIDENTIAL AREA, WEST OF SAN LUIS OBISPO.  
**Location Detail:** ON S SIDE OF PREFUMO CANYON RD. PLANTS FOUND IN THE WALLS OF A STEEP ROAD CUT AND A NATURAL ROCKY OUTCROP WHICH EXISTED PRIOR TO THE ROAD.  
**Ecological:** IN RIPARIAN, OAK WOODLAND, AND CHAPARRAL ON STEEP NORTH-FACING HILLSIDE. ASSOCIATED WITH UMBELLULARIA, PLATANUS, AND SALIX.  
**Threat:** OCCURRENCE IS VULNERABLE SINCE IT'S ADJACENT TO ROAD.  
**General:** ABOUT 50 PLANTS SEEN IN 1986, 70 IN 1993. NO PLANTS FOUND N OF ROAD IN 1993; BUT IT'S LIKELY THAT THE ORIGINAL POP EXTENDED FURTHER INTO THE ROAD RIGHT-OF-WAY.  
**Owner/Manager:** PVT

**Cirsium fontinale var. obispoense**

San Luis Obispo fountain thistle

Element Code: PDAST2E162

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Endangered	Global: G2T1 State: S1.2	CNPS List: 1B.2

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE SEEPS. 35-365M.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12683	<b>EO Index:</b> 852	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1994-01-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-01-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-01-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36214° / -120.71023°	<b>UTM:</b> Zone-10 N3915611 E708039	<b>Area:</b> 13.5 acres	<b>Elevation:</b> 1,200 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S	<b>Range:</b> 12E	<b>Section:</b> 32	<b>Qtr:</b> N	<b>Meridian:</b> M
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**Location:** EAST FORK OF PENNINGTON CREEK, 0.6-0.9 MI W OF WHISKEY SPRING, NORTH OF SAN LUIS OBISPO.  
**Ecological:** PLANTS FOUND NEAR THE TOE OF A COMPLEX OF LANDSLIDES WITH SPRINGS AT SEVERAL LOCATIONS ALONG THEIR BASE. IN SERPENTINE ON SW-FACING SLOPE. W/HELENIUM BIGELOVII, CAREX OBISPOENSIS, CALOCHORTUS OBISPOENSIS, & CHORIZANTHE BREWERI.  
**Threat:** ILLEGAL GRAZING FROM AN ADJACENT CATTLE ALLOTMENT THREATENS.  
**General:** UP TO 1000 PLANTS SEEN IN 1981 AND 1986, AT LEAST 2200 IN 1994. PROTECTED IN THE BIORESERVE ADMINISTERED BY THE BIOLOGY DEPT. AT CAL POLY SLO.  
**Owner/Manager:** CAL POLY-SAN LUIS OBISPO

<b>Occurrence No.</b> 7	<b>Map Index:</b> 12730	<b>EO Index:</b> 711	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-22

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24768° / -120.68672°	<b>UTM:</b> Zone-10 N3902963 E710471	<b>Radius:</b> 80 meters	<b>Elevation:</b> 120 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 31S	<b>Range:</b> 12E	<b>Section:</b> 09	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** FROOM CREEK, FROOM RANCH, W OF LOS OSOS VALLEY ROAD, S OF SAN LUIS OBISPO.  
**Location Detail:** USING "VIRTUAL" SURVEY, EO IS IN FAR NE 1/4 OF SECTION 9.  
**Ecological:** ON SERPENTINE SOIL ALONG CREEK SURROUNDED BY GRASSLAND, COASTAL SCRUB, CHAPARRAL, AND OAK WOODLAND. WITH SOLIDAGO GUIRADONIS, CAREX SPP, JUNCUS SPP, AND MIMULUS GUTTATUS.  
**Threat:** AREA PLANNED FOR DEVELOPMENT.  
**General:** ABOUT 15 PLANTS SEEN IN 1987, 10 IN 1992.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 8	<b>Map Index:</b> 27718	<b>EO Index:</b> 710	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1993-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-02-22

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24263° / -120.69505°	<b>UTM:</b> Zone-10 N3902385 E709726	<b>Area:</b> 27.1 acres	<b>Elevation:</b> 240 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 31S	<b>Range:</b> 12E	<b>Section:</b> 09	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** APPROX. 1 AIRMI E OF MINE HILL, W OF HWY 101, SW OF FROOM CREEK.  
**Location Detail:** ADDITIONAL SITE INFORMATION FOUND AT CNDDB IN 1994 REPORT BY D. CHIPPING (CHI94R01).  
**Ecological:** ON SERPENTINE SOIL IN RAVINE, SPRING, AND BOGGY SEEP. SURROUNDED BY GRASSLAND, COASTAL SCRUB, CHAPARRAL, AND OAK WOODLAND.  
**Threat:** AREA PLANNED FOR DEVELOPMENT.  
**General:** UNKNOWN HOW MANY PLANTS SEEN IN 1987, 250 IN 1993 IN SEVERAL SUBPOPULATIONS.  
**Owner/Manager:** PVT

**Cirsium fontinale var. obispoense**

San Luis Obispo fountain thistle

Element Code: PDAST2E162

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G2T1	CNPS List: 1B.2
State: Endangered	State: S1.2	

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE SEEPS. 35-365M.

<b>Occurrence No.</b> 9	<b>Map Index:</b> 27716	<b>EO Index:</b> 19555	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-12-29

**Quad Summary:** Atascadero (3512046/246B), Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40309° / -120.74930°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3920072 E704385	<b>Range:</b> 11E
<b>Area:</b> 45.1 acres	<b>Section:</b> 13
<b>Elevation:</b> 1,000 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> S
<b>Symbol Type:</b> POLYGON	

**Location:** APPROX 1.0-1.3 MI SW OF CERRO ALTO LOOKOUT, HEAD OF SAN BERNARDO CREEK.  
**Location Detail:** SPRINGS FOUND AT THE FOOT OF AN OPEN PIT MINING COMPLEX.  
**Ecological:** NEAR SPRINGS IN BOGGY AREAS.  
**Threat:** BOGS ARE HEAVILY GRAZED.  
**General:** 500 PLANTS ESTIMATED IN 1993. SPRINGS TO THE E OF THIS SITE APPEAR TO SUPPORT SUITABLE HABITAT, BUT AREA NOT SURVEYED IN 1993.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 10	<b>Map Index:</b> 39851	<b>EO Index:</b> 34853	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1997-06-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1997-06-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-29

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30310° / -120.64356°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909203 E714253	<b>Range:</b> 12E
<b>Area:</b> 21.8 acres	<b>Section:</b> 24
<b>Elevation:</b> 560 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** SLOPES ABOVE MIOSSI CREEK, ABOUT 0.8 MI EAST OF CAL POLY SLO AND 0.5 MI NORTH OF CUESTA CANYON CO PARK, SAN LUIS OBISPO.  
**Location Detail:** N-FACING SEEPS ON WEST SIDE OF MIOSSI CREEK, NORTH OF SAN LUIS OBISPO CREEK.  
**Ecological:** IN VERY WET SEEPS/SPRINGS ON SERPENTINE CLAY SOILS. ASSOCIATED WITH MIMULUS GUTTATUS, POLYPOGON MONSPELIENSIS, ELEOCHARIS PARISHII, LOLIUM MULTIFLORUM, CAREX, JUNCUS XIPHIOIDES. QUERCUS AGRIFOLIA AND RHAMNUS CALIFORNICA AT EDGES ABOVE SEEP.  
**Threat:** CATTLE PRESENT; PLANTS APPARENTLY NOT GRAZED, BUT SOME MAY BE TRAMPLED.  
**General:** 1000+ PLANTS OBSERVED IN 1997. NO PLANTS OBSERVED ALONG MIOSSI CREEK.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 11	<b>Map Index:</b> 28608	<b>EO Index:</b> 55762	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1987-07-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-07-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-07

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27307° / -120.60498°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3905956 E717842	<b>Range:</b> 13E
<b>Radius:</b> 1 mile	<b>Section:</b> 32
<b>Elevation:</b> 1,225 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 0.125 MILE SE AND 1 MILE N ON S SLOPE OF RESERVOIR CANYON, JUNCTION OF RESERVOIR AND HAMPTON CREEK, SAN LUIS OBISPO.  
**Location Detail:** EXACT LOCATION UNKNOWN, MAPPED IN THE VICINITY OF RESERVOIR AND HAMPTON CREEK JUNCTION.  
**Ecological:** SERPENTINE SPRING.  
**General:** ONLY SOURCE OF INFORMATION ARE 1987 COLLECTIONS BY PENKALA AND RYAN. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN



**Cirsium fontinale var. obispoense**

San Luis Obispo fountain thistle

Element Code: PDAST2E162

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G2T1	CNPS List: 1B.2
State: Endangered	State: S1.2	

**Habitat Associations**

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE SEEPS. 35-365M.

<b>Occurrence No.</b> 12	<b>Map Index:</b> 55747	<b>EO Index:</b> 55763	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2001-06-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-06-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-07

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25471° / -120.76418°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3903582 E703404	<b>Range:</b> 11E
<b>Area:</b> 4.7 acres	<b>Section:</b> 02 <b>Qtr:</b> SW
<b>Elevation:</b> 1,250 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** NORTH OF PREFUMO CANYON ROAD, NORTH OF BENCHMARK 1336, WEST OF SPRING.  
**Location Detail:** ONE POPULATION LOCATED IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 2.  
**Ecological:** NORTH-FACING SERPENTINE BOG ADJACENT TO PERENNIAL STREAM. QUERCUS AGRIFOLIA WOODLAND & CEANOTHUS CUNEATUS CHAPARRAL W/ PICKERINGIA MONTANA & HETEROMELES ARBUTIFOLIA. BOG THISTLE FORMS A DENSE MAT IN WET OPENINGS. CAREX OBISPOENSE ET AL.  
**Threat:** POPULATION SHOULD BE STABLE AS LONG AS UPSLOPE WATER SOURCES ARE NOT DIVERTED.  
**General:** 4000+ INDIVIDUALS OBSERVED IN 2001. PROPERTY OWNERS INTERESTED IN PROTECTING POPULATION. SEVERAL OTHER RARE SPECIES PRESENT.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 13	<b>Map Index:</b> 64464	<b>EO Index:</b> 64543	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2005-09-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-09-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-04-13

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26189° / -120.66533°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904586 E712381	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 02 <b>Qtr:</b> NW
<b>Elevation:</b> 25 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** CITY OF SAN LUIS OBISPO, JUST NORTH OF LOMA BONITA, SOUTHEAST OF RADIO TOWER.  
**Location Detail:** APPROX. 1250 FEET EAST OF SOUTH HIGUERA STREET ON STEEP SOUTH-FACING HILLSIDE BELOW RADIO TOWER. MAPPED WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 2.  
**Ecological:** SMALL, STEEP DRAINAGE ON A SERPENTINE HILLSIDE WITH BROKEN SERPENTINE RUBBLE. PERENNIAL AND ANNUAL GRASSLAND SURROUNDING THE SITE, WITH PATCHES OF COASTAL SCRUB IN VICINITY. MANY OTHER RARE PLANTS ON SERPENTINE OUTCROPS IN VICINITY.  
**Threat:** UNKNOWN GRAZING EFFECTS BY CATTLE. POSSIBLE TRAMPLING.  
**General:** 300 PLANTS OBSERVED IN 2005. PLANTS ARE VERY LOCAL AND DO NOT OCCUR IN NEARBY DRAINAGES, ALTHOUGH SEEMINGLY APPROPRIATE HABITAT IS PRESENT. SITE FIRST IDENTIFIED BY HAVLICK IN AUGUST 2005. MANY RARE SPECIES IN THIS VICINITY.

**Owner/Manager:** UNKNOWN

Cirsium rhotophilum

Surf thistle

Element Code: PDAST2E2J0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G2 CNPS List: 1B.2  
State: Threatened State: S2.2

Habitat Associations

General: COASTAL DUNES, COASTAL BLUFF SCRUB.

Micro: OPEN AREAS IN CENTRAL DUNE SCRUB; USUALLY IN COASTAL DUNES. 3-60M.

Occurrence No. 15 Map Index: 12880 EO Index: 40813 Dates Last Seen \_\_\_\_\_  
Occ Rank: None Element: XXXX-XX-XX  
Origin: Natural/Native occurrence Site: 1998-XX-XX  
Presence: Extirpated  
Trend: Unknown Record Last Updated: 1999-02-05

Quad Summary: Oceano (3512015/221D), Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)

County Summary: San Luis Obispo

Lat/Long: 35.12552° / -120.63601° Township: 32S  
UTM: Zone-10 N3889520 E715408 Range: 12E  
Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 24 Qtr: XX  
Elevation: 20 ft Symbol Type: POINT Meridian: M

Location: PISMO BEACH.

General: MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED IN "VASCULAR PLANTS OF SLO COUNTY" BY R.F. HOOVER. LIKELY TO HAVE BEEN EXTIRPATED LONG AGO ACCORDING TO M. MCLEOD (1986). SEARCHED FOR BUT NOT SEEN IN 1998 (J. CHESNUT).

Owner/Manager: UNKNOWN

**Cladonia firma**

firm cup lichen

Element Code: NLT0008460

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4	CNPS List:
State: None	State: S1.1	

**Habitat Associations**

**General:** MARITIME HABITATS IN EUROPE AND NORTH AMERICA. STABILIZED SAND DUNES ON THE COAST.

**Micro:** ON SOIL AND DETRITUS ON STABILIZED SAND DUNES, IN PURE STANDS OR INTERMIXED WITH OTHER LICHENS AND MOSSES BORMING BIOTIC

<b>Occurrence No. 1</b>	<b>Map Index:</b> 72048	<b>EO Index:</b> 72971	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2006-09-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-09-26
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-08-25

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32737° / -120.81869°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911532 E698268	<b>Range:</b> 11E
<b>Area:</b> 9.0 acres	<b>Section:</b> 08 <b>Qtr:</b> SW
<b>Elevation:</b> 100 ft	<b>Meridian:</b> M

**Location:** MORRO RD ACROSS FROM LOS OSOS MIDDLE SCHOOL, MORRO BAY STATE PARK, W OF BAYWOOD PARK.

**Location Detail:** MAPPED ACC TO COORDINATE INFO ON SPECIMEN LABELS (KNUDSEN #7277 & #7279); DATUM UNK, MAPPED TO ENCOMPASS NAD27 & NAD83. PROPERTY IS CALLED "POWELL 1". PLANTS ALSO OCCUR ON ADJ PROPERTIES "POWELL 2" & "POWELL 3"; NEED BETTER LOCATION INFO.

**Ecological:** QUERCUS AGRIFOLIA IN SCATTERED GROVES, MARITIME CHAPARRAL, MARITIME DUNE SCRUB. ASSOCIATES INCLUDE CEANOTHUS CUNEATUS V. FASCICULARIS & ERICAMERIA ERICOIDES. GROWING ON SOIL, DETRITUS, & MOSS.

**General:** MENTIONED AS "LOCALLY ABUNDANT" IN 1996. MENTIONED AS "COMMON" IN 2005. A 2006 KNUDSEN COLLECTION MENTIONS THAT THE POPULATION IN THIS AREA CONSISTS OF "SEVERAL THOUSAND THALLI".

**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No. 2</b>	<b>Map Index:</b> 72049	<b>EO Index:</b> 72972	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2006-09-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-09-26
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-08-22

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31573° / -120.82293°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910231 E697910	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 17 <b>Qtr:</b> SW
<b>Elevation:</b> 118 ft	<b>Meridian:</b> M

**Location:** SE CORNER OF SOUTH BAY BOULEVARD AND NIPOMO AVENUE, LOS OSOS.

**Location Detail:** AN UNDEVELOPED LOT ON PRIVATE PROPERTY. MAPPED IN NW1/4 OF SW1/4 SEC 17.

**Ecological:** MARITIME CHAPARRAL, DECORTICATED, COVERED WITH LICHENS. MARITIME DUNE SCRUB. OBSERVED ON SOIL IN 1999 & ON DETRITUS AND TWIGS IN 2006.

**General:** MENTIONED AS "COMMON" IN 1999. SEEN IN 2006.

**Owner/Manager:** PVT

<b>Occurrence No. 3</b>	<b>Map Index:</b> 72050	<b>EO Index:</b> 72973	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2006-09-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-09-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-08-22

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30529° / -120.83218°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909055 E697095	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 19 <b>Qtr:</b> NE
<b>Elevation:</b> 256 ft	<b>Meridian:</b> M

**Location:** CORDONIZ PROPERTY E OF BAYVIEW HEIGHTS AND CALLE CORDONIZ, LOS OSOS.

**Location Detail:** MAPPED ACCORDING TO COORDINATE INFORMATION ON HERBARIUM LABEL; DATUM UNKNOWN, MAPPED TO ENCOMPASS NAD27 & NAD83.

**Ecological:** MARITIME CHAPARRAL AND MARITIME DUNE SCRUB.

**Threat:** APPEARS TO BE IN DECLINE DUE TO DISTURBANCE AND VELDT GRASS.

**General:** SMALL DEPAUPERATE POPULATION OBSERVED IN 2006. DAVE MAGNEY ESTIMATES POPULATION OF OVER 500 THALLI.

**Owner/Manager:** DFG-MORRO DUNES ER, BLM?

**Cladonia firma**

firm cup lichen

Element Code: NLT0008460

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G4 CNPS List:  
 State: None State: S1.1

Habitat Associations

General: MARITIME HABITATS IN EUROPE AND NORTH AMERICA. STABILIZED SAND DUNES ON THE COAST.

Micro: ON SOIL AND DETRITUS ON STABILIZED SAND DUNES, IN PURE STANDS OR INTERMIXED WITH OTHER LICHENS AND MOSSES FORMING BIOTIC

Occurrence No. 4 Map Index: 72051 EO Index: 72974 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 2006-09-26  
 Origin: Natural/Native occurrence Site: 2006-09-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-08-22

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.29971° / -120.87028° Township: 30S  
 UTM: Zone-10 N3908361 E693643 Range: 10E  
 Area: 12.0 acres Mapping Precision: SPECIFIC Section: 23 Qtr: SW  
 Elevation: 200 ft Symbol Type: POLYGON Meridian: M

Location: ABOVE SANDPIT PARKING LOT, MONTANA DE ORO STATE PARK.

Location Detail: RIDGE OF STABILIZED DUNES. MAPPED ACCORDING TO COORDINATE INFORMATION PROVIDED ON SPECIMEN LABELS (KNUDSEN #7261 & 7258); DATUM UNKNOWN, MAPPED TO ENCOMPASS NAD27 & NAD83.

Ecological: MARITIME DUNE SCRUB. SOME MARITIME CHAPARRAL. GROWING ON DETRITUS AND SOIL.

General: SEEN IN THIS AREA IN 1987. MAIN POPULATION OF OVER 2000 THALLI WITH A SMALLER POPULATION FARTHER DOWN THE RIDGE IN 2006.

Owner/Manager: DPR-MONTANA DE ORO SP

*Clarkia speciosa* ssp. *immaculata*

*Pismo clarkia*

Element Code: PDONA05111

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Rare	Global: G4T1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** ON ANCIENT SAND DUNES NOT FAR FROM THE COAST. SANDY SOILS, OPENINGS. 25-185M.

<b>Occurrence No.</b> 2	<b>Map Index:</b> 13007	<b>EO Index:</b> 12326	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1996-07-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1996-07-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Increasing			<b>Record Last Updated:</b> 1995-10-30

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17645° / -120.60755°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3895232 E717866	<b>Range:</b> 13E
<b>Area:</b> 39.1 acres	<b>Section:</b> 32
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** TIBER CANYON; NW SIDE OF ORMONDE RD, ABOUT 1-1.5 MI NE OF JCT W/CENTRAL BLVD.  
**Location Detail:** PLANTS ALONG ROAD SHOULDER AND IN OPEN AREAS AWAY FROM ROAD.  
**Ecological:** IN SMALL, OPEN, GRASSY AREA; SOMEWHAT WEEDY. WITH AVENA BARBATA, CROTON CA. ARCTOSTAPHYLOS WELLSII SEEN NEARBY.  
**Threat:** POTENTIAL THREAT FROM ROAD MAINTENANCE. PAMPAS GRASS INVADING EAST END OF SITE. PROPOSED DEVELOPMENT (1996).  
**General:** 2000+ PLANTS IN SEVERAL SUBPOPULATIONS IN 1987, 1000 PLANTS SEEN IN 1990, 200 PLANTS IN 1993 (A BAD YEAR), 1000 IN 1996.  
**Owner/Manager:** PVT, SLO COUNTY

<b>Occurrence No.</b> 3	<b>Map Index:</b> 12935	<b>EO Index:</b> 18829	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1928-06-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 199X-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-04

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.15952° / -120.61311°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3893342 E717404	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 07
<b>Elevation:</b> 120 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POINT	

**Location:** PRICE CANYON, 3 MI S OF EDNA.  
**Location Detail:** EXACT LOCATION UNKNOWN, MAPPED 3 AIRMILES SOUTH OF EDNA.  
**Ecological:** DRY GRAVELLY SLOPE AT EDGE OF CHAPARRAL.  
**Threat:** AREA PROPOSED FOR DEVELOPMENT (MCLEOD 1996 PERS. COMM.). UNKNOWN EXACTLY WHEN HE SEARCHED FOR PLANTS, ASSUME  
**General:** SEARCHED FOR IN 1983 BUT SSP. NOT FOUND.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 4	<b>Map Index:</b> 13104	<b>EO Index:</b> 18828	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1987-05-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-05-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Decreasing			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16580° / -120.57740°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894117 E720641	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 4
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** HIGHWAY 227 AT SUMMIT OF CARPENTER CANYON, AT SIDE ROAD WITH GATE. 3.8 MI S OF EDNA SCHOOL (NOW GONE).  
**Ecological:** IN GRASSY DISTURBED AREA AT MARGIN OF CHAPARRAL WITH MIMULUS SP. AND ARCTOSTAPHYLOS SP.  
**Threat:** PLANTS ADJACENT TO ROAD; VEHICLE DISTURBANCE THREATENS.  
**General:** TYPE LOCALITY. LESS THAN 50 PLANTS IN 1983, ABOUT 30 PLANTS IN 1987, ALL WITHIN 10 FEET OF ROAD.  
**Owner/Manager:** CALTRANS

*Clarkia speciosa* ssp. *immaculata*

*Pismo clarkia*

Element Code: PDONA05111

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: Endangered Global: G4T1 CNPS List: 1B.1  
 State: Rare State: S1.1

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: ON ANCIENT SAND DUNES NOT FAR FROM THE COAST. SANDY SOILS, OPENINGS. 25-185M.

Occurrence No. 5 Map Index: 12963 EO Index: 13830 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1996-XX-XX  
 Origin: Natural/Native occurrence Site: 1996-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-11-20

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.19060° / -120.61784° Township: 32S  
 UTM: Zone-10 N3896779 E716891 Range: 13E  
 Area: 47.3 acres Mapping Precision: SPECIFIC Section: 31 Qtr: XX  
 Elevation: 300 ft Symbol Type: POLYGON Meridian: M

Location: PRICE CANYON, 1 MILE SOUTH OF EDNA.  
 Ecological: OAK WOODLAND WITH QUERCUS AGRIFOLIA ON SANDSTONE/TAR SAND.  
 Threat: OCCURRENCE BISECTED BY PRICE CANYON ROAD AND GRAZED BY CATTLE  
 General: 4 POPULATIONS, LESS THAN 1000 PLANTS, SEEN IN 1983. OIL CO ACTIVITY NOT IN THIS IMMEDIATE VICINITY. 2000+ PLANTS IN 1987.  
 POPULATION IN GOOD COND 1987. 1 SUBPOP IS LARGEST KNOWN. POPULATION SEEN BY MCLEOD IN 1996-SAME SIZE AS IN PAST YEARS.  
 Owner/Manager: SLO COUNTY

Occurrence No. 6 Map Index: 12971 EO Index: 18827 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1987-05-23  
 Origin: Natural/Native occurrence Site: 1987-05-23  
 Presence: Presumed Extant  
 Trend: Decreasing Record Last Updated: 2004-06-04

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.12951° / -120.61317° Township: 32S  
 UTM: Zone-10 N3890013 E717479 Range: 13E  
 Area: 2.8 acres Mapping Precision: SPECIFIC Section: 19 Qtr: NE  
 Elevation: 80 ft Symbol Type: POLYGON Meridian: M

Location: GROVER CITY, E & W SIDE OF 12TH ST AT MARGARITA ST.  
 Location Detail: INCLUDES 1928 COLLECTIONS FROM, "BETWEEN PISMO & ARROYO GRANDE".  
 Ecological: COASTAL SCRUB/OAK WOODLAND IN SAND WITH ERICAMERIA ERICOIDES.  
 Threat: EHRHARTA TAKING OVER. DEVELOPMENT.  
 General: 4 POPULATIONS SEEN IN 1983. DISTURBED AREA WITH TRAILS. ABOUT 100 PLANTS SEEN IN 1987 IN AN AREA THAT IS MOWED REGULARLY.  
 PORTION OF OCCURRENCE WEST OF 12TH STREET IS NOW EXTIRPATED.  
 Owner/Manager: PVT

Occurrence No. 8 Map Index: 13014 EO Index: 18824 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-19  
 Origin: Natural/Native occurrence Site: 2003-05-19  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-06-07

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.13667° / -120.59041° Township: 32S  
 UTM: Zone-10 N3890857 E719535 Range: 13E  
 Area: 7.0 acres Mapping Precision: SPECIFIC Section: 16 Qtr: S  
 Elevation: 120 ft Symbol Type: POLYGON Meridian: M

Location: 1 MILE NE OF JCT OF HWY 101 AND N. OAK PARK BLVD, AT THE JUNCTION OF JAMES WAY AND LA CANADA, NORTH OF HWY 101.  
 Location Detail: FOUND IN NW CORNER OF JUNCTION. GREATER PLANT DENSITIES IN OPENINGS IN OAK WOODLAND TO EAST OF OAKS (SHADED AREAS).  
 Ecological: COAST LIVE OAK WITH ANNUAL GRASS UNDERSTORY.  
 Threat: POPULATION IS IN A PRESERVED AREA OF THE RANCHO GRANDE DEVELOPMENT.  
 General: 12 PLANTS IN 1997, BUT MAY BE 100'S OF PLANTS HERE. 20,000 OBSERVED AT W COLONY IN 2003, 8,000 OBSERVED AT E COLONY IN 2003.  
 OWNED BY LAS JOLLAS DE RANCHO GRANDE HOMEOWNERS ASSOCIATION.  
 Owner/Manager: PVT

*Clarkia speciosa* ssp. *immaculata*

*Pismo clarkia*

Element Code: PDONA05111

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Rare	Global: G4T1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** ON ANCIENT SAND DUNES NOT FAR FROM THE COAST. SANDY SOILS, OPENINGS. 25-185M.

<b>Occurrence No.</b> 9	<b>Map Index:</b> 13067	<b>EO Index:</b> 18823	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> XXXX-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> XXXX-XX-XX
<b>Presence:</b> Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16830° / -120.59267°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894361 E719244	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 4
<b>Elevation:</b> 440 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** OAK PARK SCHOOL (ABANDONED) AT JUNCTION OF OAK PARK ROAD AND ORMONDE ROAD, NORTHWEST OF ARROYO GRANDE.  
**General:** HISTORIC OCCURRENCE ACCORDING TO MCLEOD. ONLY STEPS REMAIN OF OLD SCHOOL. LUPINUS LUDOVICIANUS (OCCURRENCE #10) WAS AT THIS LOCATION ALSO.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 11	<b>Map Index:</b> 36462	<b>EO Index:</b> 31549	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1992-05-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-05-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-08-19

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17959° / -120.59868°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3895600 E718666	<b>Range:</b> 13E
<b>Area:</b> 13.4 acres	<b>Section:</b> 32
<b>Elevation:</b> 200 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** BETWEEN ORMONDE ROAD AND HWY 227, SW SLOPES OF CANADA VERDE.  
**Location Detail:** NEAR PATCHETT ROAD.  
**Ecological:** GRASSY FRINGE OF COASTAL SCRUB AND COASTAL LIVE OAK WOODLAND IN SANDY SOIL.  
**Threat:** POTENTIAL DEVELOPMENT OF SITE.  
**General:** LESS THAN 1000 PLANTS SEEN IN 1992.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 12	<b>Map Index:</b> 36551	<b>EO Index:</b> 31548	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1997-04-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1997-04-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-08-31

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.15329° / -120.61936°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3892637 E716852	<b>Range:</b> 13E
<b>Area:</b> 4.1 acres	<b>Section:</b> 07
<b>Elevation:</b> 350 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** N OF GROVER CITY; 1.3 MI NW OF JCT CENTRAL BLVD AND NOYES ROAD.  
**Ecological:** N-FACING SLOPE ALONG MARGIN OF COAST LIVE OAK AND VALLEY GRASSLAND HABITATS (UPPER EDGE OF OAK WOODLAND CANOPY). SANTA LUCIA SHALY CLAY LOAM. ARCTOSTAPHYLOS WELLSII NEARBY.  
**Threat:** PLANNED FOR DEVELOPMENT. GRAZING ALSO OCCURS.  
**General:** 20 PLANTS ESTIMATED IN 1997.  
**Owner/Manager:** PVT

*Clarkia speciosa* ssp. *immaculata*

Pismo clarkia

Element Code: PDONA05111

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Rare	Global: G4T1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** ON ANCIENT SAND DUNES NOT FAR FROM THE COAST. SANDY SOILS, OPENINGS. 25-185M.

<b>Occurrence No.</b> 13	<b>Map Index:</b> 37762	<b>EO Index:</b> 32769	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-12-26

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17810° / -120.68364°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3895251 E710932	<b>Range:</b> 12E
<b>Area:</b>	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 250 ft	<b>Section:</b> 33 <b>Qtr:</b> XX
	<b>Symbol Type:</b> POLYGON
	<b>Meridian:</b> M

**Location:** NORTHERN SLOPES OF GRAGG CANYON.  
**Location Detail:** PLANTS IN ISOLATED AREAS OF GRAZED PASTURE. MAPPED AS THREE NONSPECIFIC POLYGONS AT CNDDB.  
**Ecological:** PLANTS ON LOWER SANDSTONE ROCK SHELVES IN SHALLOW SOILS.  
**Threat:** SURVEYED AS PART OF PISMO VALLEY PLANNED COMMUNITY PROJECT, BUT PROJECT MAY HAVE FALLEN THROUGH.  
**General:** SEVERAL THOUSAND PLANTS IN CLUSTERS IN 1993. MAP DETAIL NEEDED; MAPPED FROM INFO RECEIVED IN 1997 FROM CLIFTON AND FOOTE (THEIR RECOLLECTIONS OF WHERE PLANTS WERE SEEN IN 1993). CLIFTON REMEMBERS FEWER THAN 1000 PLANTS...  
**Owner/Manager:** PVT-CHEVRON

<b>Occurrence No.</b> 14	<b>Map Index:</b> 37763	<b>EO Index:</b> 32770	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1995-06-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1995-06-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-12-26

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14473° / -120.60369°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891722 E718303	<b>Range:</b> 13E
<b>Area:</b>	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 200 ft	<b>Section:</b> 17 <b>Qtr:</b> XX
	<b>Symbol Type:</b> POLYGON
	<b>Meridian:</b> M

**Location:** NW OF ARROYO GRANDE; 0.8-1.1 MI N OF HWY 101, W SIDE OF OLD OAK PARK ROAD (MAPPED FROM JUST W TO 0.4 MI W).  
**Location Detail:** MAPPED LOCALITY DELINEATES HABITAT WITHIN WHICH THE CLARKIA WAS FOUND; MAPPED AS NON-SPECIFIC POLYGON. BETTER LOCATION INFO NEEDED FOR THIS POPULATION. PART OF LOS ROBLES DEL MAR DEVELOPMENT.  
**Ecological:** PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND. WITH NASSELLA PULCHARA AND AVENA BARBATA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENSIS ALSO REPORTED FROM THIS SITE. 160-360 FT ELEVATION.  
**Threat:** PROPOSED LOS ROBLES DEL MAR RESIDENTIAL DEVELOPMENT WOULD IMPACT PLANTS FOUND HERE.  
**General:** APPROX. 3000 PLANTS OBSERVED DURING MAY 11, 14, AND JUNE 11 CENSUS.  
**Owner/Manager:** CITY OF PISMO BEACH

<b>Occurrence No.</b> 18	<b>Map Index:</b> 55741	<b>EO Index:</b> 55757	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-06-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-06-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-04

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.15879° / -120.55239°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3893396 E722938	<b>Range:</b> 13E
<b>Radius:</b> 1/10 mile	<b>Mapping Precision:</b> NON-SPECIFIC
<b>Elevation:</b> 185 ft	<b>Section:</b> 11 <b>Qtr:</b> NW
	<b>Symbol Type:</b> POINT
	<b>Meridian:</b> M

**Location:** EAST SIDE OF CORBIT CANYON, HILLSIDE OPPOSITE DEER CANYON.  
**Location Detail:** ONE COLONY LOCATED IN THE NE 1/4 OF THE NW 1/4 OF SECTION 11.  
**Ecological:** GRASSLAND WITH SCATTERED SHRUBS AND SANDY SOILS. THE SITE HAS BEEN USED AS PASTURE LAND THUS DISTURBANCE IS EVIDENT.  
**Threat:** PASTURE LAND.  
**General:** ~500 INDIVIDUALS OBSERVED IN 2003.  
**Owner/Manager:** PVT



*Clarkia speciosa* ssp. *immaculata*

Pismo clarkia

Element Code: PDONA05111

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Rare	Global: G4T1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** ON ANCIENT SAND DUNES NOT FAR FROM THE COAST. SANDY SOILS, OPENINGS. 25-185M.

<b>Occurrence No.</b> 19	<b>Map Index:</b> 55743	<b>EO Index:</b> 55759	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-05-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-04

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.15099° / -120.52813°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3892585 E725170	<b>Range:</b> 13E
<b>Area:</b> 8.9 acres	<b>Section:</b> 12 <b>Qtr:</b> SE
<b>Elevation:</b> 394 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** EAST OF ARROYO GRANDE VALLEY, APPROXIMATELY 0.75 AIRMILE NNW OF RADIO TOWERS.  
**Location Detail:** 10 SUBPOPULATIONS LOCATED WITHIN DESIGNATED POLYGON AS PROVIDED BY REPORTER. SITE LOCATED IN THE SOUTH HALF OF THE SE 1/4 OF SECTION 12.  
**Ecological:** SUBPOPULATIONS ASSOCIATED WITH ANNUAL GRASSLAND (DOMINATED BY BROMUS SP.) OUTSIDE TO COAST LIVE OAK WOODLAND (QUERCUS AGRIFOLIA), THIN SOIL WITH CLAY LAYER, CLARKIA PURPUREA AND CLARKIA UNGUICULATA ALSO PRESENT.  
**Threat:** GRAZING LAND, HOME DEVELOPMENT PROPOSED IMMEDIATELY ADJACENT TO SITE.  
**General:** 2500-3000 INDIVIDUALS OBSERVED IN 2001. "MANY" INDIVIDUALS OBSERVED IN 2003. 500-1000 INDIVIDUALS SLATED IN 2001 TO BE PRESERVED IN CONSERVATION EASEMENT WELL OUTSIDE HOMESITE LOT LINES.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 20	<b>Map Index:</b> 55744	<b>EO Index:</b> 55760	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-06-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-06-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-04

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14525° / -120.55696°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891883 E722559	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 14 <b>Qtr:</b> NW
<b>Elevation:</b> 360 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** EAST OF CORBIT CANYON, APPROXIMATELY 0.5 AIRMILE NE OF CARPENTER CREEK CONFLUENCE WITH CORBIT CREEK.  
**Location Detail:** TWO COLONIES MAPPED FROM UTM COORDINATES PROVIDED. WESTERN COLONY ON THE WEST SIDE OF STAGECOACH ROAD AT VINTON ROAD. EASTERN COLONY 100' EAST OF STAGECOACH ROAD AT PALOMA LANE. POPULATIONS IN NE1/4 SEC 15 AND NW1/4 SEC 14.  
**General:** IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 3-400 INDIVIDUALS OBSERVED AT EASTERN POLYGON.

**Owner/Manager:** PVT, UNKNOWN

Coastal Brackish Marsh

Element Code: CTT52200CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G2  
State: None State: S2.1

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
General:  
Micro:

Occurrence No. 24 Map Index: 12474 EO Index: 16097 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
Occ Rank: Unknown Element: 1986-03-XX  
Origin: Natural/Native occurrence Site: 1986-03-XX  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 1998-07-16

Quad Summary: Morro Bay South (3512037/247D)  
County Summary: San Luis Obispo

Lat/Long: 35.33794° / -120.82465° Township: 30S  
UTM: Zone-10 N3912691 E697700 Range: 11E  
Area: 164.0 acres Mapping Precision: SPECIFIC Section: 05 Qtr: SE  
Elevation: Symbol Type: POLYGON Meridian: M

Location: MOUTHS OF CHORRO & LOS OSOS CREEKS, TRIB TO MORRO BAY.  
Ecological: MIXTURE OF RUMEX, JUNCUS, SALICORNIA, DISTICHLIS, TYPHA & SCIRPUS.  
Threat: SILT ACCRETION FROM CHORRO CR CAUSING RAPID LOSS OF MARSH ALONG U/S MARGIN.  
General: NEXT TO STATE PARK. THIS WAS OCC #024 OF CTT52200CA.

Owner/Manager: UNKNOWN

Coastal and Valley Freshwater Marsh

Element Code: CTT52410CA

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3 State: S2.1	
<b>Habitat Associations</b>		
General:		
Micro:		

<b>Occurrence No.</b> 29	<b>Map Index:</b> 12704	<b>EO Index:</b> 13182	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1978-01-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1978-01-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-07-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26924° / -120.69995°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3905327 E709212	<b>Range:</b> 12E
<b>Area:</b> 81.1 acres	<b>Section:</b> 33 <b>Qtr:</b> XX
<b>Elevation:</b> 118 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** LAGUNA LAKE, SW OF SAN LUIS OBISPO.  
**Ecological:** SCIRPUS FRINGE AROUND NATURAL LAKE.  
**Threat:** SOME FILL & HOUSING DEVEL AT SW END OF LK.  
**General:** THIS WAS OCC #029 OF CTT52410CA.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 30	<b>Map Index:</b> 12905	<b>EO Index:</b> 16064	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1975-10-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1975-10-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-07-20

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13272° / -120.62679°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3890339 E716229	<b>Range:</b> 13E
<b>Area:</b> 54.9 acres	<b>Section:</b> 19 <b>Qtr:</b> XX
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** PISMO LAKE, N OF GROVER CITY.  
**Ecological:** SCIRPUS SPP & TYPHA SPP.  
**Threat:** SURROUNDED BY HOUSING; RECENTLY DEGRADED BY SILTATION.  
**General:** THIS WAS OCC #030 OF CTT52410CA.  
**Owner/Manager:** DFG

<b>Occurrence No.</b> 41	<b>Map Index:</b> 12532	<b>EO Index:</b> 13499	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-08-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-08-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-07-20

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31079° / -120.79601°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909737 E700370	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 16 <b>Qtr:</b> XX
<b>Elevation:</b> 40 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** WARDEN LAKE; 2 MI E OF LOS OSOS.  
**Location Detail:** ELEV. 20-100 FT.  
**Ecological:** TULE MARSH; STANDING OPEN WATER THROUGHOUT YEAR. NEARLY 100% SCIRPUS ACUTUS W/SOME SALIX THICKETS AROUND FRINGE AND ON HIGHER GROUND WITHIN MARSH.  
**Threat:** SILT FROM GRAZING & AG USE ON ADJACENT LAND.  
**General:** THIS WAS OCC #041 OF CTT52410CA.  
**Owner/Manager:** PVT-PGE, PVT

Coccyzus americanus occidentalis

western yellow-billed cuckoo

Element Code: ABNRB02022

Status

NDDB Element Ranks

Other Lists

Federal: Candidate

Global: G5T3Q

CDFG Status:

State: Endangered

State: S1

Habitat Associations

General: RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.

Micro: NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, W/ LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.

Occurrence No. 83

Map Index: 12855

EO Index: 5652

Dates Last Seen

Occ Rank: None

Element: 1921-06-30

Origin: Natural/Native occurrence

Site: 1921-06-30

Presence: Extirpated

Trend: Unknown

Record Last Updated: 1994-07-15

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.28302° / -120.64684°

Township: 30S

UTM: Zone-10 N3906969 E714007

Range: 12E

Radius: 1 mile

Mapping PrecisionNON-SPECIFIC

Section: 25

Qtr: XX

Elevation: 400 ft

Symbol Type:POINT

Meridian: M

Location: SAN LUIS OBISPO.

General: ONE SPECIMEN (POSSIBLY NESTING) COLLECTED BY SANTA BARBARA COUNTY MUSEUM ON 6/30/21; ONE EGG SET COLLECTED FROM UNSPECIFIED LOCATION IN S.L.O. COUNTY BY SANTA BARBARA NATURAL HISTORY MUSEUM ON 7/5/32.

Owner/Manager: UNKNOWN

**Coelus globosus**

globose dune beetle

Element Code: IICOL4A010

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1 CDFG Status:  
 State: None State: S1

Habitat Associations

General: INHABITANT OF COASTAL SAND DUNE HABITAT, FROM BODEGA HEAD IN SONOMA COUNTY SOUTH TO ENSENADA, MEXICO.  
 Micro: INHABITS FOREDUNES AND SAND HUMMOCKS; IT BURROWS BENEATH THE SAND SURFACE AND IS MOST COMMON BENEATH DUNE VEGETATION.

Occurrence No. 29 Map Index: 61100 EO Index: 61136 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1981-11-11  
 Origin: Natural/Native occurrence Site: 1981-11-11  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-04-25

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29260° / -120.87924° Township: 30S  
 UTM: Zone-10 N3907555 E692845 Range: 10E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 27 Qtr: XX  
 Elevation: 20 ft Symbol Type:POLYGON Meridian: M

Location: 3 MILES NORTH OF PT. BUCHON.  
 Location Detail: MAPPED 3 ROAD MILES NORTH OF PT. BUCHON BUT ALONG BEACH, WHERE BEETLE OCCURS.  
 General: 1 SPECIMEN COLLECTED 11 NOV 1982 BY GIULIANI AND DEPOSITED IN CALIFORNIA STATE COLLECTION OF ARTHROPODS (CDFA).  
 Owner/Manager: UNKNOWN

**Cordylanthus maritimus ssp. maritimus**

salt marsh bird's-beak

Element Code: PDSCR0J0C2

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Endangered	Global: G4?T2 State: S2.1	CNPS List: 1B.2

**Habitat Associations**

**General:** COASTAL SALT MARSH, COASTAL DUNES.  
**Micro:** LIMITED TO THE HIGHER ZONES OF THE SALT MARSH HABITAT. 0-30M.

<b>Occurrence No.</b> 42	<b>Map Index:</b> 12391	<b>EO Index:</b> 29360	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-08-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-08-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-23

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31743° / -120.85472°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910356 E695016	<b>Range:</b> 10E
<b>Area:</b> 10.8 acres	<b>Section:</b> 13 <b>Qtr:</b> NW
<b>Elevation:</b> 0 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC  
**Symbol Type:**POLYGON

**Location:** SOUTH END OF MORRO BAY ALONG MITCHELL DRIVE (PECHO RD), CUESTA-BY-THE-SEA.  
**Location Detail:** MAPPED AS 3 SMALL POLYGONS AT NORTH END OF MITCHELL DRIVE (PECHO RD) AND ON NORTH SIDE OF BUTTE DRIVE.  
**Ecological:** ASSOCIATED WITH FRANKENIA GRANDIFOLIA, LIMONIUM CALIFORNICUM, TRIGLOCHIN CONCINNUS, SALICORNIA, AND JAUMEA CARNOSA. ANOTHER RARE PLANT AT THIS SITE: SUAEDA CALIFORNICA.  
**Threat:** ROAD THROUGH AREA FROM END OF PECHO RD PROVIDES ACCESS DIRECT TO BEACH. FOOT TRAFFIC, DEVELOPMENT, EXOTICS  
**General:** ABOUT 100 PLANTS AT N END OF PECHO RD IN 1987; AT LEAST 100 N OF BUTTE DR IN 1991. THIS OCCURRENCE MAY HAVE BEEN A CONTINUATION OF OCCURRENCE #43, BUT NOW SEPARATED BY DEVELOPMENT. 500 PLANTS SEEN IN 2004.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 43	<b>Map Index:</b> 28271	<b>EO Index:</b> 29361	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-08-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-08-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-23

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32128° / -120.84506°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910803 E695885	<b>Range:</b> 10E
<b>Area:</b> 13.9 acres	<b>Section:</b> 13 <b>Qtr:</b> NE
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC  
**Symbol Type:**POLYGON

**Location:** SWEET SPRINGS MARSH AT SOUTH END OF MORRO BAY, NORTH OF BAY STREET AND EAST OF DORIS AVE, CUESTA-BY-THE-SEA.  
**Location Detail:** ALONG SMALL BRACKISH POND AT THE UPPER-MIDDLE HIGH TIDE ZONE.  
**Ecological:** ASSOCIATED WITH TRIGLOCHIN CONCINNUS, FRANKENIA GRANDIFOLIA, DISTICHLIS SPICATA, LIMONIUM CALIFORNICUM, SALICORNIA VIRGINICA, AND JAUMEA CARNOSA.  
**Threat:** DEVELOPMENT WEST OF OCCURRENCE AND RECREATION RELATED THREATS DUE TO PRESENCE OF TRAIL NEARBY. FOOTPATH THREATENS.  
**General:** ABOUT 1500 PLANTS IN 1987. THIS OCCURRENCE WAS ORIGINALLY IDENTIFIED AS C.M. SSP PALUSTRIS; SEE OCCURRENCE #23. ABOUT 1000 PLANTS SEEN IN 2004.  
**Owner/Manager:** STATE (MGMT BY AUDUBON)

**Cordylanthus maritimus ssp. maritimus**

salt marsh bird's-beak

Element Code: PDSCR0J0C2

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G4?T2	CNPS List: 1B.2
State: Endangered	State: S2.1	

**Habitat Associations**

**General:** COASTAL SALT MARSH, COASTAL DUNES.  
**Micro:** LIMITED TO THE HIGHER ZONES OF THE SALT MARSH HABITAT. 0-30M.

<b>Occurrence No.</b> 44	<b>Map Index:</b> 12370	<b>EO Index:</b> 12567	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1979-08-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1979-08-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-06-06

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36680° / -120.85816°	<b>UTM:</b> Zone-10 N3915826 E694585	<b>Area:</b> 20.7 acres	<b>Elevation:</b> 5 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 99X	<b>Range:</b> 99X	<b>Section:</b> XX	<b>Qtr:</b> XX	<b>Meridian:</b> X
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**Location:** NORTH END OF MORRO SPIT AT MOUTH OF MORRO BAY, MONTANA DE ORO STATE PARK.  
**Location Detail:** MAPPED AT NE END OF SPIT, 1 MILE SOUTH OF CLAM TAXI LANDING SPOT, SAN LUIS OBISPO.  
**Ecological:** SALT MARSH WITH LIMONIUM CALIFORNICUM, JAUMEA CARNOSA, DISTICHLIS SPICATA, AND FRANKENIA GRANDIFOLIA.  
**General:** ABOUT 500 PLANTS OBSERVED OVER 1-2 ACRES IN 1978. THIS OCCURRENCE FORMERLY CONSIDERED C. MARITIMUS SSP PALUSTRIS OCCURRENCE #24. 1979 COLLECTION BY MEYER ATTRIBUTUE TO THIS SITE.  
**Owner/Manager:** DPR-MONTANO DE ORO SP

<b>Occurrence No.</b> 45	<b>Map Index:</b> 12369	<b>EO Index:</b> 29359	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1987-10-31
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-10-31
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-09-19

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35058° / -120.85868°	<b>UTM:</b> Zone-10 N3914026 E694576	<b>Radius:</b> 80 meters	<b>Elevation:</b> 1 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 10E	<b>Section:</b> 01	<b>Qtr:</b> NE	<b>Meridian:</b> M
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**Location:** NORTHERN END OF MORRO SPIT, ALONG MORRO BAY DUE WEST OF FAIRBANK POINT, MONTANA DE ORO STATE PARK.  
**Location Detail:** LOCATED AT NORTH AND SOUTH ENDS OF COVE ALONG EAST SIDE OF SPIT.  
**Ecological:** IN SALT MARSH WITH DISTICHLIS SPICATA, FRANKENIA GRANDIFOLIA, LIMONIUM CALIFORNICUM, AND JAUMEA CARNOSA.  
**General:** ABOUT 3000 PLANTS AMONG TWO SUBPOPULATIONS. FORMERLY CONSIDERED C. M. SSP PALUSTRIS, OCCURRENCE #25.  
**Owner/Manager:** DPR-MONTANO DE ORO SP

<b>Occurrence No.</b> 46	<b>Map Index:</b> 61746	<b>EO Index:</b> 61782	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-08-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-08-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-23

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35750° / -120.85971°	<b>UTM:</b> Zone-10 N3914793 E694466	<b>Radius:</b> 80 meters	<b>Elevation:</b> 42 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 29S	<b>Range:</b> 10E	<b>Section:</b> 35	<b>Qtr:</b> S	<b>Meridian:</b> M
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**Location:** NORTHERN END OF MORRO SPIT, ALONG MORRO BAY OPPOSITE BOAT LAUNCH, WEST OF MORRO BAY TOWN.  
**Ecological:** IN COASTAL SALT MARSHES IN SANDY SOILS. ASSOCIATED WITH SALICORNICA VIRGINICA, FRANKENIA GRANDIFOLIA, LIMONIUM CALIFORNICUM, JAUMEA CARNOSA, AND DISTICHLIS SPICATA.  
**Threat:** LOSS OF SALT MARSH HABITAT, FOOT TRAFFIC, COASTAL DEVELOPMENT, AND INVASION OF EXOTICS, ESPECIALLY CARPOBROTUS.  
**General:** 2500 PLANTS SEEN IN 2004.  
**Owner/Manager:** DPR-MORRO BAY SP

**Corynorhinus townsendii**

Townsend's big-eared bat

Element Code: AMACC08010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G4 State: S2S3	CDFG Status: SC

**Habitat Associations**

**General:** THROUGHOUT CALIFORNIA IN A WIDE VARIETY OF HABITATS. MOST COMMON IN MESIC SITES.  
**Micro:** ROOSTS IN THE OPEN, HANGING FROM WALLS & CEILINGS. ROOSTING SITES LIMITING. EXTREMELY SENSITIVE TO HUMAN DISTURBANCE.

<b>Occurrence No.</b> 119	<b>Map Index:</b> 52207	<b>EO Index:</b> 52207	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-11-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-11-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-08-21

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40333° / -120.61305°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3920389 E716759	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 18 <b>Qtr:</b> XX
<b>Elevation:</b> 1,000 ft	<b>Meridian:</b> M

**Location:** SANTA MARGARITA CREEK, AT THE SANTA MARGARITA RANCH HEADQUARTERS, 0.75 MILE NORTH OF SANTA MARGARITA  
**Ecological:** HABITAT CONSISTS OF A BARN BUILT AROUND AN OLD ROCK WALL THAT HAS STONE ARCHES WHICH CREATE "CAVE-LIKE" FEATURES.  
**Threat:** THREATENED BY USE OF THE BARN FOR ACTIVE HAY STORAGE/RETRIEVAL MAY MAKE IT UNUSABLE FOR BATS.  
**General:** ONE INDIVIDUAL FOUND ON 23 SEP 2002 IN A BARN AT THE RANCH HEADQUARTERS; THIS MAY BE A SOLITARY WINTERING MALE. BAT WAS OBSERVED THROUGH NOV 2002 IN THE SAME LOCATION.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Occurrence No.</b> 169	<b>Map Index:</b> 68337	<b>EO Index:</b> 68499	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2001-10-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-10-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-03-06

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32886° / -120.70787°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911924 E708338	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 08 <b>Qtr:</b> SE
<b>Elevation:</b> 370 ft	<b>Meridian:</b> M

**Location:** CAMP ROBERTS MILITARY RESERVATION, EAST OF CAMP SAN LUIS OBISPO, 0.4 AND 0.8 MI NORTH OF HWY 1.  
**Location Detail:** MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY SOURCE. 1 INDIVIDUAL OBSERVED IN NORTHERN FEATURE; 100 INDIVIDUALS OBSERVED IN SOUTHERN FEATURE.  
**General:** 51 INDIVIDUALS OBSERVED ON 5 OCT, 50 INDIVIDUALS OBSERVED ON 6 OCT 2001.  
**Owner/Manager:** DOD-CAMP ROBERTS MR



**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

Status \_\_\_\_\_ NDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status: \_\_\_\_\_  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 2 Map Index: 12405 EO Index: 4791 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 1998-01-08  
 Origin: Natural/Native occurrence Site: 1998-01-08  
 Presence: Presumed Extant  
 Trend: Stable Record Last Updated: 1998-07-06

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31484° / -120.85112° Township: 30S  
 UTM: Zone-10 N3910076 E695350 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 13 Qtr: XX  
 Elevation: 60 ft Symbol Type: POINT Meridian: M

Location: SKYLINE GROVE, NEAR THE INTERSECTION OF DORIS AVENUE AND ROSINA, LOS OSOS  
 Location Detail: SITE COULD BE IMPROVED BY CUTTING SOME TREES TO OPEN A HOLE TO ALLOW SOME SUN IN. AN ADJACENT HOMEOWNER HAS DONE THIS, POSSIBLY IMPROVING THE SITE.  
 Ecological: SITE CONSISTS OF A EUCALYPTUS GROVE, PLANTED IN ROWS.  
 Threat: MAIN THREAT IS FURTHER PARCELING AND DEVELOPMENT OF SITE.  
 General: 3-5K MONARCHS OBSERVED ON 20 NOV 88; 3000 OBSERVED DURING 89-90. 10K OBSERVED DURING 90-91. 3000 OBSERVED DURING 92-93. 3000+ OBSERVED IN 93-94. NONE OBSERVED IN DEC 94 (POOR YEAR). 10K OBSERVED ON 3 JAN 96. 50K OBSERVED ON 8 JAN 98.  
 Owner/Manager: PVT

Occurrence No. 117 Map Index: 12388 EO Index: 22868 Dates Last Seen \_\_\_\_\_  
 Occ Rank: None Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: 1985-12-XX  
 Presence: Extirpated  
 Trend: Unknown Record Last Updated: 2000-01-11

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39385° / -120.85713° Township: 29S  
 UTM: Zone-10 N3918829 E694613 Range: 10E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 24 Qtr: XX  
 Elevation: 40 ft Symbol Type: POINT Meridian: M

Location: UNITED METHODIST CHURCH, MORRO BAY. ACCORDING TO YAHOO MAPS, THE UNITED METHODIST CHURCH IS LOCATED AT 3000 HEMLOCK AVE.  
 Ecological: CLUSTER TREES WERE CYPRESSES IN A LINEAR GROVE, ON A SLIGHT HILL ORIENTED EAST-WEST; ADJACENT TO A BUILDING.  
 General: SITE DESTROYED IN DECEMBER 1985.  
 Owner/Manager: PVT

Occurrence No. 118 Map Index: 12345 EO Index: 4815 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1998-10-15

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.41609° / -120.86870° Township: 29S  
 UTM: Zone-10 N3921273 E693510 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 11 Qtr: XX  
 Elevation: 40 ft Symbol Type: POINT Meridian: M

Location: TORO CREEK, ALONG TORO CREEK ROAD, 0.3 MILE EAST OF HWY 1, NORTH OF MORRO BAY  
 Ecological: CLUSTER TREES ARE EUCALYPTUS AND SYCAMORES GROWING ALONG TORO CREEK.  
 General: CLUSTER OF 20-30 OBSERVED ON 4 OCT 1985. 2000 ON 21 JAN 1990. 25K OVERWINTERED IN 1990-91. 10K IN NOV 1992; 100 IN JAN 1993. 1000 IN 1993-94. NONE IN JAN 1995. 10K ON 3 JAN 1996. 8500 ON 7 JAN 1998.  
 Owner/Manager: PVT

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status:  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 119 Map Index: 12300 EO Index: 4789 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1990-11-12  
 Origin: Natural/Native occurrence Site: 1996-01-03  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1996-10-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28824° / -120.88046° Township: 30S  
 UTM: Zone-10 N3907068 E692745 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 27 Qtr: NE  
 Elevation: 100 ft Symbol Type: POINT Meridian: M

Location: NORTH SIDE OF HAZARD COVE, ALONG PECHO VALLEY ROAD, MONTANA DE ORO STATE PARK, SOUTH OF MORRO BAY.  
 Ecological: HABITAT CONSISTS OF A GROVE OF EUCALYPTUS.  
 Threat: GROVE IS THREATENED BY DPR'S ATTEMPT TO REMOVE NON-NATIVES.  
 General: MANY REPORTS OF LARGE NUMBERS (10-15K) OF CLUSTERING MONARCHS; OBSERVATION DATES UNKNOWN. ~10 OBSERVED ON 19 NOV 1988. 10K OBSERVED ON 12 NOV 1990. NONE FOUND IN 1992-93 OR ON 3 JAN 1996  
 Owner/Manager: DPR-MONTANA DE ORO SP

Occurrence No. 120 Map Index: 12375 EO Index: 3578 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Decreasing Record Last Updated: 1998-07-06

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31185° / -120.86028° Township: 30S  
 UTM: Zone-10 N3909727 E694524 Range: 10E  
 Area: 6.4 acres Mapping Precision: SPECIFIC Section: 13 Qtr: SW  
 Elevation: 80 ft Symbol Type: POLYGON Meridian: M

Location: WSW OF THE END OF MONARCH LANE (WEST WOODLAND AVE), LOS OSOS.  
 Location Detail: EXPERIMENTAL SITE. LEONG IS ATTEMPTING TO RE-CREATE HABITAT FOR THE MONARCHS AT THIS SITE (1994-95). A RECTANGULAR "HOLE" WAS CUT IN THE CENTER OF THIS PLANTATION-STYLE GROVE (1995-96).  
 Ecological: CLUSTERS LOCATED IN A EUCALYPTUS GROVE PLANTED IN AN ORCHARD-LIKE FASHION WITH A RECTANGULAR "HOLE" IN THE MIDDLE.  
 Threat: SITE SLATED FOR DEVELOPMENT; PRESSURE EXISTS TO DEVELOP THE SURROUNDING AREA. TREES APPEAR TO BE PERIODICALLY HARVESTED.  
 General: 100'S OBSERVED FLYING/SUNNING IN 1978. 15K OBSERVED IN 1986. 5K OBSERVED ON 18 NOV 89. 10K OBSERVED IN 90-91. NONE OBSERVED IN 92-93 OR 93-94. 350 OBSERVED ON 3 JAN 96; MAIN SITE LOST DUE TO TREE REMOVAL. 100 OBSERVED ON 7 JAN 98.  
 Owner/Manager: PVT

Occurrence No. 121 Map Index: 12428 EO Index: 4792 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1998-07-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.32086° / -120.84154° Township: 30S  
 UTM: Zone-10 N3910763 E696206 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 18 Qtr: XX  
 Elevation: 20 ft Symbol Type: POINT Meridian: M

Location: SWEET SPRINGS MARSH, NORTH OF RAMONA, ON THE SE END OF MORRO BAY, LOS OSOS.  
 Ecological: AUTUMNAL SITE. CLUSTER TREES CONSIST OF A WINDROW OF EUCALYPTUS, RUNNING NW TO SE, ABOUT 40 M FROM THE ROAD. CLUSTERS LOCATED 20-50 FEET UP.  
 Threat: POSSIBLE THREAT FROM SOME LARGE EUCALYPTUS TREES ALONG THE STREET, WHICH NOW SHADE THE ROOST AREA'S SOUTHERN EXPOSURE.  
 General: LOW 1000'S OBSERVED ON 22 DEC 85. 1K OBSERVED ON 6 FEB 88. 10K+ ON 20 NOV 88. 3K ON 18 NOV 89. 10K IN 90-91. 500 OBSERVED IN 92-93. 150 IN 93-94. NONE IN JAN 95. 150 ON 3 JAN 96. 925 ON 28 NOV 97; 175 ON 7 JAN 98.

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status:  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Owner/Manager: AUDUBON-MORRO BAY CHAPTER

Occurrence No. 122 Map Index: 12437 EO Index: 4793 Dates Last Seen \_\_\_\_\_  
 Occ Rank: None Element: 1997-11-28  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Possibly Extirpated  
 Trend: Fluctuating Record Last Updated: 1998-07-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.34670° / -120.83940° Township: 30S  
 UTM: Zone-10 N3913634 E696338 Range: 11E  
 Area: 18.1 acres Mapping Precision: SPECIFIC Section: 06 Qtr: NW  
 Elevation: 20 ft Symbol Type: POLYGON Meridian: M

Location: MORRO BAY STATE PARK CAMPGROUND AREA, MORRO BAY  
 Location Detail: ALTHOUGH CLUSTERS MOVE AROUND DAY TO DAY, SITE WAS CENTERED ON CAMPSITE #116 - CLUSTERS WERE FOUND WITHIN 100 FT OF THIS CAMPSITE.  
 Ecological: CLUSTERS FORM IN EUCALYPTUS TREES, 25-50 FT ABOVE GROUND.  
 Threat: THREATS INCLUDE CAMPFIRE SMOKE, HEAVY TREE-TRIMMING (PRIOR TO MAY 1995), AND EUCALYPTUS REMOVAL.  
 General: 30K OBSERVED 20 NOV 88. 5K IN 89-90; 100 BY JAN 90. MONARCHS PRESENT IN 90-91. 5K IN NOV 92; 0 BY JAN 93. 2500 BY CAMPSITES #10-11 IN 93-94. 1K BY #10-11 IN NOV 94; 5K BY #116 IN DEC/JAN. 0 ON 3 JAN 96. 100 OBSERVED IN NOV 97; 0 BY 7 JAN 98

Owner/Manager: DPR-MORRO BAY SP

Occurrence No. 123 Map Index: 12450 EO Index: 4795 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1998-10-21

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35685° / -120.83528° Township: 29S  
 UTM: Zone-10 N3914768 E696688 Range: 11E  
 Area: Mapping Precision: NON-SPECIFIC Section: 31 Qtr: SW  
 Elevation: 300 ft Symbol Type: POLYGON Meridian: M

Location: MORRO BAY GOLF COURSE, ON THE SW EDGE OF BLACK HILL, MORRO BAY STATE PARK  
 Location Detail: DURING 1995-96 OBSERVATION, CLUSTERS WERE LOCATED ALONG THE 3RD FAIRWAY: 2500 OBSERVED LOW AND 75K OBSERVED HIGH UP ON HILL; REPORTEDLY ALONG THE 8TH FAIRWAY DURING FALL.  
 Ecological: ROOST TREES ARE PINES AND EUCALYPTUS, LOCATED IN TWO GROVES SEPARATED BY A ROADWAY. SPECIFIC SITE LOCATION IN 1989-90 CHANGED FROM PREVIOUS YEARS.  
 Threat: THREATENED BY DPR PLAN TO DO HEAVY TREE TRIMMING.  
 General: CLUSTERS (AS MANY AS 60K) OBSERVED IN 1986 AND 1988. NONE OBSERVED IN 1988-89. 30K IN 1989-90. 25K IN 1990-91. 20K IN JAN 1993. 35K IN 1993-94. 2500 IN 1994-95. 77,500 ON 3 JAN 1996. 20.5K ON 3 NOV 1997; 110.5K ON 7 JAN 1998.

Owner/Manager: DPR-MORRO BAY SP

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status: \_\_\_\_\_  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 124 Map Index: 12410 EO Index: 4798 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1994-12-XX  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1998-07-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35919° / -120.84800° Township: 29S  
 UTM: Zone-10 N3915002 E695526 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 36 Qtr: S  
 Elevation: 230 ft Symbol Type: POINT Meridian: M

Location: EAGLE ROCK, HIGHEST POINT IN THE TOWN OF MORRO BAY, NEAR MOUTH THE OF MORRO BAY.  
 Ecological: HABITAT IS A EUCALYPTUS GROVE ON A SMALL ROCKY HILL; CLUSTERS ARE FOUND IN EUCALYPTUS TREES 20-50 FT ABOVE THE GROUND.  
 Threat: MAIN THREAT IS HARRASSMENT BY VISITORS TO THE SITE, ALTHOUGH MOST VISITORS ARE UNAWARE OF THE CLUSTERS; TREE-TRIMMING.  
 General: OBSERVATIONS IN 86-87, 87-88 FROM 100-1000. 500 OBSERVED ON 18 NOV 89. 5000 OBSERVED IN OCT 90; 0 IN NOV 90. 100 OBSERVED IN NOV 92; 0 BY JAN 93. NONE OBSERVED DURING 93-94. 50 OBSERVED IN DEC 94; 0 BY JAN 95. NONE FOUND ON 7 JAN 98.  
 Owner/Manager: CITY OF MORRO BAY

Occurrence No. 125 Map Index: 12302 EO Index: 22861 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Fluctuating Record Last Updated: 1998-10-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28441° / -120.87908° Township: 30S  
 UTM: Zone-10 N3906646 E692880 Range: 10E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: SE  
 Elevation: 260 ft Symbol Type: POINT Meridian: M

Location: "CAMP KEEP," EAST OF PECHO VALLEY ROAD, 0.5 MILE SE OF HAZARD BEACH, MONTANA DE ORO STATE PARK  
 Location Detail: ROOST IS LOCATED ALONG A DRAINAGE.  
 Ecological: CLUSTERS FOUND IN A PLANTED EUCALYPTUS GROVE.  
 Threat: GROVE IS THREATENED BY DPR'S ATTEMPT TO REMOVE NON-NATIVES AND EXPANSION OF CAMP FACILITIES.  
 General: 15K OBSERVED ON 18 NOV 1989. 20K IN 1990-91. NONE IN 1992-93. 1000 OBSERVED IN 1993-94 (2 VISITS). 1 IN DEC 1994. 15K ON 3 JAN 1996, IMMEDIATELY ADJACENT TO ROAD (CONTINUOUS DISTURBANCE). 45-50K IN NOV 1997, 80K ON 7 JAN 1998.  
 Owner/Manager: DPR-MONTANA DE ORO SP

Occurrence No. 126 Map Index: 12765 EO Index: 22860 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-01-08

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.27025° / -120.67128° Township: 30S  
 UTM: Zone-10 N3905499 E711818 Range: 12E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 34 Qtr: SE  
 Elevation: 120 ft Symbol Type: POINT Meridian: M

Location: SAN LUIS OBISPO, VIC HWY 101 AND HIGUERA ST, APPROX 0.25 MI N OF MADONNA RD.  
 Location Detail: CLUSTERS FORM OVER THE CREEK ON CYPRESS AND CATTAILS.  
 Ecological: CLUSTERS ARE FOUND ON MONTEREY CYPRESS AND CATTAILS.  
 Threat: FLOOD CONTROL MEASURES COULD ADVERSELY IMPACT SITE.  
 General: APPROXIMATELY 1000 OBSERVED; DATE OF OBSERVATION UNKNOWN. UNUSUAL SITE IN THAT IT IS LOCATED SO FAR INLAND.  
 Owner/Manager: CITY OF SAN LUIS OBISPO

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status:  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 127 Map Index: 12891 EO Index: 4787 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 1998-01-19  
 Origin: Natural/Native occurrence Site: 1998-01-19  
 Presence: Presumed Extant  
 Trend: Stable Record Last Updated: 1998-07-06

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.12952° / -120.63243° Township: 32S  
 UTM: Zone-10 N3889972 E715724 Range: 12E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 24 Qtr: XX  
 Elevation: 20 ft Symbol Type: POINT Meridian: M

Location: NORTH BEACH CAMPGROUND, NEAR MEADOW CREEK, PISMO STATE BEACH, NW OF GROVER BEACH  
 Location Detail: GROVE OCCURS ALONG THE CREEK, ADJACENT TO THE HIGHWAY, NEAR THE RANGER STATION.  
 Ecological: CLUSTER TREES ARE A WINDROW OF EUCALYPTUS, PINE, CYPRESS, AND OAKS.  
 Threat: THREATENED BY GRADUAL LOSS OF ROOST TREES, WITHOUT REPLACEMENT.  
 General: 100K OBSERVED IN 1987-88. 15K OBSERVED ON 20 JAN 90. 200K WINTERED IN 90-91 (LARGEST IN CA). 20K OBSERVED IN JAN 93. 17K OBSERVED IN 93-94. 12K OBSERVED IN 94-95. 150K OBSERVED ON 3 JAN 96. 80-120K OBSERVED BETWEEN NOV 97 AND 19 JAN 98.  
 Owner/Manager: DPR-PISMO SB

Occurrence No. 128 Map Index: 12892 EO Index: 22858 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1997-11-28  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-06

Quad Summary: Oceano (3512015/221D), Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.12524° / -120.63211° Township: 32S  
 UTM: Zone-10 N3889498 E715765 Range: 12E  
 Radius: 1/5 mile Mapping Precision NON-SPECIFIC Section: 19 Qtr: XX  
 Elevation: 25 ft Symbol Type: POINT Meridian: M

Location: PISMO DUNES STATE VEHICLAR RECREATION AREA DISTRICT OFFICE, WEST OF GROVER CITY  
 Location Detail: CLUSTERS NORMALLY BREAK UP, BUT PERSISTED DURING THE 1987-88 SEASON. ORIGINAL SITE EXTIRPATED (BEHIND DISTRICT OFFICE); SITE HAS NOT BEEN USED SINCE 1992-93. TWO OTHER SITES USED ARE A EUCALYPTUS ROW AND AN AREA BEHIND A RESIDENCE.  
 Ecological: HABITAT CONSISTED OF A LINEAR GROVE OF MONTEREY PINES PARALLELING THE HIGHWAY PRIOR TO TREE-TRIMMING. A EUCALYPTUS WINDROW ALONG MEADOW CREEK WAS USED ALTERNATELY THEREAFTER.  
 Threat: SITE THREATENED (AND EVENTUALLY DESTROYED) BY TREE-TRIMMERS DURING THE 1987-88 SEASON.  
 General: 50 OBSERVED ON 11 FEB 87. 5000 CLUSTERED IN OCT 90 (EUCALYPTUS WINDROW); 10K CLUSTERED (MONTEREY PINES) IN NOV 90. NONE OBSERVED IN NOV 92; 3000 OBSERVED IN JAN 93. NONE FOUND IN 93-94, 94-95, OR 95-96. 700 OBSERVED ON 28 NOV 97 (EUC ROW).  
 Owner/Manager: DPR-PISMO DUNES SVRA

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status: \_\_\_\_\_  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 253 Map Index: 30296 EO Index: 4788 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1998-01-07  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-06

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.25709° / -120.68357° Township: 31S  
 UTM: Zone-10 N3904014 E710734 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 3 Qtr: XX  
 Elevation: 120 ft Symbol Type:POLYGON Meridian: M

Location: SOUTH OF MADONNA ROAD & WEST OF HWY 101, ALONG THE EAST BANK OF PREFUMO CREEK, SAN LUIS OBISPO.  
 Ecological: HABITAT CONSISTS OF SEVERAL INTERSECTING WINDROWS OF EUCALYPTUS TREES ALONG A CHANNELIZED PORTION OF PREFUMO  
 Threat: POSSIBLE THREAT FROM PESTICIDES - SURROUNDING AREA IS USED FOR TRUCK FARMING.  
 General: ALTHOUGH NONE WERE OBSERVED IN JAN 1991, SITE REPORTEDLY HAS BEEN USED IN THE PAST. ~100 OBSERVED FLYING, BUT NO CLUSTERS WERE FOUND. 100 OBSERVED ON 7 JAN 98.  
 Owner/Manager: PVT-ZAPATA FARMS

Occurrence No. 254 Map Index: 30298 EO Index: 4814 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1991-XX-XX  
 Origin: Natural/Native occurrence Site: 1996-01-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-07

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39093° / -120.86083° Township: 29S  
 UTM: Zone-10 N3918498 E694284 Range: 10E  
 Area: 6.6 acres Mapping PrecisionSPECIFIC Section: 24 Qtr: XX  
 Elevation: 15 ft Symbol Type:POLYGON Meridian: M

Location: SW OF THE INTERSECTION OF SAN JOAQUIN AVENUE AND HWY 1, MORRO BAY.  
 Ecological: HABITAT CONSISTS OF A SMALL GROVE OF EUCALYPTUS.  
 General: SITE WAS REPORTED BY DPR STAFF TO BE AN ACTIVE SITE. IN 1991, AN UNKNOWN NUMBER OF FLYERS WAS OBSERVED. NONE OBSERVED ON 3 JAN 1996.  
 Owner/Manager: PVT

Occurrence No. 261 Map Index: 30284 EO Index: 13416 Dates Last Seen \_\_\_\_\_  
 Occ Rank: None Element: 1999-01-12  
 Origin: Natural/Native occurrence Site: 1999-01-12  
 Presence: Possibly Extirpated  
 Trend: Decreasing Record Last Updated: 2000-09-25

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.37177° / -120.85092° Township: 29S  
 UTM: Zone-10 N3916392 E695231 Range: 10E  
 Area: 3.6 acres Mapping PrecisionSPECIFIC Section: 25 Qtr: XX  
 Elevation: 40 ft Symbol Type:POLYGON Meridian: M

Location: NORTH OF SURF STREET, BETWEEN MAIN STREET AND MORRO AVENUE, MORRO BAY  
 Location Detail: TREES WERE SEVERELY TRIMMED IN MAY 1994; BY JAN 1999, VEGETATION HAD REGROWN TO THE POINT OF SUPPORTING NUMBERS OF WINTERING MONARCHS.  
 Ecological: HABITAT CONSISTS OF A EUCALYPTUS WINDROW, RUNNING NORTH-SOUTH, BETWEEN THE ROAD AND THE REAR OF A RESIDENCE.  
 Threat: THREATENED BY HEAVY TREE TRIMMING, WHICH REDUCED THE UNDERSTORY (MAY 1994); SITE MAY BE EXTIRPATED.  
 General: 1000 MONARCHS PRESENT, NOV 1992; SINGLE FEMALE LEFT BY JAN 1993. 2000 PRESENT, 1993-94. NONE OBSERVED, JAN 1995 (POOR YEAR/AUTUMNAL SITE). 1 FOUND ON JAN 1996; TREES SEVERELY TRIMMED/UNDERSTORY GONE. 2 FOUND, JAN 98. 3000 FOUND, 12 JAN 99.  
 Owner/Manager: PVT

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5 CDFG Status: \_\_\_\_\_  
 State: None State: S3

Habitat Associations

General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
 Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 262 Map Index: 30285 EO Index: 4799 Dates Last Seen \_\_\_\_\_  
 Occ Rank: None Element: 2000-11-27  
 Origin: Natural/Native occurrence Site: 2000-11-27  
 Presence: Possibly Extirpated  
 Trend: Decreasing Record Last Updated: 2000-09-25

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36114° / -120.85066° Township: 29S  
 UTM: Zone-10 N3915213 E695280 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 36 Qtr: W  
 Elevation: 40 ft Symbol Type: POINT Meridian: M

Location: SW OF THE INTERSECTION OF MORRO AVENUE AND SOUTH STREET, MORRO BAY  
 Ecological: HABITAT CONSISTS OF A VACANT CITY LOT WITH A GROVE OF YOUNG EUCALYPTUS TREES. TREE REMOVAL PROJECT IN 1995 ELIMINATED THIS AS A VALID SITE UNTIL 2000. RESTORATION/MITIGATION OF THIS SITE IS BEING EXPLORED.  
 Threat: MANY TREES TAGGED DURING 1993-94; DURING 1994-95 MOST SMALL TREES/SAPLINGS WERE CUT DOWN. SITE SLATED FOR DEVELOPMENT.  
 General: 10K OBSERVED, NOV 90; NONE BY DEC 91. 1000 OBSERVED, NOV 92; 10 LEFT BY JAN 93. 10K OBSERVED, 1993-94. NONE OBSERVED IN JAN 95. BY 3 JAN 96, MOST TREES HAD BEEN REMOVED; SITE EXTIRPATED. NONE OBSERVED, 7 JAN 98. 50 OBSERVED, 27 NOV 99.

Owner/Manager: PVT

Occurrence No. 263 Map Index: 30287 EO Index: 4797 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1991-01-XX  
 Origin: Natural/Native occurrence Site: 1996-01-02  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35871° / -120.82761° Township: 29S  
 UTM: Zone-10 N3914990 E697381 Range: 11E  
 Area: 3.2 acres Mapping Precision: SPECIFIC Section: 31 Qtr: E  
 Elevation: 40 ft Symbol Type: POLYGON Meridian: M

Location: WEST SIDE OF SOUTH BAY BLVD, 0.5 MILE SOUTH OF HWY 1, MORRO BAY STATE PARK.  
 Ecological: HABITAT CONSISTS OF A SMALL EUCALYPTUS GROVE ADJACENT TO THE ROAD.  
 Threat: THREATENED BY PAST AND FUTURE TREE TRIMMING.  
 General: 1000 MONARCHS OBSERVED IN JAN 1991, POSSIBLY INDICATING A PERMANENT SITE. NO MONARCHS FOUND IN 1992-93, 1993-94, OR 1994-95. 1 FLYER OBSERVED ON 3 JAN 1996.

Owner/Manager: DPR-MORRO BAY SP

Occurrence No. 264 Map Index: 30288 EO Index: 4796 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1990-01-20  
 Origin: Natural/Native occurrence Site: 1998-01-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2000-09-25

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35498° / -120.83197° Township: 29S  
 UTM: Zone-10 N3914567 E696993 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 31 Qtr: SE  
 Elevation: 120 ft Symbol Type: POINT Meridian: M

Location: WEST OF SOUTH BAY BLVD, 0.8 MILE SSW OF THE HWY 1 JUNCTION WITH SOUTH BAY BLVD, MORRO BAY STATE PARK.  
 Location Detail: SITE IS LOCATED IN THE STATE PARK RESIDENCE AREA, SOUTH OF BLACK HILL, BEHIND (WEST) OF RESIDENCE. MONARCHS ROOST ON THE WEST SIDE OF THE GROVE OF TREES.  
 Ecological: PRIMARILY AN AUTUMNAL SITE. HABITAT CONSISTS OF A EUCALYPTUS GROVE RUNNING DOWNSLOPE, SURROUNDING A RESIDENCE AREA/MAINTENANCE YARD.  
 General: 50 MONARCHS OBSERVED ON 20 JAN 1990, PERHAPS INDICATING THAT THIS IS A PERMANENT SITE. ALTHOUGH SITE APPEARS UNCHANGED, NO MONARCHS WERE OBSERVED IN 1992-93, ONLY 1 IN 1993-94, NONE IN 1994-95, AND 1 ON 3 JAN 96. NONE OBSERVED ON 7 JAN 98.

Owner/Manager: DPR-MORRO BAY SP

**Danaus plexippus**

monarch butterfly

Element Code: IILEPP2010

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G5	CDFG Status:
State: None	State: S3	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

**General:** WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.  
**Micro:** ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 265	Map Index: 30286	EO Index: 4794	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 1990-11-XX
Origin: Natural/Native occurrence			Site: 1999-01-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-09-25

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

Lat/Long: 35.35009° / -120.84378°	Township: 30S
UTM: Zone-10 N3914001 E695932	Range: 10E
Area: 3.8 acres	Section: 01
Elevation: 20 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

**Location:** EAST SHORE OF MORRO BAY, BETWEEN FAIRBANK POINT AND WHITE POINT, MORRO BAY STATE PARK  
**Location Detail:** THIS SITE IS KNOWN AS THE "HERON ROOKERY" SITE, AS A LARGE COLONY OF GREAT BLUE HERONS HAS NESTED HERE FOR MANY YEARS DURING THE SUMMER. MONARCHS CLUSTER IN A DOUBLE WINDROW OF EUCALYPTUS ADJACENT TO THE HERON OBSERVATION AREA.  
**Ecological:** AUTUMNAL SITE. HABITAT CONSISTS OF A DOUBLE WINDROW OF EUCALYPTUSES ADJACENT TO MORRO BAY. MONARCHS ROOST IN THE HOLE CREATED BY THE POWER LINE RIGHT-OF-WAY.  
**Threat:** THREAT: HERONS AND MONARCHS ARE SOMEWHAT INCOMPATIBLE!  
**General:** 1000 MONARCHS OBSERVED IN NOVEMBER 1990. NONE WERE FOUND IN 1992-93, 1993-94, 1994-95, 3 JAN 96, 7 JAN 98, OR 12 JAN 99.  
**Owner/Manager:** DPR-MORRO BAY SP

Occurrence No. 291	Map Index: 33180	EO Index: 2803	_____ Dates Last Seen _____
Occ Rank: None			Element: 1989-XX-XX
Origin: Natural/Native occurrence			Site: 1998-01-07
Presence: Possibly Extirpated			
Trend: Unknown			Record Last Updated: 1998-07-06

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

Lat/Long: 35.26854° / -120.88771°	Township: 30S
UTM: Zone-10 N3904869 E692132	Range: 10E
Radius: 2/5 mile	Section: 34
Elevation: 160 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

**Location:** SOUTH OF SPOONER COVE, MONTANA DE ORO STATE PARK  
**Location Detail:** SITE DAMAGED YEARS AGO BY AN ARSON FIRE; LITTLE/NO RECOVERY SINCE.  
**Ecological:** HABITAT CONSISTS OF TWO SMALL EUCALYPTUS WINDROWS ALONG AN UNNAMED DRAINAGE.  
**Threat:** POSSIBLE THREAT OF TREE REMOVAL.  
**General:** ALTHOUGH PRIMARILY AN AUTUMNAL SITE, IN 1987-88 AND 1988-89, SEVERAL THOUSAND USED THIS AS A PERMANENT SITE. NO MONARCHS OBSERVED DURING WINTER 1992-93, ON 3 JAN 1996, OR ON 7 JAN 1998.  
**Owner/Manager:** DPR-MONTANA DE ORO SP



*Deinandra increscens* ssp. *foliosa*

leafy tarplant

Element Code: PDAST4R0U4

_____ Status _____	NDDB Element Ranks _____	_____ Other Lists _____
Federal: None	Global: G4G5T2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: 300-500M.

Occurrence No. 1	Map Index: 46211	EO Index: 46211	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1998-XX-XX
Origin: Natural/Native occurrence			Site: 1998-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2007-12-19

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.17542° / -120.52650°	Township: 32S
UTM: Zone-10 N3895298 E725252	Range: 13E
Area:	Section: 01 Qtr: XX
Elevation:	Meridian: M
	Mapping Precision: NON-SPECIFIC
	Symbol Type: POLYGON

Location: ARROYO GRANDE-POZO RD.  
 Location Detail: IMMEDIATELY NE OF LOPEZ RESERVOIR, ON RANCHITA PROPERTY AND THE AREA BEING SUBDIVIDED FOR RANCHETTES ADJACENT TO THE RANCHITA.  
 Ecological: SANDY SOILS, OPEN GRASSLAND AND OAK WOODLAND.  
 Threat: DEVELOPMENT.  
 General: NEEDS FIELDWORK. SUPPOSEDLY COMMON ON SANDY SOILS IN THIS REGION.  
 Owner/Manager: PVT?

Delphinium parryi ssp. blochmaniae

dune larkspur

Element Code: PDRAN0B1B1

_____ Status _____	NDDB Element Ranks _____	_____ Other Lists _____
Federal: None	Global: G4T2	CNPS List: 1B.2
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, COASTAL DUNES (MARITIME).

Micro: ON ROCKY AREAS AND DUNES. 30-375M.

Occurrence No. 11	Map Index: 28608	EO Index: 29863	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1936-03-27
Origin: Natural/Native occurrence			Site: 1936-03-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-12-18

Quad Summary: Lopez Mtn. (3512035/246D)

County Summary: San Luis Obispo

Lat/Long: 35.27307° / -120.60498°	Township: 30S
UTM: Zone-10 N3905956 E717842	Range: 13E
Radius: 1 mile	Section: 32
Elevation: 1,225 ft	Meridian: M
	Qtr: XX
Mapping Precision: NON-SPECIFIC	
Symbol Type: POINT	

Location: 2.2 MILES WSW OF PINEY RIDGE (2.5 MILES SOUTHWEST OF LOPEZ MOUNTAIN).

Location Detail: MAPPED ACCORDING TO T-R-S PROVIDED ON COLLECTION LABEL.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY CARLSON.

Owner/Manager: UNKNOWN

Dipodomys heermanni morroensis

Morro Bay kangaroo rat

Element Code: AMAFD03063

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: Endangered	Global: G3G4T1	CDFG Status:
State: Endangered	State: S1	

Habitat Associations

General: COASTAL SAGE SCRUB ON THE SOUTH SIDE OF MORRO BAY.  
 Micro: NEEDS SANDY SOIL, BUT NOT ACTIVE DUNES, PREFERS EARLY SERAL STAGES.

Occurrence No. 1	Map Index: 12502	EO Index: 14621	_____ Dates Last Seen _____
Occ Rank: Good			Element: 1985-05-XX
Origin: Natural/Native occurrence			Site: 1985-05-XX
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 1989-08-10

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31103° / -120.81520°	Township: 30S
UTM: Zone-10 N3909725 E698625	Range: 11E
Area: 22.3 acres	Section: 17
Elevation: 120 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: BUCKSKIN DRIVE SITE - JUST N OF THE DEAD END OF BUCKSKIN DR.  
 Location Detail: 1 OF ONLY 2 KNOWN EXTANT POPS IN 1985. 1979 POP EST OF 50-65 INDIVS. ADULT MALE TRAPPED IN MAY, 1985.  
 Ecological: APPROX 20 HA (50 AC) POTENTIALLY OCCUPIABLE HABITAT.  
 Threat: AREA HEAVILY IMPACTED BY HIKERS, JOGGERS, CYCLISTS, EQUESTRIANS, ETC.  
 Owner/Manager: PVT

Occurrence No. 2	Map Index: 12498	EO Index: 14618	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 1984-XX-XX
Origin: Natural/Native occurrence			Site: 1985-03-01
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 1989-08-10

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.32603° / -120.81604°	Township: 30S
UTM: Zone-10 N3911388 E698512	Range: 11E
Area: 58.3 acres	Section: 17
Elevation: 80 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: SANTA YSABEL - JUNIOR HIGH SITES EAST OF SOUTH BAY BLVD AND JUST WEST OF LOS OSOS CREEK.  
 Location Detail: 1979 POP EST OF 80-85 INDIVS. POP EST IN 1983 UNKNOWN. 1 INDIV TRAPPED FALL 1984.  
 Ecological: APPROX 20 HA (50 AC) OF POTENTIALLY OCCUPIABLE AREA.  
 Threat: AREA WHERE SPECIMEN TAKEN WAS RECENTLY BULLDOZED. SOUTHERN PORTIONS OF THIS SITE ARE HEAVILY IMPACTED FROM HUMAN USE.  
 Owner/Manager: PVT

Occurrence No. 7	Map Index: 12477	EO Index: 24075	_____ Dates Last Seen _____
Occ Rank: None			Element: 1977-XX-XX
Origin: Natural/Native occurrence			Site: 1979-XX-XX
Presence: Extirpated			
Trend: Unknown			Record Last Updated: 1989-08-10

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.32802° / -120.82351°	Township: 30S
UTM: Zone-10 N3911593 E697828	Range: 11E
Radius: 1/5 mile	Section: 8
Elevation: 152 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: "WATERTANK" AREA, APPROX 0.5 MI E BAYWOOD PARK NEAR END OF 16TH ST.  
 Location Detail: TWO K-RATS CAPTURED IN 1977. ROEST (1981) IMPLIES COLONY EXTIRPATED BASED ON 1978-1979 STUDY BY TOYOSHIMA.

Owner/Manager: UNKNOWN

Dipodomys heermanni morroensis

Morro Bay kangaroo rat

Element Code: AMAFD03063

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G3G4T1	CDFG Status:
State: Endangered	State: S1	

Habitat Associations

General: COASTAL SAGE SCRUB ON THE SOUTH SIDE OF MORRO BAY.  
 Micro: NEEDS SANDY SOIL, BUT NOT ACTIVE DUNES, PREFERS EARLY SERAL STAGES.

Occurrence No. 8	Map Index: 12445	EO Index: 14617	Dates Last Seen
Occ Rank: Good			Element: 1985-XX-XX
Origin: Natural/Native occurrence			Site: 2002-05-24
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-05-29

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30593° / -120.83763°	UTM: Zone-10 N3909115 E696598	Area: 56.8 acres	Elevation: 200 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 30S	Range: 11E	Section: 19	Qtr: XX	Meridian: M
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Location: BAYVIEW SITE - SOUTH OF HIGHLAND DRIVE BETWEEN RODERSON AVE & BAYVIEW DRIVE.  
 Location Detail: 1985: ROUGH ESTIMATE OF ABOUT 100 K-RATS IN THIS AREA. 1 OF ONLY 2 KNOWN EXTANT POPULATIOINS IN 1985.  
 Ecological: 2002: MATURE MARITIME CHAPARRAL ON UPPER SLOPES, COASTAL SCRUB ON LOWER SLOPES. 1985: APPROX 175 AC (71 HA) OF POTENTIALLY OCCUPIABLE AREA, INCLUDES 50 ACRES OF PRESENTLY OCCUPIED HABITAT.  
 Threat: SURROUNDING AREA HEAVILY IMPACTED BY DEVELOPMENT.  
 General: SITE WAS PRIVATELY OWNED, NOW PART OF THE MORRO DUNES ECOLOGICAL RESERVE. THERE ARE PLANS TO SURVEY FOR K-RATS IN 2002. MORRO SHOULDERBAND SNAIL ALSO FOUND HERE.  
 Owner/Manager: DFG-MORRO DUNES ER

Occurrence No. 9	Map Index: 12344	EO Index: 14615	Dates Last Seen
Occ Rank: Fair			Element: 1979-XX-XX
Origin: Natural/Native occurrence			Site: 1983-XX-XX
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 1995-08-22

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30785° / -120.86622°	UTM: Zone-10 N3909271 E693994	Area: 214.3 acres	Elevation: 200 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 30S	Range: 10E	Section: 23	Qtr: NE	Meridian: M
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Location: PECHO SITE/DUNES AREA, WEST OF PECHO ROAD, BETWEEN SHARK INLET AND HAZARD CANYON.  
 Location Detail: POP EST IN 1979 WAS 20-25 INDIVS BUT POP HASN'T BEEN CONFIRMED SINCE THEN. POTENTIAL RELEASE SITE OF SOME CAPTIVE-BRED INDIVS.  
 Ecological: 65 HA (160 AC) OF POTENTIALLY OCCUPIABLE AREA. BNDRY INCL POTENTIAL K-RAT HABITAT, PRESUMED HISTORICAL SITES AND 1979 CONFIRMED, EXTANT POP. SOME BURNED IN OCT 1984.  
 Owner/Manager: DPR, DFG, PVT

Occurrence No. 10	Map Index: 12286	EO Index: 24073	Dates Last Seen
Occ Rank: Unknown			Element: 1958-XX-XX
Origin: Natural/Native occurrence			Site: 1983-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1989-08-10

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28246° / -120.88518°	UTM: Zone-10 N3906418 E692330	Radius: 1/5 mile	Elevation: 80 ft	Mapping Precision: NON-SPECIFIC	Symbol Type: POINT	Township: 30S	Range: 10E	Section: 27	Qtr: SW	Meridian: M
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Location: SPOONERS COVE AREA - BTWN COVE & HAZARD CYN ALONG TOP OF BLUFF ABOVE OCEAN.  
 Location Detail: STEWART FOUND RATS HERE IN 1958 & ALSO IN SANDY AREAS JUST BACK FROM THE BLUFF. AREA CHECKED IN 1980 BY ROEST & HE OBS A SINGLE, OPEN BURROW NEAR THE N END OF THE AREA. GAMBS FOUND NO EVIDENCE IN 1982-83 SURVEY.  
 Ecological: PRESENT CONDITION OF HABITAT IS UNKNOWN.  
 Owner/Manager: DPR-MONTANA DE ORO SP

Dipodomys heermanni morroensis

Morro Bay kangaroo rat

Element Code: AMAFD03063

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G3G4T1	CDFG Status:
State: Endangered	State: S1	

**Habitat Associations**

**General:** COASTAL SAGE SCRUB ON THE SOUTH SIDE OF MORRO BAY.  
**Micro:** NEEDS SANDY SOIL, BUT NOT ACTIVE DUNES, PREFERS EARLY SERAL STAGES.

<b>Occurrence No.</b> 11	<b>Map Index:</b> 12413	<b>EO Index:</b> 24072	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1958-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1978-XX-XX
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29702° / -120.84674°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908108 E695791	<b>Range:</b> 10E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 24 <b>Qtr:</b> SW
<b>Elevation:</b> 900 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** MOUNTAIN AREA - S & E OF E END OF RODMAN DR SW TO SUMMIT OF THE MTN N OF HAZARD CYN.  
**Location Detail:** STEWART (1958) FOUND A FEW K-RATS IN A BURNED AREA NEAR THE SUMMIT OF THE MTN. IN 1977 ROEST REPORTED THAT A HOME OWNER NEAR THE WATER TANK SAID HE OCCASIONALLY OBS K-RATS IN THE NEARBY VACANT LOTS.  
**Ecological:** IN 1977 AREA COVERED W/THICK, DENSE CHAPARRAL AND SEEMED TO BE UNSUITABLE K-RAT HABITAT.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 12	<b>Map Index:</b> 12407	<b>EO Index:</b> 24071	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1958-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1978-XX-XX
<b>Presence:</b> Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30694° / -120.85009°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909202 E695462	<b>Range:</b> 10E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 24 <b>Qtr:</b> NW
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** RODERSON AREA - W OF RODERSON AVE BTWN HIGHLAND & TRAVIS DRS & W TO PECHO RD.  
**Location Detail:** K-RATS FOUND HERE BY STEWART (1958), BUT MORE THAN HALF THE AREA IS NOW DEVELOPED/CULTIVATED AND THE REST COVERED W/THICK BRUSH. CONGDON DID NOT FIND K-RATS HERE IN 1971.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 13	<b>Map Index:</b> 12504	<b>EO Index:</b> 24070	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1978-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1978-XX-XX
<b>Presence:</b> Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-09-02

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31215° / -120.82287°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909835 E697924	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 17 <b>Qtr:</b> XX
<b>Elevation:</b> 300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTH OF SANTA YSABEL AVE TO RIDGE NEAR LOS OSOS CK, EAST OF 11TH STREET & WEST OF LOS OSOS CK; BAYWOOD PARK & LOS OSOS  
**Location Detail:** SOUTH OF SANTA YSABEL AVE TO RIDGE NEAR LOS OSO CREEK. EAST OF 11TH STREET AND WEST OF LOS OSOS CREEK  
**Ecological:** MUCH OF AREA HAS BEEN DEVELOPED. THERE IS VACANT LAND W/ SUITABLE HABITAT N OF LOS OSOS VALLEY RD; HOWEVER, AREAS ARE SMALL AND FREQUENTLY DISTURBED BY CATS, DOGS, CHILDREN ETC. VACANT LAND S OF LOS OSOS RD COVERED W/THICK BRUSH.  
**General:** K-RATS FOUND BY STEWART ('58) FROM LOS OSOS VALLEY RD S TO RIDGE, BUT NOT BY CONGDON ('71). FOUND N OF LOS OSOS VALLEY RD IN '71. ABSENT FROM WILLOW DR AREA & S OF LOS OSOS VALLEY RD IN '78. FOUND ('78) E & S OF BAYWOOD PARK WATER TANK.  
**Owner/Manager:** PVT

Dipodomys heermanni morroensis

Morro Bay kangaroo rat

Element Code: AMAFD03063

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G3G4T1	CDFG Status:
State: Endangered	State: S1	

Habitat Associations

General: COASTAL SAGE SCRUB ON THE SOUTH SIDE OF MORRO BAY.  
 Micro: NEEDS SANDY SOIL, BUT NOT ACTIVE DUNES, PREFERS EARLY SERAL STAGES.

Occurrence No. 16	Map Index: 12471	EO Index: 24067	Dates Last Seen
Occ Rank: None			Element: 1958-XX-XX
Origin: Natural/Native occurrence			Site: 1978-XX-XX
Presence: Extirpated			Record Last Updated: 1992-09-17
Trend: Unknown			

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.33357° / -120.82656°	Township: 30S
UTM: Zone-10 N3912203 E697537	Range: 11E
Radius: 1/5 mile	Section: 7
Elevation: 80 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: BRIDGE AREA - N OF SANTA YSABEL AVE TO THE SHORE OF MORRO BAY AND E TO BRIDGE.  
 Location Detail: K-RATS HISTORICALLY OCCURRED HERE BUT NONE WERE CAPTURED IN 1971 BY CONGDON OR IN 1978 BY ROEST. NO BURROWS OR TRACKS OBS IN 1978.

Ecological: HOMES AND THICK BRUSH COVER MUCH OF THE AREA BUT SOME APPARENTLY SUITABLE HABITAT REMAINED AS OF 1978.

Owner/Manager: DPR-MORRO BAY SP, SLO COUNTY

Occurrence No. 17	Map Index: 12534	EO Index: 24065	Dates Last Seen
Occ Rank: None			Element: 1958-XX-XX
Origin: Natural/Native occurrence			Site: 1983-XX-XX
Presence: Extirpated			Record Last Updated: 2003-09-02
Trend: Unknown			

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.32283° / -120.79616°	Township: 30S
UTM: Zone-10 N3911073 E700327	Range: 11E
Radius: 4/5 mile	Section: 16
Elevation: 200 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: EXTENSION AREA - E OF LOS OSOS CK AND S OF TURRI RD ON A LOW RIDGE OF E-W HILLS.  
 Location Detail: IN 1958 STEWART OBS K-RATS IN ISOLATED COLONIES & SINCE THEN 1 WAS SEEN DOR ON TURRI RD. SUITABLE HAB APPEARED PRESENT IN '78 & BURROWS OBS BUT NO K-RATS TRAPPED. NO BURROWS/TRACKS OBS IN '80 & SURVEY BY GAMBS IN '82-3 FOUND NO RATS OR SIGN

Owner/Manager: PVT

**Dithyrea maritima**

beach spectaclepod

Element Code: PDBRA10020

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.1  
 State: Threatened State: S2.1

**Habitat Associations**

General: COASTAL DUNES, COASTAL SCRUB. FORMERLY MORE WIDESPREAD IN COASTAL HABITATS IN SO. CALIF.  
 Micro: SEA SHORES, ON SAND DUNES, AND SANDY PLACES NEAR THE SHORE. 3-50M.

Occurrence No. 13 Map Index: 12880 EO Index: 20546 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: None Element: 1950-04-27  
 Origin: Natural/Native occurrence Site: 1998-XX-XX  
 Presence: Extirpated  
 Trend: Unknown Record Last Updated: 1996-11-20

Quad Summary: Oceano (3512015/221D), Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.12552° / -120.63601° Township: 32S  
 UTM: Zone-10 N3889520 E715408 Range: 12E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 24 Qtr: XX  
 Elevation: 20 ft Symbol Type: POINT Meridian: M

Location: PISMO STATE BEACH, 1.5 MILES SOUTH OF PISMO BEACH, 3 MILES WEST OF ARROYO GRANDE.

Ecological: ON STABILIZED DUNE OF OCEAN BEACH.

Threat: THREATENED BY ORVS AND AMMOPHILA ARENARIA AND CARPOBROTUS EDULIS.

General: PLANTS WITHIN THE ACTIVE RIDING AREA HAVE BEEN EXTIRPATED (J. CHESNUT 1998).

Owner/Manager: UNKNOWN

Occurrence No. 14 Map Index: 31802 EO Index: 2136 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1985-05-23  
 Origin: Natural/Native occurrence Site: 1985-05-23  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-09-26

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31484° / -120.86808° Township: 30S  
 UTM: Zone-10 N3910043 E693808 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 14 Qtr: SE  
 Elevation: 40 ft Symbol Type: POINT Meridian: M

Location: ON MORRO BAY SAND SPIT, NW OF SHARKS INLET.

Location Detail: ON TOPO, MAPPED ON TOP OF "14" ON MAP (SECTION 14).

Ecological: ON STABILIZED COASTAL DUNES. ASSOCIATED WITH CAKILE MARITIMA AND CARPOBROTUS AEQUILATERUS.

Threat: ADJACENT SAND BLOWOUTS HAVE ELIMINATED VEGETATION. CARPOBROTUS COULD BE A THREAT.

General: 50 PLANTS SEEN.

Owner/Manager: DPR-MONTANA DE ORO SP

Occurrence No. 21 Map Index: 31801 EO Index: 2135 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Poor Element: 1990-04-10  
 Origin: Natural/Native occurrence Site: 1990-04-10  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-12-11

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30805° / -120.87203° Township: 30S  
 UTM: Zone-10 N3909282 E693464 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 23 Qtr: XX  
 Elevation: 10 ft Symbol Type: POINT Meridian: M

Location: MONTANA DE ORO STATE PARK; 0.9 MI WNW OF JUNCTION LOS OSOS VALLEY RD AND PECHO RD.

Ecological: ASSOCIATED WITH ABRONIA LATIFOLIA, CARPOBROTUS, AND AMBROSIA CHAMISSONIS.

Threat: HEAVY RECREATION USE. DUNES ARE HEAVILY DISTURBED.

General: AT LEAST 190 PLANTS IN 1990.

Owner/Manager: DPR-MONTANA DE ORO SP

Dudleya abramsii ssp. bettinae

Betty's dudleya

Element Code: PDCRA04011

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.  
 Micro: ON ROCKY, BARREN EXPOSURES OF SERPENTINE WITHIN SCRUB VEGETATION. 20-180M.

Occurrence No. 1 Map Index: 12640 EO Index: 13956 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1985-05-28  
 Origin: Natural/Native occurrence Site: 1985-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-02-08

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.30308° / -120.74054° Township: 30S  
 UTM: Zone-10 N3908996 E705434 Range: 12E  
 Area: 103.8 acres Mapping Precision: SPECIFIC Section: 24 Qtr: E  
 Elevation: 550 ft Symbol Type: POLYGON Meridian: M

Location: LINSEY RANCH, ON O'CONNOR WAY 2 MI NW OF JCT W/FOOTHILL BLVD, W SIDE OF RD.  
 Ecological: SERPENTINE OUTCROPS IN COASTAL SCRUB. MOSTLY EAST-FACING EXPOSURES.  
 Threat: TRAMPLING BY CATTLE & HOUSING DEVELOPMENT ARE THREATS.  
 General: TYPE LOCATION. SANICULA MARITIMA AND LAYIA JONESII ARE ALSO LOCATED NEARBY. MORAN COLLECTION FROM "SW OF CERRO ROMUALDO" ATTRIBUTED TO THIS OCCURRENCE.  
 Owner/Manager: PVT

Occurrence No. 2 Map Index: 12342 EO Index: 19774 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Poor Element: 1985-05-28  
 Origin: Natural/Native occurrence Site: 1985-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-07

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.42205° / -120.86717° Township: 29S  
 UTM: Zone-10 N3921937 E693633 Range: 10E  
 Radius: 1/10 mile Mapping Precision: NON-SPECIFIC Section: 11 Qtr: NE  
 Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: SOUZA RANCH, N SIDE TORO CR RD, APPROX 1/2 MI E OF JCT W/ HWY 1, (MORO Y CAYUCOS).  
 Ecological: IN CRACKS OF SERPENTINE OUTCROPS. ASSOCIATED WITH CHORIZANTHE PALMERI.  
 General: 2 PLANTS SEEN IN 1978.  
 Owner/Manager: PVT

Occurrence No. 3 Map Index: 12381 EO Index: 19770 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1985-05-28  
 Origin: Natural/Native occurrence Site: 1985-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-07

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.42923° / -120.85874° Township: 29S  
 UTM: Zone-10 N3922751 E694382 Range: 10E  
 Radius: 1/10 mile Mapping Precision: NON-SPECIFIC Section: 01 Qtr: SW  
 Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: SOUZA RANCH, N SIDE TORO CR RD, APPROX 1.0 MI NE OF JCT W/HWY 1, (MORO Y CAYUCOS).  
 Ecological: IN CRACKS OF SERPENTINE OUTCROP. ASSOCIATED WITH CHORIZANTHE PALMERI AND DUDLEYA CYMOSA.  
 General: POPULATION WAS IN GOOD CONDITION IN 1985.  
 Owner/Manager: PVT



**Dudleya abramsii ssp. bettinae**

Betty's dudleya

Element Code: PDCRA04011

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.  
 Micro: ON ROCKY, BARREN EXPOSURES OF SERPENTINE WITHIN SCRUB VEGETATION. 20-180M.

Occurrence No. 4 Map Index: 12550 EO Index: 19771 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1985-05-28  
 Origin: Natural/Native occurrence Site: 1985-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1989-08-11

Quad Summary: Morro Bay South (3512037/247D), Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.37635° / -120.78824° Township: 29S  
 UTM: Zone-10 N3917026 E700915 Range: 11E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: NW  
 Elevation: 300 ft Symbol Type: POINT Meridian: M

Location: SAN BERNARDO CR APPROX 1 MI EAST OF HWY ONE.  
 Ecological: ON STEEP NORTH FACING BANK ON SERPENTINE IN COASTAL SCRUB. ASSOCIATED WITH ARTEMISIA CALIFORNICA, SELAGINELLA BIGELOVII, ERIOGONUM FASCICULATUM.  
 General: LESS THAN 1000 PLANTS IN 1985.  
 Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index: 61895 EO Index: 61931 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-07

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35854° / -120.83156° Township: 29S  
 UTM: Zone-10 N3914964 E697022 Range: 11E  
 Radius: 2/5 mile Mapping Precision: NON-SPECIFIC Section: 31 Qtr: XX  
 Elevation: \_\_\_\_\_ Symbol Type: POINT Meridian: M

Location: ON A SERPENTINE OUTCROP ON A VOLCANIC HILL NEAR THE MOUTH OF CHORRO CREEK.  
 Location Detail: EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS ON VOLCANIC HILL NEAR MOUTH OF CHORRO CREEK.  
 General: ORIGINALLY COLLECTED AS DUDLEYA PARVA BY HOOVER. MCLEOD AND NAKAI BELIEVE PLANTS TO BE D. ABRAMSII SSP. BETTINAE.  
 Owner/Manager: UNKNOWN

Occurrence No. 8 Map Index: 61881 EO Index: 61917 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 2003-05-30  
 Origin: Natural/Native occurrence Site: 2003-05-30  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-07-06

Quad Summary: San Luis Obispo (3512036/246C), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31899° / -120.74898° Township: 30S  
 UTM: Zone-10 N3910744 E704625 Range: 11E  
 Area: 16.5 acres Mapping Precision: SPECIFIC Section: 13 Qtr: NW  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: FIRST RIDGE WEST OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA A. MULTIPLE PATCHES MAPPED AS 6 POLYGONS BY CNDDB.  
 Ecological: SERPENTINE OUTCROP WITH MODERATELY STEEP SLOPES. ASSOCIATES INCLUDE ALLIUM HAEMATOCHITON, ASTRAGALUS CURTIPES, DICHELOSTEMMA CAPITATUM, LAYIA JONESII, CRYPTANTHA CLEVELANDII, ESCHSCHOLZIA CALIFORNICA, STREPTANTHUS ALBIDUS SSP. PERAMOENUS.  
 Threat: CATTLE; NON-NATIVE PLANTS; MILITARY TRAINING ACTIVITIES; FERAL PIGS; TOO FREQUENT FIRES &/OR FIRES IN WRONG SEASON.  
 General: LESS THAN 50 TO 100 PLANTS SEEN AT EACH OF 6 PATCHES IN 2000. LESS THAN 50 TO 100 PLANTS SEEN IN 2002 AT EACH OF 6 PATCHES. LESS THAN 50 PLANTS SEEN IN 2003 AT EACH OF 5 PATCHES. MANY OTHER RARE PLANT SPECIES ALSO FOUND IN THIS VICINITY.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 1 Map Index: 59887 EO Index: 59923 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-05-21  
 Origin: Natural/Native occurrence Site: 1987-05-21  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.24523° / -120.56777° Township: 31S  
 UTM: Zone-10 N3902950 E721302 Range: 13E  
 Area: 218.8 acres Mapping Precision: SPECIFIC Section: 10 Qtr: XX  
 Elevation: 1,200 ft Symbol Type: POLYGON Meridian: M

Location: BETWEEN WEST & EAST CORRAL DE PIEDRA CREEKS. 3 AIR MILES EAST OF ISLAY HILL.  
 Ecological: ROCKY SERPENTINE HILLS & SLOPES. ASPECTS VARIABLE, BUT PRIMARILY WESTERN. 10 TO 30 DEGREE SLOPES.  
 Threat: GRAZING, BUT NOT A THREAT.  
 General: THOUSANDS OF PLANTS OBSERVED IN 1987.

Owner/Manager: PVT

Occurrence No. 2 Map Index: 59888 EO Index: 59924 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-05-21  
 Origin: Natural/Native occurrence Site: 1987-05-21  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22973° / -120.56503° Township: 31S  
 UTM: Zone-10 N3901237 E721594 Range: 13E  
 Area: 327.9 acres Mapping Precision: SPECIFIC Section: 15 Qtr: XX  
 Elevation: 900 ft Symbol Type: POLYGON Meridian: M

Location: NEAR EAST CORRAL DE PIEDRA CREEK. 3.5 AIR MILES ESE OF ISLAY HILL.  
 Location Detail: 2 COLONIES. ONE COLONY CENTERED 3.0 AIR MILES ESE OF ISLAY HILL. SECOND COLONY CENTERED 3.8 AIR MILES ESE OF ISLAY HILL.  
 Ecological: ROCKY SERPENTINE HILLS & SLOPES. ASPECTS VARIABLE, BUT PRIMARILY WESTERN. 10 TO 30 DEGREE SLOPES. ASSOC INCLUDE YUCCA WHIPPLEI & ANNUAL GRASSES.  
 Threat: GRAZING, BUT NO IMMEDIATE THREAT.  
 General: THOUSANDS OF PLANTS OBSERVED IN 1987.

Owner/Manager: PVT

Occurrence No. 3 Map Index: 59893 EO Index: 59929 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1987-09-26  
 Origin: Natural/Native occurrence Site: 1987-09-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.24486° / -120.68881° Township: 31S  
 UTM: Zone-10 N3902646 E710288 Range: 12E  
 Area: 8.3 acres Mapping Precision: SPECIFIC Section: 09 Qtr: NE  
 Elevation: 200 ft Symbol Type: POLYGON Meridian: M

Location: SAN LUIS OBISPO. JUST WEST OF INTERSECTION OF LOS OSOS VALLEY RD & HWY 101.  
 Location Detail: BETWEEN FROOM CREEK AND JEEP TRAIL. 2 COLONIES.  
 Ecological: IN OPEN AREAS & IN SCATTERED SHRUBS ON ROCKY SERPENTINE SLOPES WITH SHALLOW SOILS. SPARSE SURROUNDING VEGETATION OF GRASSLANDS & COASTAL SCRUB. MODERATE EAST SLOPE.  
 Threat: DEVELOPMENT PLANNED WITHIN SEVERAL METERS OF BOTH COLONIES IN 1987.  
 General: <50 PLANTS SEEN IN 1987. 1947 COLLECTION BY MORAN, LOCATION GIVEN AS 3.5 MILES SOUTH OF SAN LUIS OBISPO ALONG HWY 101, ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3T2	CNPS List: 1B.3
State: None	State: S2.3	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS. 90-300M.

<b>Occurrence No.</b> 4	<b>Map Index:</b> 59520	<b>EO Index:</b> 59931	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-02-17

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.23769° / -120.73744°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3901749 E705881	<b>Range:</b> 11E
<b>Area:</b> 12.3 acres	<b>Section:</b> 12 <b>Qtr:</b> SE
<b>Elevation:</b> 700 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** 4 AIR MILES NORTH OF AVILA BEACH. NORTH SLOPE OF SEE CANYON.  
**Location Detail:** 2 COLONIES. ONE COLONY IN SW 1/4 OF SW 1/4 OF SEC 7. SECOND COLONY IS ALONG ROADSIDE IN SE 1/4 OF SE 1/4 OF SEC 12. ON LA QUINTA DE AVILA RANCH.  
**Ecological:** ON A SERPENTINE ROCK OUTCROP AND IN A BUNCHGRASS COMMUNITY. ASSOC RARE SPECIES INCLUDE: LOMATIUM PARVIFOLIUM, CHORIZANTHE BREWERI, CHORIZANTHE PALMERI, CALOCHORTUS OBISPOENSIS, CALOCHORTUS CLAVATUS SSP. CLAVATUS.  
**Threat:** GRAZING.  
**General:** 100+ PLANTS SEEN IN EACH COLONY IN 2003. OTHER ASSOC RARE SPECIES INCLUDE: CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, CALYSTEGIA SUBACAULIS SSP. EPISCOPALIS, CALOCHORTUS SIMILANS.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 5	<b>Map Index:</b> 59896	<b>EO Index:</b> 59932	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1987-04-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-04-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-02-08

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31552° / -120.62180°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910629 E716198	<b>Range:</b> 13E
<b>Area:</b> 36.3 acres	<b>Section:</b> 18 <b>Qtr:</b> SE
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** APPROXIMATELY 3 ROAD MILES NW OF SAN LUIS OBISPO ON HWY 101.  
**Location Detail:** 2 COLONIES. ONE COLONY ON WEST SIDE OF HWY 101 IN NW 1/4 OF SEC 18. SECOND COLONY ON EAST SIDE OF HWY 101 IN SE 1/4 OF SEC 18, BENEATH TRANSMISSION LINES.  
**Ecological:** ROCKY, SERPENTINE SLOPE AND RIDGE SURROUNDED BY GRASSLAND. ASSOC WITH THE RARE CHORIZANTHE BREWERI.  
**Threat:** GRAZING, BUT PROBABLY NOT A THREAT.  
**General:** >100 PLANTS OBSERVED IN THE SW COLONY IN 1987. 1949 COLLECTION BY MORAN, LOCATION GIVEN AS CUESTA GRADE, ALSO ATTRIBUTED TO THIS SITE.

**Owner/Manager:** UNKNOWN

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 6 Map Index: 39712 EO Index: 59933 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 1987-05-08  
 Origin: Natural/Native occurrence Site: 1987-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30359° / -120.61402° Township: 30S  
 UTM: Zone-10 N3909322 E716938 Range: 13E  
 Area: 6.8 acres Mapping Precision: SPECIFIC Section: 20 Qtr: NW  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: 3 AIR MILES ENE OF SAN LUIS OBISPO. 1.3 AIR MILES WSW OF SUMMIT OF BLACK BUTTE.  
 Location Detail: MAPPED IN SW1/4 OF NW1/4 SEC 20.  
 Ecological: SERPENTINE RIDGE WITH VERY THIN SOILS. 20% SLOPE WITH NW ASPECT. ASSOC WITH ANNUAL GRASSES AND THE RARE CALOCHORTUS OBISPOENSIS.  
 Threat: POSSIBLE GRAZING THREAT.  
 General: 16 PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT

Occurrence No. 7 Map Index: 39802 EO Index: 59934 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-04-26  
 Origin: Natural/Native occurrence Site: 1987-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30038° / -120.62003° Township: 30S  
 UTM: Zone-10 N3908953 E716400 Range: 13E  
 Area: 24.7 acres Mapping Precision: SPECIFIC Section: 19 Qtr: SE  
 Elevation: 800 ft Symbol Type: POLYGON Meridian: M

Location: 3 AIR MILES EAST OF SAN LUIS OBISPO. 1.8 AIR MILES SW OF BLACK BUTTE.  
 Location Detail: HILLTOP 0.3 AIR MILES EAST OF HWY 101. FROM HILLTOP EAST ALONG RIDGE TO INTERMITTENT STREAM VALLEY & ADJOINING WEST-FACING SLOPE.  
 Ecological: EXPOSED SERPENTINE ROCKS, RIDGETOPS, & GULLIES. ASSOC WITH YUCCA & THE RARE CHORIZANTHE BREWERI. SURROUNDED BY GRASSLAND.  
 Threat: GRAZING.  
 General: >100 PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT

Occurrence No. 8 Map Index: 59899 EO Index: 59935 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-04-26  
 Origin: Natural/Native occurrence Site: 1987-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29049° / -120.60666° Township: 30S  
 UTM: Zone-10 N3907885 E717642 Range: 13E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 29 Qtr: NW  
 Elevation: 900 ft Symbol Type: POINT Meridian: M

Location: 1.1 MILES EAST OF THE RESERVOIR IN RESERVOIR CANYON.  
 Location Detail: ON SW FACING RIDGE BELOW AND AROUND 1009' ELEVATION MARK.  
 Ecological: EXPOSED SERPENTINE. LITTLE TO NO SOIL. ASSOC WITH YUCCA WHIPPLEI, INTRODUCED GRASSES, AND THE RARE CHORIZANTHE BREWERI. SURROUNDED BY GRASSLAND.  
 Threat: GRAZING.  
 General: <500 PLANTS OBSERVED IN 1987.  
 Owner/Manager: PVT

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3T2	CNPS List: 1B.3
State: None	State: S2.3	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS. 90-300M.

<b>Occurrence No.</b> 9	<b>Map Index:</b> 59900	<b>EO Index:</b> 59936	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good	<b>Origin:</b> Natural/Native occurrence		<b>Element:</b> 1987-02-19
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown		<b>Site:</b> 1987-02-19
			<b>Record Last Updated:</b> 2005-02-08
<b>Quad Summary:</b> Lopez Mtn. (3512035/246D)			
<b>County Summary:</b> San Luis Obispo			
<b>Lat/Long:</b> 35.28739° / -120.62209°	<b>UTM:</b> Zone-10 N3907507 E716246	<b>Mapping Precision:</b> SPECIFIC	<b>Township:</b> 30S
<b>Area:</b> 26.7 acres	<b>Elevation:</b> 600 ft	<b>Symbol Type:</b> POLYGON	<b>Range:</b> 13E
			<b>Section:</b> 30
			<b>Meridian:</b> M
			<b>Qtr:</b> XX
<b>Location:</b> EAST OF SAN LUIS OBISPO IN RESERVOIR CANYON. NORTH SIDE OF RESERVOIR CANYON ROAD.			
<b>Location Detail:</b> SOUTH FACING SLOPES AND RIDGETOP. MAPPED IN CENTER OF SEC 30.			
<b>Ecological:</b> OPEN SERPENTINE ROCK OUTCROPS WITH LITTLE TO NO SOIL. SURROUNDED BY GRASSLAND.			
<b>Threat:</b> GRAZING.			
<b>General:</b> >1000 PLANTS OBSERVED IN 1987.			
<b>Owner/Manager:</b> UNKNOWN			
<b>Occurrence No.</b> 10	<b>Map Index:</b> 59901	<b>EO Index:</b> 59937	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown	<b>Origin:</b> Natural/Native occurrence		<b>Element:</b> 1987-XX-XX
<b>Presence:</b> Presumed Extant	<b>Trend:</b> Unknown		<b>Site:</b> 1987-XX-XX
			<b>Record Last Updated:</b> 2005-02-08
<b>Quad Summary:</b> Lopez Mtn. (3512035/246D)			
<b>County Summary:</b> San Luis Obispo			
<b>Lat/Long:</b> 35.28026° / -120.59819°	<b>UTM:</b> Zone-10 N3906769 E718440	<b>Mapping Precision:</b> SPECIFIC	<b>Township:</b> 30S
<b>Area:</b> 5.5 acres	<b>Elevation:</b> 1,200 ft	<b>Symbol Type:</b> POLYGON	<b>Range:</b> 13E
			<b>Section:</b> 29
			<b>Meridian:</b> M
			<b>Qtr:</b> SE
<b>Location:</b> ROUGHLY 3 AIR MILES EAST OF SAN LUIS OBISPO. 0.5 AIR MILES ENE OF INTERSECTION OF RESERVOIR CANYON & HAMPTON CANYON.			
<b>Location Detail:</b> MAPPED IN SE1/4 OF SE1/4 SEC 29 AND INTO ADJACENT NE1/4 SEC 32.			
<b>General:</b> 1987 MAP IS ONLY INFORMATION; NEEDS FIELDWORK.			
<b>Owner/Manager:</b> UNKNOWN			

**Dudleya abramsii ssp. murina**

mouse-gray dudleya

Element Code: PDCRA04012

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 11 Map Index: 59902 EO Index: 59938 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1987-05-08  
 Origin: Natural/Native occurrence Site: 1987-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: San Luis Obispo (3512036/246C), Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.27244° / -120.61607° Township: 30S  
 UTM: Zone-10 N3905862 E716834 Range: 13E  
 Area: 62.3 acres Mapping Precision: SPECIFIC Section: 31 Qtr: XX  
 Elevation: 1,500 ft Symbol Type: POLYGON Meridian: M

Location: RIDGETOP SOUTH OF RESERVOIR CANYON.  
 Location Detail: 3 COLONIES. WESTERN COLONY IS IN NW 1/4 OF NW 1/4 OF SEC 31. CENTER COLONY RUNS PARALLEL TO RIDGETOP, ALONG JEEP TRAIL SOUTH OF CANYON. EASTERN COLONY IS IN NW 1/4 OF SE 1/4 OF SEC 32, SOUTH OF WEST CORRAL DE PIEDRA CREEK.  
 Ecological: OPEN SERPENTINE OUTCROPS. LITTLE TO NO SOIL.  
 Threat: GRAZING.  
 General: >300 PLANTS OBSERVED IN 1987 IN LARGE COLONY.  
 Owner/Manager: PVT

Occurrence No. 12 Map Index: 39711 EO Index: 59939 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 1992-05-28  
 Origin: Natural/Native occurrence Site: 1992-05-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-08

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25465° / -120.58711° Township: 31S  
 UTM: Zone-10 N3903952 E719517 Range: 13E  
 Area: 97.0 acres Mapping Precision: SPECIFIC Section: 04 Qtr: XX  
 Elevation: 1,200 ft Symbol Type: POLYGON Meridian: M

Location: 2.5 AIR MILES SW OF SUMMIT OF GAY MOUNTAIN. RIDGELINE SW OF WEST CORRAL DE PIEDRA CREEK.  
 Ecological: SERPENTINE OUTCROPS. ASSOC WITH YUCCA WHIPPLEI, STIPA PULCHRA, & THE RARE CHORIZANTHE PALMERI & CALOCHORTUS OBISPOENSIS.  
 Threat: ALONG PROPOSED ROUTE OF COASTAL AQUEDUCT ACCESS ROAD TO TANK 3. GRAZING.  
 General: THOUSANDS OF PLANTS SEEN IN 1992.  
 Owner/Manager: PVT

Occurrence No. 13 Map Index: 59904 EO Index: 59940 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-06-17  
 Origin: Natural/Native occurrence Site: 2002-06-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35579° / -120.69063° Township: 29S  
 UTM: Zone-10 N3914948 E709836 Range: 12E  
 Area: 13.2 acres Mapping Precision: SPECIFIC Section: 33 Qtr: S  
 Elevation: 1,300 ft Symbol Type: POLYGON Meridian: M

Location: 3.5 AIR MILES WNW OF CUESTA PASS, IN CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
 Location Detail: MAPPED POLYGONS BASED UPON GPS COORDINATES PROVIDED.  
 Ecological: SERPENTINE BOULDERS & CLAY. MODERATE TO STEEP SLOPES. ASSOC INCLUDE: CEANOTHUS CUNEATUS VAR. RAMULOSUS, KOELERIA MACRANTHA, HESPERUYUCCA WHIPPLEI, CALOCHORTUS ARGILLINUS, SALVIA COLUMBARIÆ, ETC.  
 Threat: GRAZING, EXOTIC PLANTS, MILITARY TRAINING, UNNATURAL BURNING REGIME, FERAL PIGS, EROSION, MINING RECLAMATION PROJECT.  
 General: THE RARE ARCTOSTAPHYLOS OBISPOENSIS, CHORIZANTHE PALMERI, CHORIZANTHE BREWERI, CALOCHORTUS OBISPOENSIS, CALOCHORTUS CLAVATUS SSP. CLAVATUS, AND LOMATIUM PARVIFOLIUM OCCUR NEARBY.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Dudleya abramsii ssp. murina**

mouse-gray dudleya

Element Code: PDCRA04012

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations: \_\_\_\_\_  
 General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 14 Map Index: 59915 EO Index: 59951 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2001-05-17  
 Origin: Natural/Native occurrence Site: 2001-05-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-04-13

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34702° / -120.68023° Township: 30S  
 UTM: Zone-10 N3913998 E710804 Range: 12E  
 Area: 5.2 acres Mapping Precision: SPECIFIC Section: 03 Qtr: NW  
 Elevation: 900 ft Symbol Type: POLYGON Meridian: M

Location: 2.9 AIR MILES WEST OF CUESTA PASS, IN CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
 Location Detail: 0.7 AIR MILES NNE OF CHORRO RESERVOIR. NEAR THE MAIN BRANCH OF CHORRO CREEK. MAPPED IN SW1/4 OF NW1/4 SEC 3.  
 Ecological: ASSOC INCLUDE: CUPRESSUS SARGENTII, CEANOTHUS CUNEATUS VAR. RAMULOSUS, SALIX BREWERI, FRITILLARIA.  
 Threat: CATTLE GRAZING, NON-NATIVE PLANTS, MILITARY TRAINING, UNNATURAL BURNING REGIME, FERAL PIGS.  
 General: <10 PLANTS SEEN IN 2001.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 15 Map Index: 59916 EO Index: 59952 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-07-02  
 Origin: Natural/Native occurrence Site: 2002-07-02  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33936° / -120.68957° Township: 30S  
 UTM: Zone-10 N3913127 E709974 Range: 12E  
 Area: 34.5 acres Mapping Precision: SPECIFIC Section: 04 Qtr: S  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: 3.4 AIR MILES WSW OF CUESTA PASS, IN CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
 Location Detail: VICINITY OF CHORRO RESERVOIR. MAPPED AS FIVE POLYGONS BOTH N AND S OF CHORRO RESERVOIR.  
 Ecological: SERPENTINE ROCK, SERPENTINE INFLUENCED CLAY & LOAM. ASSOC INCLUDE: ERIOPHYLLUM CONFERTIFOLIUM, LOMATIUM UTRICULATUM, NASSELLA, UMBELLULARIA CALIFORNICA, QUERCUS DURATA, HESPEROYUCCA WHIPPLEI, ALLIUM HAEMATOCYTON, HEMIZONIA CONGESTA, ETC.  
 Threat: CATTLE GRAZING, ALIEN ANNUAL GRASSES, MILITARY TRAINING, UNNATURAL BURNING REGIME, FERAL PIGS.  
 General: THE RARE CALOCHORTUS CLAVATUS SSP. CLAVATUS, CALOCHORTUS OBISPOENSIS, CHORIZANTHE BREWERI, CHORIZANTHE PALMERI, SANICULA HOFFMANNII, STREPTANTHUS ALBIDUS SSP. PERAMOENUS, SENECEO APHANACTUS, AND LAYIA JONESII OCCUR NEARBY.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 16 Map Index: 39805 EO Index: 59955 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1992-05-20  
 Origin: Natural/Native occurrence Site: 1992-05-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34434° / -120.65457° Township: 30S  
 UTM: Zone-10 N3913754 E713143 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 02 Qtr: XX  
 Elevation: 1,100 ft Symbol Type: POINT Meridian: M

Location: 1.4 AIR MILES WSW OF CUESTA PASS, NEAR COASTAL AQUEDUCT.  
 Location Detail: 1/4 MILE SW OF CUESTA TUNNEL. AROUND ROCKY OUTCROPS, NEAR A WELL.  
 Ecological: IN CREVICES ON BARE SERPENTINE ROCK. SOUTH FACING SLOPE. ASSOC INCLUDE YUCCA WHIPPLEI. THE RARE CALOCHORTUS OBISPOENSIS, CHORIZANTHE PALMERI, AND CHORIZANTHE BREWERI ALSO OCCUR NEARBY.  
 Threat: CONSTRUCTION/MAINTENANCE OF AQUEDUCT ACCESS RDS. POWERLINE CONSTRUCTION.  
 General: >100 INDIVIDUALS OBSERVED BETWEEN COMBINATION OF THIS OCCURRENCE AND OCCURRENCE 17 IN 1992.  
 Owner/Manager: CITY OF SAN LUIS OBISPO

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 17 Map Index: 39804 EO Index: 59956 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1992-05-20  
 Origin: Natural/Native occurrence Site: 1992-05-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33839° / -120.65899° Township: 30S  
 UTM: Zone-10 N3913085 E712757 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 11 Qtr: XX  
 Elevation: 800 ft Symbol Type: POINT Meridian: M

Location: 1.8 AIR MILES SW OF CUESTA PASS, BETWEEN RAILROAD LINE AND STENNER CREEK.  
 Location Detail: ON SE FACING SLOPE BELOW THE RAIL LINE.  
 Ecological: IN CREVICES ON BARE SERPENTINE ROCK. ASSOC INCLUDE YUCCA WHIPPLEI. THE RARE CALOCHORTUS OBISPOENSIS, CHORIZANTHE PALMERI, AND CHORIZANTHE BREWERI ALSO OCCUR NEARBY.  
 Threat: CONSTRUCTION / MAINTENANCE OF AQUEDUCT ACCESS ROADS. POWERLINE CONSTRUCTION. SHEEP GRAZING.  
 General: >100 INDIVIDUALS OBSERVED BETWEEN COMBINATION OF THIS OCCURRENCE AND OCCURRENCE 16 IN 1992.  
 Owner/Manager: DWR, PVT-SPRR

Occurrence No. 18 Map Index: 59922 EO Index: 59958 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 1994-08-15  
 Origin: Natural/Native occurrence Site: 1994-08-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33494° / -120.74062° Township: 30S  
 UTM: Zone-10 N3912530 E705345 Range: 11E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 12 Qtr: NE  
 Elevation: 290 ft Symbol Type: POINT Meridian: M

Location: EL CHORRO REGIONAL PARK.  
 Location Detail: DIRECTLY NORTH OF CUESTA COLLEGE. 0.1 MILE NORTH OF HWY 1, ON NW FACE OF HILLSIDE.  
 Ecological: GRASSLAND WITH OCCASIONAL ROCK OUTCROPS. SHALLOW SOILS OVER OUTCROPS. ASSOC INCLUDE THE RARE CALOCHORTUS CLAVATUS SSP. CLAVATUS & DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE.  
 Threat: GRAZING. ADJACENT TO PROPOSED SITE OF EL CHORRO GOLF COURSE.  
 General: TWO PLANTS OBSERVED IN 1994.  
 Owner/Manager: SLO COUNTY-EL CHORRO RP

Occurrence No. 19 Map Index: 59924 EO Index: 59960 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1983-03-30  
 Origin: Natural/Native occurrence Site: 1983-03-30  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.32252° / -120.67830° Township: 30S  
 UTM: Zone-10 N3911284 E711042 Range: 12E  
 Area: 4.0 acres Mapping Precision: SPECIFIC Section: 15 Qtr: NW  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: ALONG STENNER CREEK RD, 1.2 ROAD MILES NORTH OF INTERSECTION WITH HWY 1.  
 Location Detail: UPHILL OF ROAD ON ROADCUT.  
 Ecological: OPEN AREA WITH SERPENTINE SOIL. MODERATE SLOPE WITH NE ASPECT.  
 Threat: ROAD CONSTRUCTION.  
 General: <1000 PLANTS OBSERVED IN 1983.  
 Owner/Manager: UNKNOWN



**Dudleya abramsii ssp. murina**

mouse-gray dudleya

Element Code: PDCRA04012

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 20 Map Index: 59926 EO Index: 59962 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31507° / -120.64993° Township: 30S  
 UTM: Zone-10 N3910518 E713642 Range: 12E  
 Radius: 4/5 mile Mapping PrecisionNON-SPECIFIC Section: 14 Qtr: XX  
 Elevation: 800 ft Symbol Type:POINT Meridian: M

Location: POLY CANYON.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS.  
 Threat: HAS BEEN SEVERELY IMPACTED BY COLLECTING.  
 General: ONLY SOURCE OF INFO FOR THIS SITE IS A PHONE CONVERSATION WITH MCLEOD IN 1985. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 21 Map Index: 59927 EO Index: 59963 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1969-06-24  
 Origin: Natural/Native occurrence Site: 1969-06-24  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.29364° / -120.64370° Township: 30S  
 UTM: Zone-10 N3908154 E714265 Range: 12E  
 Radius: 2/5 mile Mapping PrecisionNON-SPECIFIC Section: 25 Qtr: NW  
 Elevation: 500 ft Symbol Type:POINT Meridian: M

Location: SAN LUIS OBISPO, ADJACENT TO CUESTA PARK.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS NEAR CUESTA PARK.  
 Ecological: ON SERPENTINE.  
 General: ONLY SOURCE OF INFO FOR THIS SITE IS A 1969 COLLECTION BY HOOVER. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 22 Map Index: 46255 EO Index: 59964 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1950-05-12  
 Origin: Natural/Native occurrence Site: 1950-05-12  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28272° / -120.68215° Township: 30S  
 UTM: Zone-10 N3906859 E710796 Range: 12E  
 Radius: 4/5 mile Mapping PrecisionNON-SPECIFIC Section: 27 Qtr: XX  
 Elevation: Symbol Type:POINT Meridian: M

Location: CERRO SAN LUIS OBISPO.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS IN VICINITY OF CERRO SAN LUIS OBISPO.  
 General: ONLY SOURCE OF INFO FOR THIS SITE IS A 1950 COLLECTION BY KAMB. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

**Dudleya abramsii ssp. murina**

mouse-gray dudleya

Element Code: PDCRA04012

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3T2 CNPS List: 1B.3  
 State: None State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.  
 Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 23 Map Index: 36730 EO Index: 59965 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1985-06-14  
 Origin: Natural/Native occurrence Site: 1985-06-14  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26427° / -120.66901° Township: 31S  
 UTM: Zone-10 N3904841 E712040 Range: 12E  
 Area: 6.7 acres Mapping Precision: SPECIFIC Section: 03 Qtr: NE  
 Elevation: 300 ft Symbol Type: POLYGON Meridian: M

Location: SOUTHERN SAN LUIS OBISPO. HILLSIDE ABOVE SOUTH HIGUERA.  
 Location Detail: BELOW WATER TANK AND ABOVE CEMETERIES.  
 Ecological: STEEP, WEST FACING HILLSIDE WITH SERPENTINE OUTCROPS. GRASSLAND NEARBY. THE RARE CALOCHORTUS OBISPOENSIS ALSO OCCURS NEARBY.  
 Threat: SITE IS SURROUNDED BY RECENT DEVELOPMENT. GRAZING NEARBY. IN 1985 THE GRAZING WAS KEPT AWAY FROM THE SITE BY FENCING.  
 General: <10,000 PLANTS OBSERVED IN 1985.  
 Owner/Manager: UNKNOWN

Occurrence No. 24 Map Index: 59930 EO Index: 59966 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1985-06-17  
 Origin: Natural/Native occurrence Site: 1985-06-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-02-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26424° / -120.67820° Township: 31S  
 UTM: Zone-10 N3904818 E711204 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 03 Qtr: NW  
 Elevation: 250 ft Symbol Type: POINT Meridian: M

Location: SOUTHERN SAN LUIS OBISPO. NEAR MADONNA ROAD. N SIDE OF ROAD.  
 Location Detail: BEHIND MOTEL ACROSS MADONNA RD FROM MADONNA PLAZA ENTRANCE.  
 Ecological: GRASSLAND / SERPENTINE KNOLL. OPEN AREA WITH SLIGHT TO MODERATE SLOPE.  
 Threat: RECENT DEVELOPMENT NEARBY.  
 General: <1000 PLANTS OBSERVED IN 1985.  
 Owner/Manager: PVT

Occurrence No. 25 Map Index: 59932 EO Index: 59968 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2005-04-29  
 Origin: Natural/Native occurrence Site: 2005-04-29  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-04-11

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26151° / -120.65732° Township: 31S  
 UTM: Zone-10 N3904560 E713110 Range: 12E  
 Area: 34.7 acres Mapping Precision: SPECIFIC Section: 02 Qtr: N  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: SOUTHERN SAN LUIS OBISPO. SOUTH STREET HILL & THE END OF MARGARITA AVENUE.  
 Location Detail: SOUTH OF BROAD STREET, ABOVE ROAD TO RESERVOIR. SOUTHWESTERN COLONY ON PRIVATE PROPERTY AT THE END OF MARGARITA AVENUE.  
 Ecological: STEEP, NORTH FACING SERPENTINE OUTCROP. ASSOC SPECIES: SELAGINELLA BIGELOVII, GRASSES. THE RARE CALOCHORTUS OBISPOENSIS ALSO OCCURS NEARBY.  
 Threat: RECENT DEVELOPMENT NEARBY. PROJECT APPROVAL WILL PERMANENTLY IMPACT THESE PLANTS.  
 General: <1000 PLANTS OBSERVED IN 1985 AT NE COLONY. 8 PLANTS OBSERVED IN 2005 AT NEW SW COLONY. COLLECTION BY HOOVER FROM "END OF LAWRENCE DR." ATTRIBUTED TO THIS SITE. THE RARE CALOCHORTUS SIMULANS & CASTILLEJA DENSIFLORA OBISPOENSIS ALSO HERE  
 Owner/Manager: UNKNOWN

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3T2	CNPS List: 1B.3
State: None	State: S2.3	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS. 90-300M.

<b>Occurrence No.</b> 26	<b>Map Index:</b> 39719	<b>EO Index:</b> 59974	<b>Dates Last Seen</b>	
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2001-06-06	
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-06-06	
<b>Presence:</b> Presumed Extant			<b>Record Last Updated:</b> 2005-02-09	
<b>Trend:</b> Unknown				
<b>Quad Summary:</b> Morro Bay South (3512037/247D)				
<b>County Summary:</b> San Luis Obispo				
<b>Lat/Long:</b> 35.25665° / -120.76977°			<b>Township:</b> 31S	
<b>UTM:</b> Zone-10 N3903785 E702892			<b>Range:</b> 11E	
<b>Area:</b> 15.5 acres		<b>Mapping Precision:</b> SPECIFIC	<b>Section:</b> 02	<b>Qtr:</b> SW
<b>Elevation:</b> 1,330 ft		<b>Symbol Type:</b> POLYGON	<b>Meridian:</b> M	
<b>Location:</b> 5 AIR MILES SE OF BAYWOOD PARK. NEAR PERFUMO CANYON RD.				
<b>Location Detail:</b> 2 COLONIES ON NORTH SIDE OF ROAD. ONE COLONY IN NW 1/4 OF SW 1/4 OF SEC 2, NEAR SUMMIT OF PERFUMO CANYON ROAD. OTHER COLONY IS IN NE 1/4 OF SW 1/4 OF SEC 2.				
<b>Ecological:</b> SERPENTINE. ASSOC RARE SPECIES INCLUDE: MONARDELLA PALMERI, CALOCHORTUS CLAVATUS SSP. CLAVATUS, LOMATIUM PARVIFOLIUM, CALOCHORTUS OBISPOENSIS, CHORIZANTHE BREWERI, CHORIZANTHE PALMERI, SANICULA HOFFMANNII.				
<b>Threat:</b> DEVELOPMENT & GRAZING.				
<b>General:</b> 360 PATCHES OBSERVED IN WESTERN COLONY IN 1991. >4000 PLANTS OBSERVED IN EASTERN COLONY IN 2001.				
<b>Owner/Manager:</b> PVT				

Dudleya abramsii ssp. murina

mouse-gray dudleya

Element Code: PDCRA04012

Status

NDDB Element Ranks

Other Lists

Federal: None

Global: G3T2

CNPS List: 1B.3

State: None

State: S2.3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: SERPENTINE OUTCROPS. 90-300M.

Occurrence No. 27

Map Index: 64444

EO Index: 64523

Dates Last Seen

Occ Rank: Unknown

Element: 1993-05-26

Origin: Natural/Native occurrence

Site: 1993-05-26

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2006-04-11

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.34200° / -120.69984°

Township: 30S

UTM: Zone-10 N3913399 E709034

Range: 12E

Radius: 80 meters

Mapping Precision: SPECIFIC

Section: 04

Qtr: SW

Elevation: 600 ft

Symbol Type: POINT

Meridian: M

Location: 1.5 KILOMETERS WNW OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO.

Ecological: STEEP SLOPES, ROCK OUTCROPS.

General: COLLECTED HERE BY JOHNSON AND YOUNG IN 1993.

Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Dudleya blochmaniae ssp. blochmaniae**

Blochman's dudleya

Element Code: PDCRA04051

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2T2	CNPS List: 1B.1
State: None	State: S2.1	

**Habitat Associations**

**General:** COASTAL SCRUB, COASTAL BLUFF SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OPEN, ROCKY SLOPES; OFTEN IN SHALLOW CLAYS OVER SERPENTINE OR IN ROCKY AREAS W/LITTLE SOIL. 5-450M.

<b>Occurrence No.</b> 18	<b>Map Index:</b> 17834	<b>EO Index:</b> 10026	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1987-09-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-09-26
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1991-12-05

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24299° / -120.68918°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902437 E710260	<b>Range:</b> 12E
<b>Area:</b> 2.7 acres	<b>Section:</b> 9 <b>Qtr:</b> XX
<b>Elevation:</b> 150 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** FROMM RANCH. WEST OF INTERSECTION OF LOS OSOS VALLEY ROAD & US 101, JUST OUTSIDE CITY LIMITS OF SAN LUIS OBISPO.  
**Ecological:** IN DRY SHALLOW CLAY SOILS OVERLYING SERPENTINE. WITH SHORT GRASSES AND OTHER HERBS.  
**Threat:** OFFICE COMPLEX DEVELOPMENT THREATENED THE SITE IN 1987.  
**General:** LESS THAN 100 PLANTS SEEN IN 1987.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 19	<b>Map Index:</b> 17835	<b>EO Index:</b> 10025	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1929-04-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1929-04-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1991-11-20

**Quad Summary:** San Luis Obispo (3512036/246C), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34470° / -120.76700°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913558 E702924	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 2 <b>Qtr:</b> XX
<b>Elevation:</b> 140 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** 8 MILES WEST OF SAN LUIS OBISPO, BETWEEN SLO & MORRO BAY.  
**Location Detail:** MAPPED ALONG HWY 1, 8 MI WEST OF SLO.  
**General:** OLD COLLECTION DATA IS ONLY INFORMATION AVAILABLE.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 20	<b>Map Index:</b> 17836	<b>EO Index:</b> 10027	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1947-05-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1947-05-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1991-11-20

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29887° / -120.70717°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908598 E708479	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 20 <b>Qtr:</b> XX
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** WEST BASE OF MT. BISHOP (BISHOP PEAK) NEAR SAN LUIS OBISPO.  
**Ecological:** AMONG SERPENTINE ROCKS.

**Owner/Manager:** PVT, DPR-MORRO BAY SP

Dudleya blochmaniae ssp. blochmaniae

Blochman's dudleya

Element Code: PDCRA04051

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2T2	CNPS List: 1B.1
State: None	State: S2.1	

**Habitat Associations**

**General:** COASTAL SCRUB, COASTAL BLUFF SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OPEN, ROCKY SLOPES; OFTEN IN SHALLOW CLAYS OVER SERPENTINE OR IN ROCKY AREAS W/LITTLE SOIL. 5-450M.

<b>Occurrence No.</b> 25	<b>Map Index:</b> 28666	<b>EO Index:</b> 30010	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2000-05-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-05-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-22

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33416° / -120.69867°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912531 E709161	<b>Range:</b> 12E
<b>Area:</b> 3.0 acres	<b>Section:</b> 09 <b>Qtr:</b> NW
<b>Elevation:</b> 520 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** CAMP SLO NATIONAL GUARD RESERVATION; ABOUT 0.5-0.85 MI N OF CA MEN'S COLONY, 1.2 AIRMI DUE N OF BISHOP PEAK.  
**Location Detail:** TRAINING AREA N.  
**Ecological:** ROCKY SERPENTINE SOIL IN WEEDY ANNUAL/PERENNIAL GRASSLAND.  
**Threat:** CA MEN'S COLONY-CHORRO VALLEY PIPELINE RE-ROUTED TO AVOID THIS POPULATION. CATTLE, NON-NATIVES, MILITARY USE THREATEN.  
**General:** AT LEAST 1000 PLANTS IN 1996. 500+ PLANTS SEEN IN 2000. LOCALLY COMMON IN A VERY SMALL AREA.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 28	<b>Map Index:</b> 40195	<b>EO Index:</b> 35197	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1994-05-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-11-18

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33592° / -120.73132°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912657 E706188	<b>Range:</b> 12E
<b>Area:</b> 38.6 acres	<b>Section:</b> 07 <b>Qtr:</b> XX
<b>Elevation:</b> 360 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** EL CHORRO GOLF COURSE AT EL CHORRO REGIONAL PARK, NORTH OF HIGHWAY 1 AT CAMP SAN LUIS OBISPO.  
**Location Detail:** SEVERAL COLONIES OBSERVED IN 1994.  
**Ecological:** GRASSLAND WITH OCCASIONAL ROCK OUTCROPS AND SHALLOW SOILS OVER THE OUTCROPS. RARE HORNED LIZARD AND RED-LEGGED FROG ALSO HERE.  
**Threat:** GRAZING; PROPOSED GOLF COURSE THREATEN.  
**General:** 3000 PLANTS ESTIMATED IN 1994 BY WISHNER.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 29	<b>Map Index:</b> 46282	<b>EO Index:</b> 47877	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1960-05-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1960-05-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-05-08

**Quad Summary:** Morro Bay North (3512047/247A), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36658° / -120.84739°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915823 E695564	<b>Range:</b> 10E
<b>Radius:</b> 1 mile	<b>Section:</b> 36 <b>Qtr:</b> XX
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** MORRO BAY.  
**Location Detail:** EXACT LOCATION UNKNOWN MAPPED AT MORRO BAY BY CNDD. LOCATION DESCRIBED AS DIRECTLY ABOVE & EAST OF MORRO BEACH COMMUNITY, SOUTH OF TOWN WATER TANK.  
**Ecological:** ON SERPENTINE OUTCROP.  
**Owner/Manager:** UNKNOWN

**Dudleya blochmaniae ssp. blochmaniae**

Blochman's dudleya

Element Code: PDCRA04051

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G2T2 **CNPS List:** 1B.1  
**State:** None **State:** S2.1

**Habitat Associations**

**General:** COASTAL SCRUB, COASTAL BLUFF SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** OPEN, ROCKY SLOPES; OFTEN IN SHALLOW CLAYS OVER SERPENTINE OR IN ROCKY AREAS W/LITTLE SOIL. 5-450M.

**Occurrence No.:** 34 **Map Index:** 61701 **EO Index:** 61737 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2001-06-13  
**Origin:** Natural/Native occurrence **Site:** 2001-06-13  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-06-23

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.31665° / -120.74703° **Township:** 30S  
**UTM:** Zone-10 N3910488 E704809 **Range:** 11E  
**Area:** 2.3 acres **Mapping Precision:**SPECIFIC **Section:** 13 **Qtr:** XX  
**Elevation:** 400 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** FIRST RIDGE WEST OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
**Location Detail:** THREE COLONIES MAPPED WITHIN TRAINING AREA A.  
**Ecological:** COASTAL-SAGE SCRUB/GRASSLAND. ON SERPENTINE OUTCROP, RUBBLE, CLAY, LOAMY CLAY. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, ERIOPHYLLUM CONFERTIFLORUM, LOTUS SCOPARIUS, HEMIZONIA CONGESTA SSP. LUZULIFOLIA, ACHILLEA MILLEFOLIUM, ETC.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER FIRE REGIME.  
**General:** 50-100 PLANTS SEEN AT NORTH COLONY IN 2000. 50-100 PLANTS SEEN AT SOUTH COLONY AND 40-50 PLANTS AT EAST COLONY IN 2001.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Occurrence No.:** 35 **Map Index:** 61703 **EO Index:** 61739 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 2002-04-23  
**Origin:** Natural/Native occurrence **Site:** 2002-04-23  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-06-22

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.31716° / -120.73253° **Township:** 30S  
**UTM:** Zone-10 N3910574 E706126 **Range:** 12E  
**Area:** 3.2 acres **Mapping Precision:**SPECIFIC **Section:** 18 **Qtr:** VW  
**Elevation:** 400 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** NORTHWEST SIDE OF CERRO ROMUALDO, SOUTH OF CHORRO CREEK, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA V. MAPPED WITHIN THE ESTIMATED NW 1/4 OF THE NW 1/4 OF SECTION 18.  
**Ecological:** SERPENTINE BARRENS SURROUNDED BY ACHYRACHAENA MOLLIS, DICHELOSTEMMA CAPITATUM, TRIFOLIUM, LOTUS, SELAGINELLA BIGELOVII, ERODIUM, AND CALOCHORTUS CLAVATUS SSP. CLAVATUS.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER FIRE REGIME.  
**General:** LESS THAN 300 PLANTS SEEN IN 2000. MORE THAN 100 PLANTS SEEN IN 2002. PLANTS IN SMALL PATCHES IN SOIL POCKETS. PLANTS NOT FOUND ON NEARBY, SIMILAR OUTCROPS THAT HAVE BEEN HEAVILY IMPACTED BY CATTLE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Dudleya blochmaniae ssp. blochmaniae**

Blochman's dudleya

Element Code: PDCRA04051

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2T2 CNPS List: 1B.1  
 State: None State: S2.1

Habitat Associations

General: COASTAL SCRUB, COASTAL BLUFF SCRUB, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: OPEN, ROCKY SLOPES; OFTEN IN SHALLOW CLAYS OVER SERPENTINE OR IN ROCKY AREAS W/LITTLE SOIL. 5-450M.

Occurrence No. 36 Map Index: 61704 EO Index: 61740 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-05-22  
 Origin: Natural/Native occurrence Site: 2002-05-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-06-23

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.32869° / -120.72087° Township: 30S  
 UTM: Zone-10 N3911878 E707157 Range: 12E  
 Area: 5.9 acres Mapping Precision: SPECIFIC Section: 07 Qtr: XX  
 Elevation: 800 ft Symbol Type: POLYGON Meridian: M

Location: GUARD HILL & ALONG GUARD HILL ROAD, EAST OF DAIRY CREEK, CAMP SAN LUIS OBISPO.  
 Location Detail: ALONG GUARD HILL ROAD, TRAINING AREA R. SCATTERED PATCHES, SOME PLANTS VERY NEAR TO ROAD.  
 Ecological: GENTLE TO MODERATE SLOPE TO STEEP SLOPES. ASSOCIATES INCLUDE TRIFOLIUM AMPLECTENS, SANICULA ARGUTA, LUPINUS SPP., SIDALCEA MALVIFLORA SPP. LACINIATA, CHLOROGALUM POMERIDIANUM, DODECATHEON CLEVELANDII, RANUNCULUS CALIFORNICUS, ETC.  
 Threat: EXTENSIVE CATTLE USE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER FIRE REGIME.  
 General: MORE THAN 500 PLANTS SEEN IN 2000 AND 2002.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 38 Map Index: 61707 EO Index: 61743 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-05-08  
 Origin: Natural/Native occurrence Site: 2002-05-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-06-22

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31509° / -120.70959° Township: 30S  
 UTM: Zone-10 N3910393 E708217 Range: 12E  
 Area: 4.3 acres Mapping Precision: SPECIFIC Section: 17 Qtr: E  
 Elevation: 620 ft Symbol Type: POLYGON Meridian: M

Location: NORTHWEST SLOPE OF CHUMASH PEAK, CAMP SAN LUIS OBISPO.  
 Location Detail: ABOVE GRAVEL PIT. TRAINING AREA L.  
 Ecological: SERPENTINE ROCK OUTCROP. ASSOCIATED WITH LOTUS SCOPARIUS, MIMULUS AURANTIACUS, LAMARCKIA AUREA, AIRA CARYOPHYLLA, POLYPODIUM, LICHENS, AND MOSSES.  
 Threat: CATTLE USE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER FIRE REGIME.  
 General: OVER 1500 PLANTS SEEN IN 2002.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 39 Map Index: 61713 EO Index: 61749 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2000-06-15  
 Origin: Natural/Native occurrence Site: 2000-06-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-06-22

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33276° / -120.68800° Township: 30S  
 UTM: Zone-10 N3912399 E710134 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 09 Qtr: NE  
 Elevation: 620 ft Symbol Type: POINT Meridian: M

Location: SOUTH OF CHORRO RESERVOIR, NORTH OF THE CALIFORNIA MEN'S COLONY, CAMP SAN LUIS OBISPO.  
 Location Detail: NORTH OF SERPENTINE SEEP AND STREAMLET. TRAINING AREA W.  
 Ecological: SERPENTINE ROCK OUTCROP. ASSOCIATED WITH NASSELLA PULCHRA, N. LEPIDA, CHLOROGALUM POMERIDIANUM, ESCHSCHOLZIA CALIFORNICA, CHORIZANTHE PALMERI, LOTUS SCOPARIUS, CENTAUREA CALCITRAPA.  
 Threat: CATTLE USE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER FIRE REGIME.  
 General: LESS THAN 50 PLANTS SEEN IN 2000.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO



**Elanus leucurus**

white-tailed kite

Element Code: ABNKC06010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5	CDFG Status:
State: None	State: S3	

**Habitat Associations**

**General:** ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.  
**Micro:** OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.

<b>Occurrence No.</b> 55	<b>Map Index:</b> 42273	<b>EO Index:</b> 42273	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1997-03-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1997-03-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-01-26

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31389° / -120.71747°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910243 E707504	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 17
<b>Elevation:</b> 340 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POINT	

**Location:** CAMP SAN LUIS OBISPO, 0.5 MILE EAST OF CERRO ROMUALDO, 0.7 MILE SSE OF CROSSING OF CHORRO CREEK AND HIGHWAY 1.  
**Location Detail:** OAK WOODLAND AREA WEST OF COMMON TASK TRAINING GROUND NEAR PLOT #326. WOO97F10: "FIRST NOTICED IN GRASSLAND AREA NW OF CTTG MATIN ON A POLE PAIR, THEN FLEW INTO OAK WOODLAND AREA."  
**Ecological:** OAK WOODLAND, GRASSLAND AREA.  
**Threat:** COULD BE FORCED OFF NEST FROM LOUD EXPLOSIONS, MILITARY TRAINING.  
**General:** BREEDING SITE. 2 ADULTS OBSERVED 31 MAR 1995. 2 ADULTS OBSERVED ON 24 MAR 1997.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD

<b>Occurrence No.</b> 65	<b>Map Index:</b> 51560	<b>EO Index:</b> 51560	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-06-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-06-02
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-06-17

**Quad Summary:** Lopez Mtn. (3512035/246D), Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.37583° / -120.58444°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3917401 E719432	<b>Range:</b> 13E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 28
<b>Elevation:</b> 1,240 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** JUST NORTH OF MILLER FLAT, 1.5 MILES SE OF SANTA MARGARITA  
**Location Detail:** NEST NOT FOUND, BUT RECENT FLEDGLINGS INDICATE NESTING IN THE IMMEDIATE VICINITY.  
**Ecological:** HABITAT CONSISTS OF COAST LIVE OAK WOODLAND, DOMINATED BY QUERCUS AGRIFOLIA AND PINUS SABINIANA; SOME CHAPARRAL ELEMENTS ON SOUTH-FACING SLOPES. LARGE EXPANSES OF VALLEY OAK SAVANNAH AND ANNUAL GRASSLANDS NEARBY PROVIDE FORAGING HABITAT.  
**General:** 4 RECENT FLEDGLINGS OBSERVED ON 1 JUN 2002, WITH 2 ADULTS NEARBY. ON 2 JUN 2002, 1 ADULT WITH TWO FLEDGLINGS OBSERVED FORAGING OVER AN ADJACENT FIELD.  
**Owner/Manager:** PVT-SANTA MARGARITA CO

<b>Occurrence No.</b> 73	<b>Map Index:</b> 51950	<b>EO Index:</b> 51950	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-31

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.38339° / -120.59221°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3918223 E718706	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 21
<b>Elevation:</b> 1,165 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 0.7 MILE SW OF THE INTERSECTION OF POZO ROAD AND HIGHWAY 58, 0.7 MILE SE OF SANTA MARGARITA  
**Ecological:** HABITAT CONSISTS OF COAST LIVE OAK WOODLAND SURROUNDING THE PRESUMED NEST TREE; CHAPARRAL ELEMENTS, DOMINATED BY CHAMISE, BLEND INTO THE WOODLAND FROM A SOUTH-FACING HILL SLOPE, ON THE NORTH SIDE OF THE OAK WOODLAND.  
**General:** 4 FLEDGLINGS OBSERVED IN THIS WOODLAND IN 2002. 2 ADULTS OBSERVED FLYING WITH NESTING MATERIALS & PRESUMED NESTING IN 2003.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

Elanus leucurus

white-tailed kite

Element Code: ABNKC06010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5	CDFG Status:
State: None	State: S3	

**Habitat Associations**

**General:** ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.  
**Micro:** OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.

<b>Occurrence No.</b> 79	<b>Map Index:</b> 55396	<b>EO Index:</b> 55396	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1999-08-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-08-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-05-10

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34509° / -120.68447°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913774 E710423	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 04
<b>Elevation:</b> 810 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** WEST SIDE OF CHORRO CREEK, 0.5 MILE NORTH OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO  
**Location Detail:** NEST TREE WAS LOCATED ACROSS FROM THE END POINT OF LCTA PLOT #330.  
**Ecological:** HABITAT CONSISTS OF RIPARIAN WOODLAND, DOMINATED BY COAST LIVE OAK. SURROUNDING AREA IS GRAZED AND UTILIZED FOR MILITARY TRAINING.  
**General:** 2 ADULTS AND 2 JUVENILES OBSERVED AT THE NEST ON 10 AUG 1999.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 103	<b>Map Index:</b> 65937	<b>EO Index:</b> 66016	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-04-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-04-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-08-30

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34241° / -120.72933°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913382 E706353	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 06
<b>Elevation:</b> 660 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POINT	

**Location:** EL CHORRO REGIONAL PARK, ABOUT 1 MI NORTH OF CAMP SAN LUIS OBISPO.  
**Location Detail:** NESTING AREA IS IN OAK WOODLANDS  
**Ecological:** ANN. GRASSLAND DOM. BY BROMUS MADRITENSIS, B. DIANDRUS, AVENA SPP., ERODIUM BOTRYS, BRASSICA SPP., HEMIZONIA LUZULAEFOLIA, PLAGIOBOTHRYIS SPP., SANICULA ARGUTA, DICHELOSTEMMA PULCHELLA & VIOLA PEDUNCULATA. SOIL CLAY-SANDY, GENTLE-STEEP SLOPE  
**Threat:** CATTLE, HUMANS, UNLEASHED DOGS, AREA PROPOSED FOR GOLF COURSE.  
**General:** 2 ADULTS OBSERVED ON 7 APR 1994, SOARING & FORAGING. NESTING KNOWN IN OAK WOODLANDS WITHIN THIS AREA.  
**Owner/Manager:** SLO COUNTY

**Eremophila alpestris actia**

California horned lark

Element Code: ABPAT02011

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G5T3Q	CDFG Status:
State: None	State: S3	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

**General:** COASTAL REGIONS, CHIEFLY FROM SONOMA CO. TO SAN DIEGO CO. ALSO MAIN PART OF SAN JOAQUIN VALLEY & EAST TO FOOTHILLS.  
**Micro:** SHORT-GRASS PRAIRIE, "BALD" HILLS, MOUNTAIN MEADOWS, OPEN COASTAL PLAINS, FALLOW GRAIN FIELDS, ALKALI FLATS.

Occurrence No. 33	Map Index: 42274	EO Index: 42274	_____ Dates Last Seen _____
Occ Rank: Good			Element: 1995-03-30
Origin: Natural/Native occurrence			Site: 1995-03-30
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2000-01-26

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

Lat/Long: 35.32995° / -120.69971°	Township: 30S
UTM: Zone-10 N3912062 E709078	Range: 12E
Area:	Section: 09 Qtr: XX
Elevation: 460 ft	Meridian: M
	Mapping Precision: NON-SPECIFIC
	Symbol Type: POLYGON

**Location:** CAMP SAN LUIS OBISPO, 0.5 MILE NW OF CALIFORNIA MENS COLONY, 0.85 MILE SW OF CHORRO RES, ~4 MILES NNW OF SAN LUIS OBISPO  
**Location Detail:** EAST ON KERN ROAD, 0.1 MILE PAST GATE ON NORTH SIDE OF ROAD, PLOT #308. ELEVATION RANGE 420 - 502.  
**Ecological:** GRASSLAND SLOPE WITH SMALL ROCKY OUTCROPS  
**Threat:** VEHICLE TRAFFIC; CATTLE, TROOPS - CRUSHING NESTS  
**General:** 5/29/95: 1 MALE AND 1 FEMALE OBSERVED AT POSSIBLE NEST SITE; 5/30/95: 2 OTHER ADULTS OBSERVED ALONG SIDE OF THE ROAD.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Eriastrum luteum**

yellow-flowered eriastrum

Element Code: PDPLM03080

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** BROADLEAFED UPLAND FOREST, CISMONTANE WOODLAND, CHAPARRAL.  
**Micro:** ON BARE SANDY DECOMPOSED GRANITE SLOPES. 360-1000M.

<b>Occurrence No. 7</b>	<b>Map Index:</b> 57239	<b>EO Index:</b> 57255	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1989-05-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1989-05-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.46631° / -120.53336°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3927553 E723822	<b>Range:</b> 13E
<b>Area:</b> 30.6 acres	<b>Section:</b> 25
<b>Elevation:</b> 1,300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** NEAR IRON SPRING, MIDDLE BRANCH HUERHUERO CREEK, ABOUT 4.0 MILES S OF CRESTON.  
**Location Detail:** SEVERAL POLYGONS MAPPED BY CNDDDB, IN THE N 1/2 OF SECTION 25, AND THE S 1/2 OF SECTION 24.  
**Ecological:** MOSTLY S-FACING SLOPES. BARE AREAS OF DECOMPOSED GRANITE SAND; OPENINGS MOSTLY ADJACENT TO ADENOSTOMA FASCICULATUM. OCCURS IN DISTURBED OPENINGS (FIRE TRAILS) IN THE CHAMISE. WITH LINANTHUS PARVIFLORUS AND NAVARRERIA SP.  
**Threat:** BULLDOZING FIRE TRAILS. HOUSING DEVELOPMENT. SITE LOCATED WITHIN PROPOSED COASTAL AQUEDUCT ROUTE.  
**General:** 4600 PLANTS SEEN IN 1988.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No. 8</b>	<b>Map Index:</b> 57240	<b>EO Index:</b> 57256	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1989-05-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1989-05-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.47118° / -120.51313°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3928140 E725644	<b>Range:</b> 14E
<b>Area:</b> 2.9 acres	<b>Section:</b> 19
<b>Elevation:</b> 1,300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** APPROX. 0.5 MILE SE OF CLEAR LAKE, AND 0.6 MILE NE OF IRON SPRING, ALONG JEEP ROAD ON SE SLOPE OF 1382' HILL.  
**Location Detail:** MAPPED WITHIN THE SW 1/4 OF THE SW 1/4 OF SECTION 19.  
**Ecological:** WITH ADENOSTOMA FASCICULATUM, ERODIUM AND GRASSES.  
**Threat:** SITE ON PROPOSED COASTAL AQUEDUCT ROUTE.  
**General:** 50-75 PLANTS SEEN IN 1989. OTHER RARE PLANT AT THIS SITE: HEMIZONIA PENTACTIS.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No. 9</b>	<b>Map Index:</b> 57241	<b>EO Index:</b> 57257	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1988-07-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-07-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.44590° / -120.54269°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3925268 E723032	<b>Range:</b> 13E
<b>Area:</b> 6.4 acres	<b>Section:</b> 35
<b>Elevation:</b> 1,775 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** RIDGE TOP JUST E OF CRESTON ROAD (HWY 229), 1.5 MILES N OF CALF CANYON ROAD (HWY 58).  
**Location Detail:** 2 POLYGONS MAPPED WITHIN THE NE 1/4 OF THE SW 1/4 OF SECTION 35.  
**Ecological:** TOPS OF KNOBS ALONG RIDGES. OPENINGS IN CHAPARRAL. DECOMPOSED GRANITE SUBSTRATE.  
**Threat:** HOUSING DEVELOPMENT. SITE LOCATED WITHIN PROPOSED COASTAL AQUEDUCT ROUTE.  
**General:** OVER 500 PLANTS SEEN IN 1988.  
**Owner/Manager:** UNKNOWN

**Eriastrum luteum**

yellow-flowered eriastrum

Element Code: PDPLM03080

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

General: BROADLEAFED UPLAND FOREST, CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: ON BARE SANDY DECOMPOSED GRANITE SLOPES. 360-1000M.

**Occurrence No.** 10      **Map Index:** 57242      **EO Index:** 57258      **Dates Last Seen**  
**Occ Rank:** Unknown      **Element:** 1988-06-11  
**Origin:** Natural/Native occurrence      **Site:** 1988-06-11  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2004-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.43047° / -120.54719°      **Township:** 29S  
**UTM:** Zone-10 N3923546 E722666      **Range:** 13E  
**Area:** 1.4 acres      **Mapping Precision:** SPECIFIC      **Section:** 02      **Qtr:** SE  
**Elevation:** 1,300 ft      **Symbol Type:** POLYGON      **Meridian:** M

**Location:** ALONG THE W SIDE OF CRESTON ROAD (HWY 229), 0.4 MILE N OF CALF CANYON ROAD (HWY 58).  
**Location Detail:** MAPPED WITHIN THE NW 1/4 OF THE SE 1/4 OF SECTION 2.  
**Ecological:** OPENING OF ABANDONED DIRT ROAD IN CHAMISE CHAPARRAL.  
**Threat:** MOTORCYCLE USE. HOUSING DEVELOPMENT. SITE LOCATED WITHIN PROPOSED COASTAL AQUEDUCT ROUTE.  
**General:** 300 PLANTS SEEN IN 1988.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 11      **Map Index:** 57243      **EO Index:** 57259      **Dates Last Seen**  
**Occ Rank:** Good      **Element:** 2005-06-05  
**Origin:** Natural/Native occurrence      **Site:** 2005-06-05  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2007-03-21

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.41788° / -120.55576°      **Township:** 29S  
**UTM:** Zone-10 N3922131 E721922      **Range:** 13E  
**Area:** 7.0 acres      **Mapping Precision:** SPECIFIC      **Section:** 11      **Qtr:** NW  
**Elevation:** 1,300 ft      **Symbol Type:** POLYGON      **Meridian:** M

**Location:** 0.1 MILE W OF HWY 58, APPROX. 1.0 MILE S OF ITS JUNCTION WITH CRESTON ROAD.  
**Location Detail:** MAPPED ACCORDING TO MAP PROVIDED BY CADRO & KUENSTER AND COORDINATES PROVIDED BY DE GROOT. PART OF POPULATION IS BEHIND A FENCE. MAPPED IN SW1/4 OF NW1/4 SEC 11.  
**Ecological:** EDGE BETWEEN FOOTHILL WOODLAND AND CHAPARRAL WHERE A BURN OCCURRED AROUND 1985. OPEN, SUNNY SLOPE OF GRASSES AND FORBS BETWEEN OTHER VEGETATION. COARSE GRANITIC SAND SUBSTRATE, WITH A LITTLE LOAM.  
**Threat:** SITE LOCATED WITHIN PROPOSED COASTAL AQUEDUCT ROUTE; OHV'S AND GRAZING ARE POSSIBLE THREATS.  
**General:** 500 PLANTS SEEN IN 1989. OVER 500 PLANTS OBSERVED IN 2005. 1947 COLLECTION BY HOOVER "SUMMIT ON ROAD BETWEEN MORANO (MORENO) CREEK AND CALF CANYON" ATTRIBUTED TO THIS SITE.  
**Owner/Manager:** PVT

**Occurrence No.** 12      **Map Index:** 13214      **EO Index:** 57263      **Dates Last Seen**  
**Occ Rank:** Excellent      **Element:** 1991-07-25  
**Origin:** Natural/Native occurrence      **Site:** 1991-07-25  
**Presence:** Presumed Extant  
**Trend:** Unknown      **Record Last Updated:** 2004-10-06

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.40393° / -120.50254°      **Township:** 29S  
**UTM:** Zone-10 N3920703 E726795      **Range:** 14E  
**Area:** 7.6 acres      **Mapping Precision:** SPECIFIC      **Section:** 17      **Qtr:** NW  
**Elevation:** 1,900 ft      **Symbol Type:** POLYGON      **Meridian:** M

**Location:** APPROX. 0.2 MILE N OF PARK HILL ROAD, 3.5 MILES E OF ITS JUNCTION WITH HWY 58.  
**Location Detail:** ONE POLYGON MAPPED ALONG THE CENTERLINE OF THE W 1/2 OF SECTION 17.  
**Ecological:** IN OPENINGS ALONG FIRE ROADS AND ON TOPS OF HILLS OF DECOMPOSED GRANITE. APPEARS IN AREAS NATURALLY CLEARED BY FIRE OR MECHANICALLY CLEARED AS FIRE BREAKS.  
**Threat:** BULLDOZING FIRE BREAKS.  
**General:** ABOUT 1000 PLANTS SEEN AT THIS SITE, AND AT TWO SITES TO THE S (OCCURRENCES #13 & #2). OTHER RARE PLANT AT THESE SITES: CHORIZANTHE RECTISPINA.

**Eriastrum luteum**

yellow-flowered eriastrum

Element Code: PDPLM03080

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: BROADLEAFED UPLAND FOREST, CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: ON BARE SANDY DECOMPOSED GRANITE SLOPES. 360-1000M.

Owner/Manager: BLM-CALIENTE RA, PVT

Occurrence No. 13 Map Index: 39836 EO Index: 57264 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 1991-07-25  
 Origin: Natural/Native occurrence Site: 1991-07-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-10-06

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39030° / -120.50308° Township: 29S  
 UTM: Zone-10 N3919190 E726784 Range: 14E  
 Area: 103.7 acres Mapping Precision SPECIFIC Section: 20 Qtr: N  
 Elevation: 1,800 ft Symbol Type: POLYGON Meridian: M

Location: APPROX. 0.4 MILE S OF PARK HILL ROAD, 3.3 MILES E OF ITS JUNCTION WITH HWY 58.  
 Location Detail: ONE POLYGON MAPPED WITHIN THE W 1/2 OF SECTION 20.  
 Ecological: IN OPENINGS ALONG FIRE ROADS. ON TOPS OF HILLS, ON DECOMPOSED GRANITE. OCCURS IN OPEN AREAS CLEARED NATURALLY BY FIRE OR MECHANICALLY CLEARED AS FIRE BREAKS.  
 Threat: BULLDOZING FOR FIRE BREAKS.  
 General: ABOUT 1000 PLANTS SEEN AT THIS SITE, AND AT A SITE TO THE N (OCCURRENCE #12), AND A SITE TO THE S (OCCURRENCE #2). OTHER RARE PLANT AT THESE SITES: CHORIZANTHE RECTISPINA.

Owner/Manager: BLM, PVT

Occurrence No. 14 Map Index: 25134 EO Index: 57271 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1950-06-17  
 Origin: Natural/Native occurrence Site: 1950-06-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-10-06

Quad Summary: Atascadero (3512046/246B), Templeton (3512056/269C)  
 County Summary: San Luis Obispo

Lat/Long: 35.48708° / -120.66995° Township: 28S  
 UTM: Zone-10 N3929556 E711372 Range: 12E  
 Radius: 1 mile Mapping Precision NON-SPECIFIC Section: 15 Qtr: XX  
 Elevation: 900 ft Symbol Type: POINT Meridian: M

Location: ATASCADERO.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF ATASCADERO.  
 Ecological: ON SANDY, DRY GROUND IN THE OPEN.  
 General: UNKNOWN NUMBER OF PLANTS SEEN IN 1950. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 24 Map Index: 68653 EO Index: 69055 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2006-06-22  
 Origin: Natural/Native occurrence Site: 2006-06-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2007-03-21

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.43756° / -120.50504° Township: 29S  
 UTM: Zone-10 N3924429 E726474 Range: 14E  
 Radius: 0 mile Mapping Precision SPECIFIC Section: 05 Qtr: NW  
 Elevation: 1,420 ft Symbol Type: POLYGON Meridian: M

Location: N SIDE OF HWY 58, JUST WEST OF FIRST DRIVEWAY WEST OF MIDDLE BRANCH HUERHUERO CREEK.  
 Location Detail: IN HIGHWAY RIGHT-OF-WAY. UNKNOWN IF POPULATION EXTENDS ONTO ADJACENT PRIVATE PROPERTY.  
 Ecological: OPEN AREA OF SPARSE GRASSES AND FORBS AT EDGE OF CHAMISE CHAPARRAL; SCATTERED PINUS SABINIANA AND QUERCUS SPP. SOUTH SLOPE IN SANDY SOILS DERIVED FROM DECOMPOSING GRANITE.  
 General: 50 PLANTS OBSERVED IN 2006. 2005 HELMKAMP COLLECTION FROM "ALONG HWY CA-58 (CALF CYN HWY), 6.7 MILES EAST OF SANTA MARGARITA" ATTRIBUTED TO THIS SITE.  
 Owner/Manager: CALTRANS

**Erigeron blochmaniae**

Blochman's leafy daisy

Element Code: PDAST3M5J0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

General: COASTAL DUNES.  
 Micro: SAND DUNES AND HILLS. 3-185M.

<b>Occurrence No.</b> 16	<b>Map Index:</b> 28635	<b>EO Index:</b> 30029	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-02-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-02-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-12-17

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29534° / -120.87557°	<b>UTM:</b> Zone-10 N3907866 E693173	<b>Area:</b>	<b>Mapping Precision</b> NON-SPECIFIC	<b>Township:</b> 30S	<b>Range:</b> 10E	<b>Section:</b> 23	<b>Qtr:</b> SW
<b>Elevation:</b> 100 ft			<b>Symbol Type:</b> POLYGON	<b>Meridian:</b> M			

**Location:** MONTANA DE ORO STATE PARK, ABOUT 2 MILES SOUTHWEST OF CUESTA-BY-THE-SEA.  
**Location Detail:** MAP DETAIL IS NOT CLEAR. POPULATIONS APPEAR TO OCCUR IN THE SW 1/4 OF SECTION 23 AND INTO THE NW 1/4 OF SECTION 26. MAPPING REFLECTS UNCERTAINTY IN LOCATION OF POPULATION.  
**Ecological:** COASTAL DUNE SCRUB DOMINATED BY ARTEMISIA/BACCHARIS ASSOCIATION. OTHER ASSOCIATES INCLUDE SALVIA MELLIFERA, LOTUS SCOPARIUS, ERIOGONUM PARVIFOLIUM, HAPLOPAPPUS SQUARROSA, MIMULUS AURANTIACUS, ERIOPHYLLUM STAECHADIFOLIUM, TOXICODENDRON ETC.  
**General:** BEST SOURCE OF INFORMATION FOR THIS SITE IS 1977 INVENTORY OF MONTANA DE ORO STATE PARK BY BARRY. 1964 COLLECTION FROM HAZARD CANYON ATTRIBUTED TO THIS SITE.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

<b>Occurrence No.</b> 17	<b>Map Index:</b> 28634	<b>EO Index:</b> 30028	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1975-02-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1975-02-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-12-20

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30930° / -120.86803°	<b>UTM:</b> Zone-10 N3909429 E693826	<b>Radius:</b> 1/5 mile	<b>Mapping Precision</b> NON-SPECIFIC	<b>Township:</b> 30S	<b>Range:</b> 10E	<b>Section:</b> 14	<b>Qtr:</b> S
<b>Elevation:</b> 40 ft			<b>Symbol Type:</b> POINT	<b>Meridian:</b> M			

**Location:** MONTANA DE ORO STATE PARK, DUNES AT SOUTHERNMOST END OF MORRO BAY.  
**Location Detail:** MAPPED ALONG DUNES JUST SOUTH AND WEST OF THE SOUTHERN END OF THE BAY.  
**General:** INVENTORY OF MORRO DUNES BY BARRY. SITE IS 1975 INVENTORY OF MORRO DUNES BY BARRY. TWO COLLECTIONS ATTRIBUTED TO THIS SITE; R.F. HOOVER (#6245 DS) IN 1946 AND E.C. TWISSELMANN (#2424 CAS) IN 1955.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

<b>Occurrence No.</b> 18	<b>Map Index:</b> 28633	<b>EO Index:</b> 30027	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1975-02-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1975-02-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-12-17

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32321° / -120.86340°	<b>UTM:</b> Zone-10 N3910981 E694213	<b>Radius:</b> 1/5 mile	<b>Mapping Precision</b> NON-SPECIFIC	<b>Township:</b> 30S	<b>Range:</b> 10E	<b>Section:</b> 11	<b>Qtr:</b> SE
<b>Elevation:</b> 40 ft			<b>Symbol Type:</b> POINT	<b>Meridian:</b> M			

**Location:** MONTANA DE ORO STATE PARK, MORRO BAY SAND SPIT OPPOSITE CUESTA-BY-THE-SEA.  
**Location Detail:** MAPPED ABOUT 0.4 MILE NNE OF 'UP' ELEVATION MARKER ON THE SPIT.  
**General:** MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1975 INVENTORY OF MORRO DUNES BY BARRY.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

**Erigeron blochmaniae**

Blochman's leafy daisy

Element Code: PDAST3M5J0

Status

NDDB Element Ranks

Other Lists

Federal: None  
 State: None

Global: G2  
 State: S2.2

CNPS List: 1B.2

Habitat Associations

General: COASTAL DUNES.

Micro: SAND DUNES AND HILLS. 3-185M.

Occurrence No. 19

Map Index: 61597

EO Index: 61633

Dates Last Seen

Occ Rank: Poor

Element: 1999-12-21

Origin: Natural/Native occurrence

Site: 1999-12-21

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2005-06-15

Quad Summary: Pismo Beach (3512026/221B)

County Summary: San Luis Obispo

Lat/Long: 35.13002° / -120.63799°

UTM: Zone-10 N3890015 E715215

Radius: 80 meters

Elevation: 0 ft

Township: 32S

Range: 12E

Section: 24

Qtr: XX

Mapping Precision SPECIFIC

Symbol Type: POINT

Meridian: M

Location: PISMO BEACH, SOUTH OF NORTH BEACH CAMPGROUND AND NORTH OF GOLF COURSE, PISMO BEACH STATE PARK.

Location Detail: ON EITHER SIDE OF "TRAIL" THROUGH FOREDUNES.

Ecological: DUNE SCRUB IN POOR CONDITION ON STABILIZED DUNE, ALONG TOP OF DUNE. SANDY SOIL. DOMINATED BY CARPOBROTUS EDULIS. ASSOCIATES INCLUDE CROTON CALIFORNICA, LUPINUS CHAMISSONIS, LESSINGIA FILAGINIFOLIA, AND ERICAMERIA ERICOIDES.

Threat: PLANTS ON EITHER SIDE OF INFORMAL TRAIL, COULD BE TRAMPLED.

General: 2 PLANTS SEEN IN 1999. THE RARE MALACOTHRIX INCANA FOUND IN FOREDUNES ABOUT 1050' SOUTH OF THIS SITE.

Owner/Manager: DPR-PISMO SB

Occurrence No. 20

Map Index: 61598

EO Index: 61634

Dates Last Seen

Occ Rank: Fair

Element: 2001-07-10

Origin: Natural/Native occurrence

Site: 2001-07-10

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2005-06-15

Quad Summary: Morro Bay North (3512047/247A)

County Summary: San Luis Obispo

Lat/Long: 35.39045° / -120.86433°

UTM: Zone-10 N3918438 E693967

Radius: 80 meters

Elevation: 30 ft

Township: 29S

Range: 10E

Section: 23

Qtr: XX

Mapping Precision SPECIFIC

Symbol Type: POINT

Meridian: M

Location: SANDWICHED BETWEEN "THE CLOISTERS" DEVELOPMENT & THE BEACH, 0.3 MILE SOUTH OF AZURE STREET, MORRO BAY.

Ecological: STABLE DUNES HEAVILY INFESTED WITH EXOTIC AMMOPHILA ARENARIA.

Threat: AMMOPHILA ARENARIA INVASION.

General: ABOUT 5 PLANTS SEEN IN 2001. AREA RARELY ACCESSED BY PEOPLE.

Owner/Manager: DPR

Occurrence No. 23

Map Index: 61603

EO Index: 61639

Dates Last Seen

Occ Rank: Unknown

Element: 2002-08-21

Origin: Natural/Native occurrence

Site: 2002-08-21

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2005-06-15

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.31496° / -120.85951°

UTM: Zone-10 N3910074 E694586

Radius: 1/10 mile

Elevation: 45 ft

Township: 30S

Range: 10E

Section: 13

Qtr: N

Mapping Precision NON-SPECIFIC

Symbol Type: POINT

Meridian: M

Location: LOS OSOS AT THE WEST END OF HOWARD STREET.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AT THE WEST END OF HOWARD STREET IN LOS OSOS.

Ecological: SOFT SAND BEHIND BEACH DUNES. MILD SLOPE WITH MUCH ARTEMISIA CALIFORNICA, LUPINUS ARBOREUS, ERIOGONUM PARVIFOLIUM, ERICAMERIA ERICOIDES, AND LOTUS SCOPARIUS.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 2002 COLLECTION BY HELMKAMP.

Owner/Manager: UNKNOWN



**Eriodictyon altissimum**

Indian Knob mountainbalm

Element Code: PDHYD04010

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G2Q	CNPS List: 1B.1
State: Endangered	State: S2.2	

**Habitat Associations**

General: CHAPARRAL (MARITIME), CISMONTANE WOODLAND.  
 Micro: RIDGES IN OPEN, DISTURBED AREAS WITHIN CHAPARRAL ON PISMO SANDSTONE. 80-270M.

Occurrence No. 1	Map Index: 12414	EO Index: 18047	Dates Last Seen
Occ Rank: Unknown			Element: 1979-XX-XX
Origin: Natural/Native occurrence			Site: 1985-06-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1993-03-16

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30467° / -120.84598°	UTM: Zone-10 N3908958 E695842	Area: 30.8 acres	Elevation: 360 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 30S	Range: 10E	Section: 24	Qtr: NE	Meridian: M
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Location: WEST OF BRODERSON AVE & EAST OF BEND IN TRAVIS DR, S OF LOS OSOS.

General: 30 PLANTS SEEN. SEARCHED FOR BUT NOT FOUND IN 1985.

Owner/Manager: PVT

Occurrence No. 2	Map Index: 12387	EO Index: 18503	Dates Last Seen
Occ Rank: Good			Element: 1998-12-30
Origin: Natural/Native occurrence			Site: 1998-12-30
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-06-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28850° / -120.85178°	UTM: Zone-10 N3907153 E695353	Area: 23.4 acres	Elevation: 800 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 30S	Range: 10E	Section: 25	Qtr: NW	Meridian: M
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Location: HAZARD CYN S OF LOS OSOS.

Location Detail: MAPPED AS 4 SUBPOPULATIONS, SOUTH OF HAZARD CYN ALONG A DIRT ROAD. AS OF 1998 DIRT ROAD IS MORE OF A TRAIL DUE TO EROSION.

Ecological: ON SHALE. ASSOCIATED WITH ARCTOSTAPHYLOS MORROENSIS, ARCTOSTAPHYLOS CRUZENSIS AND ADENOSTOMA FASCICULATUM.

Threat: SOME PLANTS ARE CLOSE TO HORSE TRAIL. SOME EROSION ALONG TRAIL.

General: LESS THAN 50 PLANTS IN TWO POPULATIONS IN 1981. IN 1998, ABOUT 20 PLANTS SEEN AT EACH OF TWO NEW WESTERN COLONIES.

Owner/Manager: DPR-MONTANO DE ORO SP

Occurrence No. 3	Map Index: 12398	EO Index: 19638	Dates Last Seen
Occ Rank: Fair			Element: 1985-06-XX
Origin: Natural/Native occurrence			Site: 1985-06-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1993-03-16

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29370° / -120.85128°	UTM: Zone-10 N3907731 E695386	Radius: 80 meters	Elevation: 780 ft	Mapping Precision: SPECIFIC	Symbol Type: POINT	Township: 30S	Range: 10E	Section: 25	Qtr: N	Meridian: M
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Location: ON S-FACING SLOPE OF HAZARD CYN.

General: 7 PLANTS SEEN.

Owner/Manager: DPR-MONTANO DE ORO SP

**Eriodictyon altissimum**

Indian Knob mountainbalm

Element Code: PDHYD04010

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G2Q	CNPS List: 1B.1
State: Endangered	State: S2.2	

**Habitat Associations**

General: CHAPARRAL (MARITIME), CISMONTANE WOODLAND.  
 Micro: RIDGES IN OPEN, DISTURBED AREAS WITHIN CHAPARRAL ON PISMO SANDSTONE. 80-270M.

Occurrence No. 4	Map Index: 12438	EO Index: 18045	Dates Last Seen
Occ Rank: Good			Element: 1986-06-07
Origin: Natural/Native occurrence			Site: 1986-06-07
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-06-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30563° / -120.83734°	Township: 30S
UTM: Zone-10 N3909082 E696625	Range: 11E
Radius: 80 meters	Section: 19
Elevation: 270 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: ON N-FACING SLOPE BETW BRODERSON AVE & BAYVIEW, JUST ABOVE HIGHLAND DR.  
 Ecological: IN SAND, ASSOCIATED WITH ARCTOSTAPHYLOS MORROENSIS, CEANOTHUS CUNEATUS, DIPLACUS AURANTIACUS AND QUERCUS AGRIFOLIA.  
 General: ABOUT 30 PLANTS IN 1985, 1986 COLLECTION BY KEIL FROM "HILLSIDE SOUTH OF HIGHLAND DRIVE BETWEEN SAND EXTENSIONS OF PALISADES AVENUE AND RAVENNA AVENUE" ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Occurrence No. 5	Map Index: 12794	EO Index: 13720	Dates Last Seen
Occ Rank: Excellent			Element: 1980-02-02
Origin: Natural/Native occurrence			Site: 1980-02-02
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-01-04

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.20129° / -120.66256°	Township: 31S
UTM: Zone-10 N3897868 E712791	Range: 12E
Area: 216.7 acres	Section: 26
Elevation: 880 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: INDIAN KNOB, ABOUT 4 MI N OF PISMO & 3 MI S OF SAN LUIS OBISPO.  
 Ecological: ON LIGHT-COLORED PISMO SANDSTONE RIDGES. OFTEN IN DISTURBED AREAS. ASSOCIATED WITH CALOCHORTUS OBISPOENSIS, ARCTOSTAPHYLOS PILOSULA SSP. PISMOENSIS, AGROSTIS HOOVERI, QUERCUS, ADENOSTOMA, & MIMULUS SPP.  
 Threat: SURFACE MINING OF TAR SANDS CONSIDERED.  
 General: TYPE LOCALITY; LARGEST KNOWN POPULATION.

Owner/Manager: PVT

Occurrence No. 6	Map Index: 12456	EO Index: 3327	Dates Last Seen
Occ Rank: Good			Element: 1985-06-29
Origin: Natural/Native occurrence			Site: 1985-06-29
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-12-04

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.30182° / -120.82967°	Township: 30S
UTM: Zone-10 N3908674 E697331	Range: 11E
Radius: 80 meters	Section: 19
Elevation: 350 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: LOS OSOS, EXTENSION OF BAYVIEW AT CALLE CORDONIZ, 50 YARDS SOUTHWEST OF ROAD.  
 Ecological: IN SANDY AREA AROUND CHAPARRAL PLANTS. ASSOCIATED WITH ARCTOSTAPHYLOS MORROENSIS, ADENOSTOMA FASCICULATUM AND QUERCUS AGRIFOLIA.  
 Threat: PRIME AREA FOR EVENTUAL DEVELOPMENT.  
 General: 50 PLANTS IN 1985.

Owner/Manager: PVT

**Eryngium aristulatum var. hooveri**

Hoover's button-celery

Element Code: PDAPI0Z043

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5T2	CNPS List: 1B.1
State: None	State: S2.1	

Habitat Associations

General: VERNAL POOLS.

Micro: ALKALINE DEPRESSIONS, VERNAL POOLS, ROADSIDE DITCHES AND OTHER WET PLACES NEAR THE COAST. 5-45M.

Occurrence No. 1	Map Index: 40783	EO Index: 56040	Dates Last Seen
Occ Rank: Unknown			Element: 1969-08-25
Origin: Natural/Native occurrence			Site: 1969-08-25
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2004-07-09

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.26430° / -120.69160°	Township: 31S
UTM: Zone-10 N3904796 E709985	Range: 12E
Radius: 3/5 mile	Section: 04
Elevation: 140 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

**Location:** LAGUNA DE SAN LUIS OBISPO.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB, IN THE VICINITY OF LAGUNA LAKE, SW OF SAN LUIS OBISPO.  
**Ecological:** PER KEIL, 1996, THIS MAY BE THE ONLY EXTANT POPULATION OF THIS PLANT. FOUND IN SEASONALLY WET GRASSY FIELDS AND PASTURE, WITH HEMIZONIA PARRYI SSP. CONGDONII.  
**Threat:** COMPETITION FROM POLYGONUM AMPHIBIUM & SCIRPUS ACUTUS.  
**General:** UNK # OF PLANTS SEEN IN 1905, 1908, 1912, 1946 & 1969. DURING 1996 SURVEY, PLANTS WERE FOUND E OF THE NW PORTION OF LAGUNA LAKE PARK; A FEW FOUND IN LET IT BE NATURE PRESERVE. 1 PLANT WAS FOUND IN THE PARK; SOME ON ADJACENT PVT PROPERTY.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO, PVT

Occurrence No. 10	Map Index: 57149	EO Index: 61445	Dates Last Seen
Occ Rank: Fair			Element: 2003-09-09
Origin: Natural/Native occurrence			Site: 2003-09-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-05-25

Quad Summary: Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.24612° / -120.65643°	Township: 31S
UTM: Zone-10 N3902855 E713231	Range: 12E
Area:	Section: 11
Elevation: 125 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: N
Symbol Type: POLYGON	

**Location:** SOUTH END OF SAN LUIS OBISPO, JUST NORTHWEST OF SLO COUNTY AIRPORT, TANK FARM ROAD VICINITY.  
**Location Detail:** MAPPED MOSTLY WITHIN THE N 1/2 OF SECTION 11.  
**Ecological:** FOUND IN LOW AREAS AND SWALES AT THE NON-NATIVE ANNUAL GRASSLAND/WETLAND HABITAT INTERFACE. ASSOCIATED WITH LOLIUM MULTIFLORUM, LOTUS CORNICULATUS, XANTHIUM STRUMARIUM, AND CENTROMADIA PARRYI SSP. CONGDONII.  
**Threat:** CATTLE GRAZING, VEHICLE TRAFFIC, & PREVIOUS INDUSTRIAL WORK ON PROPERTY. FUTURE PLANS FOR PROPERTY ARE UNKNOWN.  
**General:** HUNDREDS OF PLANTS SEEN IN 2003. THE RARE CENTROMADIA SSP. CONGDONII AND CALYSTEGIA SUBCAULIS SSP. EPISCOPALIS WERE ALSO OBSERVED IN THIS VICINITY.  
**Owner/Manager:** PVT

**Eucyclogobius newberryi**

tidewater goby

Element Code: AFCQN04010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G3 State: S2S3	CDFG Status: SC

**Habitat Associations**

**General:** BRACKISH WATER HABITATS ALONG THE CALIF COAST FROM AGUA HEDIONDA LAGOON, SAN DIEGO CO. TO THE MOUTH OF THE SMITH RIVER.  
**Micro:** FOUND IN SHALLOW LAGOONS AND LOWER STREAM REACHES, THEY NEED FAIRLY STILL BUT NOT STAGNANT WATER & HIGH OXYGEN LEVELS.

<b>Occurrence No.:</b> 51	<b>Map Index:</b> 12467	<b>EO Index:</b> 28529	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1984-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2008-02-17
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-19

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35028° / -120.83164°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914046 E697035	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 06 <b>Qtr:</b> SE
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M

**Location:** CHORRO CREEK, FROM MOUTH TO 2.0 MILES UPSTREAM, TRIBUTARY TO MORRO BAY.

**General:** LACM 35573-1, COLLECTED 1/19/76. POPULATION EXTANT IN MID-1984. NONE FOUND IN 1990, POSSIBLY DUE TO DROUGHT. 15-17 FEB 2008: 5 SEINE HAULS IN THE TIDAL PORTIONS OF CHORRO CREEK TOOK NO TIDWATER GOBIES.

**Owner/Manager:** DPR-MORRO BAY SP, PVT

<b>Occurrence No.:</b> 52	<b>Map Index:</b> 12519	<b>EO Index:</b> 28528	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1984-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1990-XX-XX
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-01-02

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32383° / -120.81000°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911155 E699067	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 8 <b>Qtr:</b> XX
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M

**Location:** LOS OSOS CREEK, FROM MOUTH TO 1.5 MILES UPSTREAM, TRIB TO MORRO BAY, ADJ TO TURRI RD.

**General:** LITTLE OR NO GENETIC EXCHANGE BTWN POPS. 58 SPECIMENS COLL FROM JAN 1968 THRU DEC 1970. LACM 42348-2, COLL 1/28/81. POP EXTANT IN MID-1984. NONE FOUND IN 1990, POSSIBLY DUE TO DROUGHT.

**Owner/Manager:** DPR-MORRO BAY SP, UNKNOWN

<b>Occurrence No.:</b> 53	<b>Map Index:</b> 12654	<b>EO Index:</b> 28527	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2008-02-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2008-02-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-19

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18439° / -120.70428°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3895905 E709036	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 31 <b>Qtr:</b> XX
<b>Elevation:</b> 20 ft	<b>Meridian:</b> M

**Location:** SAN LUIS OBISPO CREEK, FROM MOUTH TO 2.5 MILES UPSTREAM, 1.5 MILES ENE OF POINT SAN LUIS.

**Location Detail:** SITE OCCUPIES ABOUT 50 ACRES.

**General:** CAS SU 653. GOBIES FOUND HERE IN 1894 & 1916. NOT FOUND AGAIN UNTIL 1989 (LACM 44824-1) DESPITE COLLECTING BY MANY INDIVIDUALS IN THE INTERVENING YEARS. COLLECTED IN 1995. GOBIES COMMON & FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008

**Owner/Manager:** UNKNOWN

**Eucyclogobius newberryi**

tidewater goby

Element Code: AFCQN04010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** BRACKISH WATER HABITATS ALONG THE CALIF COAST FROM AGUA HEDIONDA LAGOON, SAN DIEGO CO. TO THE MOUTH OF THE SMITH RIVER.  
**Micro:** FOUND IN SHALLOW LAGOONS AND LOWER STREAM REACHES, THEY NEED FAIRLY STILL BUT NOT STAGNANT WATER & HIGH OXYGEN LEVELS.

<b>Occurrence No.</b> 54	<b>Map Index:</b> 12877	<b>EO Index:</b> 13128	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2008-02-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2008-02-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-19

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13946° / -120.63571°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891067 E715399	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 13 <b>Qtr:</b> XX
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M

**Mapping Precision:**NON-SPECIFIC  
**Symbol Type:**POLYGON

**Location:** PISMO CREEK (PRICE CANYON), FROM MOUTH TO 1.0 MILE UPSTREAM, PISMO BEACH.  
**Location Detail:** SITE OCCUPIES 7.5-10 ACRES. 2/13/96, 13 FISH RELOCATED OUT OF CONSTRUCTION ZONE.  
**General:** LACM 36673-3, COLLECTED 6/16/77. POPULATION PRESUMED EXTANT IN 1990 BY SWIFT. 2280 COLLECTED IN 1995. 347 COLLECTED FROM SEVERAL SAMPLE DATES IN 1996. GOBIES COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008.  
**Owner/Manager:** DPR-PISMO SB, PVT

<b>Occurrence No.</b> 95	<b>Map Index:</b> 36198	<b>EO Index:</b> 31195	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1995-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2008-02-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Fluctuating			<b>Record Last Updated:</b> 2008-02-19

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41732° / -120.86853°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921410 E693522	<b>Range:</b> 10E
<b>Area:</b>	<b>Section:</b> 11 <b>Qtr:</b> XX
<b>Elevation:</b> 20 ft	<b>Meridian:</b> M

**Mapping Precision:**NON-SPECIFIC  
**Symbol Type:**POLYGON

**Location:** TORO CREEK, 0.5 MILE NORTH OF MORRO BAY  
**Ecological:** WILLOW LINED LOWER CREEK W/LOW GRADIENT RIFFLE, SHALLOW POOLS. CHANNEL 4-7 FT WIDE. THIS IS PRESUMED TO BE AN "INTERMITTENT" POPULATION; AT TIMES APPEARS TO BE EXTIRPATED OR PRESENT AT UNDETECTABLE LEVELS. 2008: ALMOST NO LAGOON DEVELOPMENT  
**General:** DISCOVERED IN 1995. TIDEWATER GOBIES WERE NOT OBSERVED ON 15 MAR 2004. NO GOBIES IN 13-14 SEINE HAULS IN WATER TO ABOUT 70 CM DEEP ON 15-17 FEB 2008.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 105	<b>Map Index:</b> 42205	<b>EO Index:</b> 42205	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1998-10-05
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-10-05
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-01-19

**Quad Summary:** Port San Luis (3512027/222A), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25514° / -120.90112°	<b>Township:</b> 99X
<b>UTM:</b> Zone-10 N3903356 E690943	<b>Range:</b> 99X
<b>Radius:</b> 2/5 mile	<b>Section:</b> XX <b>Qtr:</b> XX
<b>Elevation:</b> 0 ft	<b>Meridian:</b> X

**Mapping Precision:**NON-SPECIFIC  
**Symbol Type:**POINT

**Location:** ~0.25 MILES OFFSHORE OF PT BUCHON, 0.5 MILE S OF MONTANA DE ORO STATE PARK SOUTHERN BOUNDRY, ~8 MILES S OF MORRO BAY.  
**Location Detail:** COLLECTED IN WATER COLUMN DURING NEARSHORE SAMPLING AT STATION B2A2, FOR THE 316B PROJECT (DIABLO CANYON POWER PLANT).  
**General:** 1 LARVAL FISH, 4MM LENGTH, WAS COLLECTED 1998  
**Owner/Manager:** UNKNOWN

**Eucyclogobius newberryi**

tidewater goby

Element Code: AFCQN04010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** BRACKISH WATER HABITATS ALONG THE CALIF COAST FROM AGUA HEDIONDA LAGOON, SAN DIEGO CO. TO THE MOUTH OF THE SMITH RIVER.  
**Micro:** FOUND IN SHALLOW LAGOONS AND LOWER STREAM REACHES, THEY NEED FAIRLY STILL BUT NOT STAGNANT WATER & HIGH OXYGEN LEVELS.

<b>Occurrence No.</b> 106	<b>Map Index:</b> 42215	<b>EO Index:</b> 42215	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1998-07-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-07-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-01-19

**Quad Summary:** Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.20698° / -120.85486°	<b>Township:</b> 99X
<b>UTM:</b> Zone-10 N3898105 E695268	<b>Range:</b> 99X
<b>Area:</b>	<b>Section:</b> XX <b>Qtr:</b> XX
<b>Elevation:</b> 0 ft	<b>Meridian:</b> X

**Location:** DIABLO CANYON POWER PLANT INTAKE COVE, DIABLO CANYON, 0.75 WNW OF GREEN PEAK, ~6.5 MILES NW OF POINT SAN LUIS.  
**Location Detail:** FROM ENTAINMENT SAMPLE, STATION IMD1 (STATIONS INSIDE DIABLO CANYON INTAKE COVE IN 30 FEET OF WATER ~30 FROM SHORE).  
**Ecological:** COLLECTED IN WATER COLUMN DURING ENTRAINMENT SAMPLING FOR THE 316-B PROJECT.  
**General:** 1 LARVAL FISH, LENGTH 4.3MM, 1998.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 107	<b>Map Index:</b> 42217	<b>EO Index:</b> 42217	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1999-08-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-08-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-01-19

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35477° / -120.84918°	<b>Township:</b> 99X
<b>UTM:</b> Zone-10 N3914510 E695430	<b>Range:</b> 99X
<b>Area:</b>	<b>Section:</b> XX <b>Qtr:</b> XX
<b>Elevation:</b> 0 ft	<b>Meridian:</b> X

**Location:** MORRO BAY MAIN CHANNEL, FROM 0.4 MILE SOUTH OF WHITE POINT TO THE POWER PLANT 0.5 MILES EAST OF MORRO ROCK, MORRO BAY.  
**Location Detail:** ALL SAMPLES WERE COLLECTED IN THAT WATER COLUMN DURING PLANKTON COLLECTIONS.  
**General:** 198 LARVAL FISH (LENGTH: 3-5MM) COLLECTED BETWEEN JUNE 21 AND AUG 9, 1999.

**Owner/Manager:** UNKNOWN

**Eumops perotis californicus**

western mastiff bat

Element Code: AMACD02011

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T4	CDFG Status: SC
State: None	State: S3?	

**Habitat Associations**

**General:** MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL ETC  
**Micro:** ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES & TUNNELS.

<b>Occurrence No.</b> 180	<b>Map Index:</b> 12855	<b>EO Index:</b> 66542	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1991-04-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1991-04-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-09-26

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.28302° / -120.64684°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3906969 E714007	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 25
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SAN LUIS OBISPO.

**Location Detail:** SPECIFIC LOCATION UNKNOWN. MAPPED ACCORDING TO LAT/LONG COORDINATES GIVEN BY PIERSON AND RAINEY.

**General:** SPECIMEN COLLECTED 29 APR 1991 AND DEPOSITED AT CNDDB.

**Owner/Manager:** UNKNOWN

Falco columbarius

merlin

Element Code: ABNKD06030

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G5	CDFG Status:
State: None	State: S3	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

**General:** SEACOAST, TIDAL ESTUARIES, OPEN WOODLANDS, SAVANNAHS, EDGES OF GRASSLANDS & DESERTS, FARMS & RANCHES.  
**Micro:** CLUMPS OF TREES OR WINDBREAKS ARE REQUIRED FOR ROOSTING IN OPEN COUNTRY.

Occurrence No. 16	Map Index: 71857	EO Index: 72728	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2004-01-14
Origin: Natural/Native occurrence			Site: 2004-01-14
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2008-07-30

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

Lat/Long: 35.34512° / -120.56774°	Township: 30S
UTM: Zone-10 N3914032 E721033	Range: 13E
Area: 10.0 acres	Section: 03
Elevation: 1,210 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

**Location:** SANTA MARGARITA (RANCHO SANTA MARGARITA), 1 MILE WEST & 1.7 MILES WSW OF FIVEMILE BRIDGE.  
**Location Detail:** CUESTA RIDGE VINEYARD, SANTA MARGARITA RANCH. MAPPED TO PROVIDED COORDINATES.  
**Ecological:** HABITAT CONSISTS OF VINEYARDS AND GRAZING LAND. THE MERLIN WAS OBSERVED PERCHING ON TOP OF OAKS SURROUNDING VINYARDS & HUNTING/CATCHING BIRDS FLUSHED FROM VINE ROWS. HABITAT QUALITY MARKED AS "EXCELLENT" & "FAIR."  
**General:** THOUGHT TO BE ONE BIRD SEEN TWICE ON 14 JAN & 10 FEB, 2004, AT TWO LOCATIONS APPROXIMATELY 0.8 MILES APART.  
**Owner/Manager:** SANTA MARGARITA RANCH, LLC



<b>Falco mexicanus</b>			
prairie falcon	Status	NDDB Element Ranks	Element Code: ABNKD06090
Federal: None	State: None	Global: G5 State: S3	Other Lists CDFG Status:
<b>Habitat Associations</b>			
General: INHABITS DRY, OPEN TERRAIN, EITHER LEVEL OR HILLY.			
Micro: BREEDING SITES LOCATED ON CLIFFS. FORAGES FAR AFIELD, EVEN TO MARSHLANDS AND OCEAN SHORES.			

Occurrence No. 297	Map Index: 13260	EO Index: 13067	Dates Last Seen
Occ Rank: Unknown			Element: 1978-XX-XX
Origin: Natural/Native occurrence			Site: 1978-XX-XX
Presence: Presumed Extant			Record Last Updated: 1989-08-10
Trend: Unknown			

**Quad Summary:** Lopez Mtn. (3512035/246D), Santa Margarita Lake (3512034/245C)  
**County Summary:** San Luis Obispo

* SENSITIVE *	Lat/Long:	Township:	
	UTM:	Range:	
	Radius:	Section:	Qtr:
	Elevation:	Meridian:	
	Mapping Precision:		
	Symbol Type:		

**Location:** \*SENSITIVE\* Location information suppressed.  
**Location Detail:** Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:  
 (916) 324-3812.

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**Owner/Manager:**

**Fritillaria viridea**

San Benito fritillary

Element Code: PMLILOV0L0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3 CNPS List: 1B.2  
 State: None State: S3.2

Habitat Associations: \_\_\_\_\_  
 General: CHAPARRAL.  
 Micro: SERPENTINE SLOPES. 200-1525M.

Occurrence No. 5 Map Index: 12860 EO Index: 854 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1964-04-15  
 Origin: Natural/Native occurrence Site: 1964-04-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-10-28

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34969° / -120.64684° Township: 30S  
 UTM: Zone-10 N3914364 E713832 Range: 12E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 1 Qtr: XX  
 Elevation: 1,600 ft Symbol Type: POINT Meridian: M

Location: RIDGE NORTHWEST OF CUESTA PASS.  
 General: SP SEEN 1964.  
 Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index: 12583 EO Index: 21956 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1929-04-16  
 Origin: Natural/Native occurrence Site: 1929-04-16  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1989-08-11

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.42774° / -120.76962° Township: 29S  
 UTM: Zone-10 N3922764 E702477 Range: 11E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 02 Qtr: SW  
 Elevation: 1,200 ft Symbol Type: POINT Meridian: M

Location: ALONG GRADE 6 MI ABOVE MORO (MORRO BAY) ON ATASCADERO ROAD (HIGHWAY 41).  
 General: 1925 PEIRSON COLLECTION, "MORRO CREEK, ELEV 1200 FT" ALSO ATTRIBUTED TO THIS SITE; CNDDDB ASSUMES ELEVATION REFERS TO SLOPES ABOVE CREEK. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 19 Map Index: 40956 EO Index: 60886 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2000-04-20  
 Origin: Natural/Native occurrence Site: 2000-04-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-04-05

Quad Summary: Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26565° / -120.73209° Township: 30S  
 UTM: Zone-10 N3904861 E706297 Range: 12E  
 Area: Mapping Precision: NON-SPECIFIC Section: 31 Qtr: XX  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: PREFUMO CANYON, 1.2 MI SOUTH OF LOS OSOS VALLEY ROAD.  
 Location Detail: DIRECTIONS UNCLEAR; MAPPED ALONG THE LENGTH OF THE CANYON.  
 Ecological: RIPARIAN AREA.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

**Helminthoglypta walkeriana**

Morro shoulderband (=banded dune) snail

Element Code: IMGASC2510

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1	CDFG Status:

**Habitat Associations**

**General:** RESTRICTED TO THE COASTAL STRAND IN THE IMMEDIATE VICINITY OF MORRO BAY.  
**Micro:** INHABITS THE DUFF BENEATH HAPLOPAPPUS, SALVIA, DUDLEYA, AND MESEMBRYANTHEMUM.

<b>Occurrence No. 1</b>	<b>Map Index:</b> 12355	<b>EO Index:</b> 14481	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown <b>Origin:</b> Natural/Native occurrence <b>Presence:</b> Presumed Extant <b>Trend:</b> Unknown			<b>Element:</b> 2003-XX-XX <b>Site:</b> 2003-XX-XX
			<b>Record Last Updated:</b> 2004-11-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32743° / -120.86430° <b>UTM:</b> Zone-10 N3911447 E694121 <b>Area:</b> 444.3 acres <b>Elevation:</b> 40 ft	<b>Mapping Precision:</b> SPECIFIC <b>Symbol Type:</b> POLYGON	<b>Township:</b> 30S <b>Range:</b> 10E <b>Section:</b> 02 <b>Meridian:</b> M	<b>Qtr:</b> SE
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**Location:** MORRO BAY STATE PARK.  
**Location Detail:** CLUMPED DISTRIBUTION.  
**Ecological:** HABITAT IS STABILIZED, VEGETATED DUNES (COASTAL DUNE SCRUB).  
**Threat:** HABITAT REDUCED FROM HISTORICAL LEVEL BY HOUSING DEVELOPMENT. COMPETITION MAY OCCUR WITH INVADING SNAIL SPECIES.  
**General:** MAXIMUM POPULATION ESTIMATED TO BE IN THE HUNDREDS. K-RAT MANAGEMENT MUST CONSIDER THIS SPECIES.  
**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No. 2</b>	<b>Map Index:</b> 12278	<b>EO Index:</b> 12932	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None <b>Origin:</b> Natural/Native occurrence <b>Presence:</b> Extirpated <b>Trend:</b> Unknown			<b>Element:</b> XXXX-XX-XX <b>Site:</b> 1985-09-XX
			<b>Record Last Updated:</b> 1989-08-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27718° / -120.88768° <b>UTM:</b> Zone-10 N3905827 E692115 <b>Radius:</b> 1 mile <b>Elevation:</b> 80 ft	<b>Mapping Precision:</b> NON-SPECIFIC <b>Symbol Type:</b> POINT	<b>Township:</b> 30S <b>Range:</b> 10E <b>Section:</b> 34 <b>Meridian:</b> M	<b>Qtr:</b> XX
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**Location:** MONTANA DE ORO STATE PARK.  
**General:** SHELLS HAVE BEEN COLLECTED HERE, BUT NO LIVE SNAILS HAVE BEEN FOUND. THIS PROBABLY REPRESENTS A FORMER WIDER RANGE OF THE MORRO BAY POPULATION, NOW APPARENTLY RESTRICTED MOSTLY TO THE SAND SPIT AND ADJACENT DUNES TO THE SOUTH.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

<b>Occurrence No. 6</b>	<b>Map Index:</b> 46828	<b>EO Index:</b> 46828	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good <b>Origin:</b> Natural/Native occurrence <b>Presence:</b> Presumed Extant <b>Trend:</b> Unknown			<b>Element:</b> 2003-XX-XX <b>Site:</b> 2003-XX-XX
			<b>Record Last Updated:</b> 2005-03-07

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.38337° / -120.86321° <b>UTM:</b> Zone-10 N3917654 E694086 <b>Area:</b> <b>Elevation:</b> 10 ft	<b>Mapping Precision:</b> NON-SPECIFIC <b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S <b>Range:</b> 10E <b>Section:</b> 23 <b>Meridian:</b> M	<b>Qtr:</b> XX
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**Location:** MORRO BAY, SOUTH END OF MORRO STRAND STATE BEACH; 0.35 MILES WEST OF HWY 1 AND NORTH TO WEST OF HIGH SCHOOL.  
**Ecological:** HABITAT CONSISTS OF COASTAL DUNES AND CREEK/DRAINAGE. DOMINANT VEGETATION CONSISTS OF LUPINUS CHAMMISSONIS, LESSINGIA FILAGINIFOLIA, CARPOBROTUS SP. AND AMMOPHILA ARENARIA.  
**Threat:** DRAINAGE MAINTANENCE, DEVELOPMENT, BIKE PATH AND POWER PLANT EXPANSION.  
**General:** 1 OCT 2001: 2 SHELLS FOUND. 7 FEB 2001: 33 JUVENILES. 1 MAR 2001: 4 SHELLS (1FRESH KILL), ALL ADULTS, FOUND IN EXCAVATED SOIL. 20 APR 2001: 1 LIVE SPECIMEN OBS UNDER ICEPLANT DUFF. 45 SHELLS COLLECTED TO BE DEPOSITED AT CAL ACAD OF SCI.  
**Owner/Manager:** DPR-MORRO STRAND SB

**Helminthoglypta walkeriana**

Morro shoulderband (=banded dune) snail

Element Code: IMGASC2510

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered	Global: G1	CDFG Status:
State: None	State: S1	

**Habitat Associations**

**General:** RESTRICTED TO THE COASTAL STRAND IN THE IMMEDIATE VICINITY OF MORRO BAY.  
**Micro:** INHABITS THE DUFF BENEATH HAPLOPAPPUS, SALVIA, DUDLEYA, AND MESEMBRYANTHEMUM.

<b>Occurrence No. 7</b>	<b>Map Index:</b> 46830	<b>EO Index:</b> 46830	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2001-03-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-03-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-03-07

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.38830° / -120.86208°	<b>UTM:</b> Zone-10 N3918204 E694177	<b>Area:</b> 10.0 acres	<b>Elevation:</b> 10 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 29S	<b>Range:</b> 10E	<b>Section:</b> 23	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** MORRO BAY, SOUTH CENTRAL MORRO STRAND STATE BEACH; 0.2 MILES WEST OF HWY 1 & 0.5 MILES NNW OF HIGH SCHOOL.  
**Ecological:** HABITAT CONSISTS OF ACTIVE COASTAL DUNE SCRUB. VEGETATION CONSISTS OF LUPINUS CHAMISSONIS, EUROPEAN BEACH GRASS, CARPOBROTUS SP., BACCHARIS PILULARIS AND ANNUAL WEEDS.  
**Threat:** DEVELOPMENT ("THE CLOISTERS"), BIKE PATH & SNAIL CONTROL BY RESIDENTS.  
**General:** 1 MAR 2001: FRESH SHELL OF 1 ADULT OBSERVED. 4 MAR 2001: 2 JUVENILES AND 1 SHELL OF UNKNOWN AGE OBSERVED. 24 MAR 2001: 1 SHELL OF UNKNOWN AGE COLLECTED.  
**Owner/Manager:** CITY OF MORRO BAY, PVT

<b>Occurrence No. 8</b>	<b>Map Index:</b> 48028	<b>EO Index:</b> 48028	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-05-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-05-31

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30579° / -120.83419°	<b>UTM:</b> Zone-10 N3909106 E696911	<b>Radius:</b> 1/10 mile	<b>Elevation:</b> 240 ft	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 11E	<b>Section:</b> 19	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** BAYVIEW SITE - SOUTH OF HIGHLAND DRIVE BETWEEN RODERSON AVE & BAYVIEW DRIVE.  
**Location Detail:** FOUND ON THE LOWER SLOPES IN THE COASTAL SCRUB HABITAT. UPPER SLOPES ARE MARITIME CHAPARRAL.  
**Ecological:** MATURE (IN 2002) COASTAL SCRUB.  
**Threat:** 1 BROWN GARDEN SNAIL SHELL (HELIX ASPERSA) ALSO FOUND.  
**General:** ABOUT 6 SHELLS FOUND, 2 OR 3 STILL HAD SOME OF THE THIN, BROWN PERIOSTRACUM PRESENT; THE OTHER 3 OR 4 WERE BLEACHED.  
**Owner/Manager:** DFG-MORRO DUNES ER

<b>Occurrence No. 9</b>	<b>Map Index:</b> 48030	<b>EO Index:</b> 48030	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2002-03-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-03-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-05-31

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30276° / -120.81604°	<b>UTM:</b> Zone-10 N3908806 E698569	<b>Radius:</b> 80 meters	<b>Elevation:</b> 146 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 11E	<b>Section:</b> 20	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** SOUTH OF PECHO VALLEY ROAD AND WEST OF LOS OSOS CREEK. ABOUT 1 MILE SOUTHEAST OF LOS OSOS.  
**Location Detail:** SNAIL FOUND IN COTTONWOOD (POPULUS FREMONTII) LEAF LITTER.  
**Ecological:** SITE CONTAINS OAK WOODLAND, COASTAL SCRUB & RIPARIAN AREAS.  
**Threat:** EXOTIC PLANT INVASIONS BY CAPE IVY AND VELD T GRASS  
**General:** ONE SNAIL OBSERVED.  
**Owner/Manager:** DPR-LOS OSOS OAKS SR

**Helminthoglypta walkeriana**

Morro shoulderband (=banded dune) snail

Element Code: IMGASC2510

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1	CDFG Status:

**Habitat Associations**

**General:** RESTRICTED TO THE COASTAL STRAND IN THE IMMEDIATE VICINITY OF MORRO BAY.  
**Micro:** INHABITS THE DUFF BENEATH HAPLOPAPPUS, SALVIA, DUDLEYA, AND MESEMBRYANTHEMUM.

<b>Occurrence No.</b> 13	<b>Map Index:</b> 54266	<b>EO Index:</b> 54266	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-09-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-09-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-02-04

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33190° / -120.84236°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911986 E696104	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 07
<b>Elevation:</b> 38 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** ALONG THE WEST SIDE PASADENA DRIVE, LOS OSOS.  
**Location Detail:** SHELLS OBSERVED AT 1107 PASADENA DRIVE, LOS OSOS.  
**Ecological:** HABITAT CONSISTS OF CENTRAL DUNE SCRUB, DOMINATED BY ERICAMERIA ERICOIDES, LUPINUS CHAMISSONIS, SALVIA MELLIFERA, MIMULUS AURANTIACUS, ERIOGONUM PARVIFOLIUM, AND ARTEMISIA CALIFORNICA. ERYSIMUM INSULARE SSP SUFRUTESCENS ALSO OCCURS HERE.  
**Threat:** THREATENED BY DEVELOPMENT/HOME CONSTRUCTION AND COMPETITION WITH THE EUROPEAN GARDEN SNAIL.  
**General:** 2 SUN-BLEACHED SHELLS COLLECTED, ALONG WITH SEVERAL SHELLS FROM HELMINTHOGLYPTA UMBILICATA, ON 12 SEP 2003.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 19	<b>Map Index:</b> 58052	<b>EO Index:</b> 58088	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2003-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-11-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34221° / -120.83487°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913145 E696760	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 06
<b>Elevation:</b> 0 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** ABOUT 1.6 MILES SSE OF CENTER OF TOWN OF MORRO BAY ON THE EDGE OF THE BAY.  
**General:** UNKNOWN NUMBER OF LIVE ADULTS COLLECTED IN AUTUMN 2003 FOR ANATOMICAL DESCRIPTION.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 20	<b>Map Index:</b> 12471	<b>EO Index:</b> 58092	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2003-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-04-26

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33357° / -120.82656°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912203 E697537	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 7
<b>Elevation:</b> 80 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** ELFIN FOREST, LOS OSOS BAYWOOD PARK.  
**Ecological:** BAYWOOD FINE SAND SOILS. MOCK HEATHER, BUCKBRUSH, BLACK SAGE.  
**General:** 55 SHELLS COLLECTED (18% WERE ADULTS) FOR MORPHOMETRIC ANALYSIS.  
**Owner/Manager:** DPR-MORRO BAY SP, SLO COUNTY

**Helminthoglypta walkeriana**

Morro shoulderband (=banded dune) snail

Element Code: IMGASC2510

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1	CDFG Status:

**Habitat Associations**

**General:** RESTRICTED TO THE COASTAL STRAND IN THE IMMEDIATE VICINITY OF MORRO BAY.  
**Micro:** INHABITS THE DUFF BENEATH HAPLOPAPPUS, SALVIA, DUDLEYA, AND MESEMBRYANTHEMUM.

<b>Occurrence No.:</b> 21	<b>Map Index:</b> 68056	<b>EO Index:</b> 68208	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2006-07-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-07-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-08

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30421° / -120.83024°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908939 E697273	<b>Range:</b> 11E
<b>Area:</b> 2.0 acres	<b>Section:</b> 19 <b>Qtr:</b> XX
<b>Elevation:</b> 280 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** 0.7 MILE SE OF THE INTERSECTION OF BAYVIEW HEIGHTS DRIVE AND CALLE CORDONIZ ROAD, LOS OSOS.  
**Location Detail:** HALF OF THIS 1.99 ACRE PARCEL AT 1039 BAYVIEW HEIGHTS DRIVE (APN 074-324-003) IS PROPOSED AS AN OPEN SPACE EASEMENT FOR MORRO MANZANITA, MORRO SHOULDERBAND SNAIL, AND CENTRAL MARITIME CHAPARRAL.  
**Ecological:** HABITAT CONSISTS OF CENTRAL MARITIME CHAPARRAL, DOMINATED BY ADENOSTOMA FASCICULATUM, MIMULUS AURANTIACUS, CEANOETHUS CUNEATUS SSP CUNEATUS, ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, AND ERICAMERIA ERICOIDES. RARE PLANT SPECIES ALSO PRESENT.  
**Threat:** THREATENED BY DEVELOPMENT AND INVASIVE PLANT SPECIES (ICEPLANT AND VELDT GRASS).  
**General:** 5 SNAILS OBSERVED ON 6 FEB 2006.  
**Owner/Manager:** PVT

**Horkelia cuneata ssp. puberula**

mesa horkelia

Element Code: PDROS0W045

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4T2	CNPS List: 1B.1
State: None	State: S2.1	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
**Micro:** SANDY OR GRAVELLY SITES. 70-810M.

<b>Occurrence No.</b> 53	<b>Map Index:</b> 28510	<b>EO Index:</b> 55043	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1966-05-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1966-05-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-04-09

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19955° / -120.66126°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897678 E712914	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 26
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** INDIAN KNOB RIDGE.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDb, IN THE VICINITY OF INDIAN KNOB RIDGE, APPROX. 3.7 MILES NNW OF PISMO BEACH, AND 1.7 MILES E OF HWY 101.

**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1966. NEEDS FIELDWORK.  
**Owner/Manager:** PVT-GUIDETTI RANCH,TNC,UNKNOWN

<b>Occurrence No.</b> 54	<b>Map Index:</b> 29111	<b>EO Index:</b> 55044	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-03-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-03-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-04-09

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.15892° / -120.63298°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3893232 E715596	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> XX
<b>Elevation:</b> 225 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 1.1 MILE NE OF PISMO. "ARROYO GRANDE TRIANGLE."  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDb, 1.1 MILE NE OF THE TOWN OF PISMO BEACH.

**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1936. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 55	<b>Map Index:</b> 55045	<b>EO Index:</b> 55045	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1971-04-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1971-04-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-04-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36153° / -120.65774°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915655 E712810	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 35
<b>Elevation:</b> 2,450 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** CUESTA RIDGE, IN CUESTA RIDGE BOTANICAL AREA ALONG THE RIDGE AT FIREBREAK.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDb, ALONG THE RIDGE AT FIREBREAK, APPROX. 4.5 MILES N OF SAN LUIS OBISPO, & 1.1 MILE W OF HWY 101.

**Ecological:** CUPRESSUS SARGENTII - QUERCUS DUMOSA DOMINATED WOODLAND ON SERPENTINE.  
**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1971. NEEDS FIELDWORK.

**Owner/Manager:** USFS-LOS PADRES NF

Horkelia cuneata ssp. puberula

mesa horkelia

Element Code: PDROS0W045

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G4T2	CNPS List: 1B.1
State: None	State: S2.1	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: SANDY OR GRAVELLY SITES. 70-810M.

Occurrence No. 56	Map Index: 25134	EO Index: 55046	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1959-04-23
Origin: Natural/Native occurrence			Site: 1959-04-23
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2004-04-09

Quad Summary: Atascadero (3512046/246B), Templeton (3512056/269C)  
 County Summary: San Luis Obispo

Lat/Long: 35.48708° / -120.66995°	Township: 28S
UTM: Zone-10 N3929556 E711372	Range: 12E
Radius: 1 mile	Section: 15
Elevation: 900 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: ATASCADERO.  
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB, IN THE VICINITY OF ATASCADERO.  
 General: 1927 COLLECTION BY SEITZ, 1947 COLLECTION BY HOOVER, AND 1958 COLLECTION BY HARDHAM FROM "ATASCADERO" ATTRIBUTED TO THIS SITE. UNKNOWN NUMBER OF PLANTS SEEN IN 1927, 1947, 1958 & 1959. NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN



*Lasthenia glabrata* ssp. *coulteri*

Coulter's goldfields

Element Code: PDAST5L0A1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G4T3 State: S2.1	CNPS List: 1B.1

**Habitat Associations**

**General:** COASTAL SALT MARSHES, PLAYAS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.

**Micro:** USUALLY FOUND ON ALKALINE SOILS IN PLAYAS, SINKS, AND GRASSLANDS. 1-1400M.

<b>Occurrence No.</b> 54	<b>Map Index:</b> 12422	<b>EO Index:</b> 2495	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1981-04-25
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1981-04-25
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-09-12

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32163° / -120.84545°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910841 E695849	<b>Range:</b> 10E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 13
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NE
<b>Symbol Type:</b> POINT	

**Location:** BAYWOOD PARK AT SWEET SPRINGS MARSH, SOUTHERN END OF MORRO BAY SALT MARSH.

**Ecological:** FRESHWATER SPRING EMPTYING INTO SALT MARSH. ASSOCIATED WITH PLANTED EUCALYPTUS GLOBULUS AND CUPRESSUS MACROCARPA.

**General:** LOCALLY COMMON IN 1939. ONLY SOURCES OF INFORMATION FOR THIS SITE ARE 1981 COLLECTION BY KEIL & 1982 COLLECTION BY CARDWELL. PLANT PRESENT IN 1999. MANAGED BY AUDUBON.

**Owner/Manager:** STATE (MGMT BY AUDUBON)

**Laterallus jamaicensis coturniculus**

California black rail

Element Code: ABNME03041

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4T1	CDFG Status:
State: Threatened	State: S1	

**Habitat Associations**

**General:** INHABITS FRESHWATER MARTSHES, WET MEADOWS & SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.  
**Micro:** NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DOES NOT FLUCTUATE DURING THE YEAR & DENSE VEGETATION FOR NESTING HABITAT.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12462	<b>EO Index:</b> 25826	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1977-04-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1977-04-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34635° / -120.83017°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913613 E697178	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 06
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> E
<b>Symbol Type:</b> POINT	

**Location:** MORRO BAY.  
**General:** 5 RAILS OBSERVED IN SALICORNIA MARSH.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 113	<b>Map Index:</b> 39085	<b>EO Index:</b> 34092	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1998-06-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-06-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-12-14

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32161° / -120.84184°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910846 E696177	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 18
<b>Elevation:</b> 2 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SWEET SPRINGS PRESERVE, ADJACENT TO CUESTA-BY-THE-SEA, AT THE SOUTH END OF MORRO BAY.  
**Location Detail:** RAIL FOUND BETWEEN SWEET SPRINGS POOLS AND SALICORNIA-DOMINATED INTERTIDAL MARSH.  
**Ecological:** HABITAT CONSISTS OF COASTAL BRACKISH MARSH, DOMINATED BY SCIRPUS.  
**Threat:** THREATS INCLUDE DOGS AND HUMANS USING NEARBY TRAILS.  
**General:** A SINGLE RAIL WAS HEARD CALLING IN EARLY MORNING ON 24 JUN 1998; BIRD CALLED FREQUENTLY FOR ABOUT 15 MINUTES.  
**Owner/Manager:** AUDUBON-MORRO BAY CHAPTER

Layia heterotricha

pale-yellow layia

Element Code: PDAST5N070

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2G3 CNPS List: 1B.1  
 State: None State: S2S3.1

Habitat Associations

General: CISMONTANE WOODLAND, PINYON-JUNIPER WOODLAND, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: ALKALINE OR CLAY SOILS; OPEN AREAS. 270-1365 (2675)M.

Occurrence No. 59 Map Index: 67309 EO Index: 67474 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1981-04-18  
 Origin: Natural/Native occurrence Site: 1981-04-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-12-06

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.40910° / -120.56757° Township: 29S  
 UTM: Zone-10 N3921130 E720874 Range: 13E  
 Radius: 1/10 mile Mapping Precision: NON-SPECIFIC Section: 15 Qtr: NW  
 Elevation: Symbol Type: POINT Meridian: M

Location: CA HIGHWAY 58 AT THE SALINAS RIVER BRIDGE AT THE HEAD OF CALF CANYON.  
 Location Detail: 2005 AERIAL PHOTO SHOWS THAT THERE ARE NOW TWO BRIDGES ACROSS THE SALINAS RIVER AT THIS POINT, AND THAT HIGHWAY 58 HAS BEEN RE-ROUTED ACROSS THE NEW BRIDGE. UNCERTAIN WHETHER THIS COLLECTION WAS TAKEN AT THE OLD OR NEW BRIDGE.

Ecological: ROADSIDE WITH RIBES AUREUM AND CEANOTHUS LEUCODERMIS.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1981 COLLECTION BY LUCKLOW.

Owner/Manager: UNKNOWN

Layia jonesii

Jones' layia

Element Code: PDAST5N090

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.2  
 State: None State: S1.1

Habitat Associations

General: CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
 Micro: CLAY SOILS AND SERPENTINE OUTCROPS. 5-155M.

Occurrence No. 1 Map Index: 12645 EO Index: 16729 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1984-XX-XX  
 Origin: Natural/Native occurrence Site: 1984-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-24

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.30402° / -120.73168° Township: 30S  
 UTM: Zone-10 N3909118 E706237 Range: 12E  
 Area: 14.4 acres Mapping Precision: SPECIFIC Section: 19 Qtr: NW  
 Elevation: 240 ft Symbol Type: POLYGON Meridian: M

Location: JUST S OF O'CONNOR WAY, SOUTH OF CERRO ROMAULDO.  
 General: MCLEOD 1984 MAP IS ONLY INFORMATION; NEEDS FIELDWORK.  
 Owner/Manager: PVT

Occurrence No. 2 Map Index: 17836 EO Index: 16725 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1948-04-22  
 Origin: Natural/Native occurrence Site: 1948-04-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1989-08-11

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.29887° / -120.70717° Township: 30S  
 UTM: Zone-10 N3908598 E708479 Range: 12E  
 Radius: 3/5 mile Mapping Precision: NON-SPECIFIC Section: 20 Qtr: XX  
 Elevation: 400 ft Symbol Type: POINT Meridian: M

Location: WESTERN BASE OF MOUNT BISHOP NEAR SAN LUIS OBISPO.  
 Ecological: IN CLAY SOIL DERIVED FROM SERPENTINE ROCK.  
 General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1948 COLLECTION BY HOOVER.  
 Owner/Manager: PVT, DPR-MORRO BAY SP

Occurrence No. 3 Map Index: 12693 EO Index: 21813 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1936-03-22  
 Origin: Natural/Native occurrence Site: 1936-03-22  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-12-04

Quad Summary: Pismo Beach (3512026/221B), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26345° / -120.69302° Township: 30S  
 UTM: Zone-10 N3904699 E709857 Range: 12E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 4 Qtr: XX  
 Elevation: 350 ft Symbol Type: POINT Meridian: M

Location: 1.75 MILE SOUTHWEST OF SAN LUIS OBISPO.  
 General: NONE.  
 Owner/Manager: PVT

**Layia jonesii**

Jones' layia

Element Code: PDAST5N090

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CNPS List: 1B.2
State: None	State: S1.1	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** CLAY SOILS AND SERPENTINE OUTCROPS. 5-155M.

<b>Occurrence No.</b> 4	<b>Map Index:</b> 12703	<b>EO Index:</b> 16727	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-03-27
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-03-27
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.23302° / -120.69795°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3901313 E709487	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 16
<b>Elevation:</b> 500 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** 0.75 MILE SOUTHEAST OF MINE HILL, SOUTH OF SAN LUIS OBISPO.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 5	<b>Map Index:</b> 12535	<b>EO Index:</b> 16726	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D), Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.37469° / -120.79685°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3916824 E700136	<b>Range:</b> 11E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 28
<b>Elevation:</b> 160 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** 1 MI UP SAN BERNARDO CREEK, FROM HWY 1, EAST OF MORRO BAY.

**Ecological:** ON SERPENTINE OUTCROP.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12560	<b>EO Index:</b> 16724	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-05-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-05-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35468° / -120.78295°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3914632 E701449	<b>Range:</b> 11E
<b>Radius:</b> 1 mile	<b>Section:</b> 34
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> S
<b>Symbol Type:</b> POINT	

**Location:** 3 MI E OF MORRO ON RD TO SAN LUIS OBISPO (HWY 1).

**Location Detail:** FROM NOT FAR SOUTH OF CAYUCOS TO THIS POINT, BUT NOT OBSERVED FURTHER EAST (IN 1933).

**Ecological:** IN PASTURES.

**General:** 1936 COLLECTION BY EASTWOOD FROM EAST OF MORRO ON ROAD TO SAN LUIS OBISPO ATTRIBUTED TO THIS SITE.

**Owner/Manager:** PVT

**Layia jonesii**

Jones' layia

Element Code: PDAST5N090

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CNPS List: 1B.2
State: None	State: S1.1	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** CLAY SOILS AND SERPENTINE OUTCROPS. 5-155M.

<b>Occurrence No. 7</b>	<b>Map Index:</b> 12347	<b>EO Index:</b> 16722	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1947-04-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1947-04-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Cayucos (3512048/247B), Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40997° / -120.86852°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3920595 E693540	<b>Range:</b> 10E
<b>Radius:</b> 1 mile	<b>Section:</b> 14
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** ODD FELLOWS CEMETERY, NEAR MOUTH OF TORO CREEK.  
**Location Detail:** TO MORRO CREEK (1933).  
**Ecological:** IN ADOBE SOIL ON NORTH SLOPE OF STEEP HILLSIDE AMONG GRASSES, WITH NASSELLA PULCHRA, BROMUS RIGIDUS, PLANTAGO ERECTA, ASTRAGALUS LEUCOPSIS, ETC.

**Owner/Manager:** PVT

<b>Occurrence No. 9</b>	<b>Map Index:</b> 40404	<b>EO Index:</b> 35411	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1960-05-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1960-05-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-12-16

**Quad Summary:** Morro Bay South (3512037/247D), Morro Bay North (3512047/247A), Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30762° / -120.87208°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909234 E693461	<b>Range:</b> 10E
<b>Radius:</b> 5 mile	<b>Section:</b> 23
<b>Elevation:</b> 150 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** COASTAL MESAS NEAR MORRO BAY.  
**Location Detail:** EXACT LOCATION NOT KNOWN. MAPPED IN THE GENERAL AREA OF MORRO BAY.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY EASTWOOD AND HOWELL. 1960 COLLECTION BY BACIGALUPI FROM MORRO BEACH ATTRIBUTED TO THIS SITE.

**Owner/Manager:** UNKNOWN

<b>Occurrence No. 12</b>	<b>Map Index:</b> 39802	<b>EO Index:</b> 35410	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1987-04-26
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1987-04-26
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-12-16

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30038° / -120.62003°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908953 E716400	<b>Range:</b> 13E
<b>Area:</b> 24.7 acres	<b>Section:</b> 19
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** ABOUT 1 MILE NORTH OF RESERVOIR CANYON & 0.3 MILE EAST OF HIGHWAY 101, EAST OF SAN LUIS OBISPO.  
**Location Detail:** ABOUT 0.5 MILE NORTH OF WATER TANK NORTH OF RESERVOIR CANYON. POPULATION RUNS FROM 848' HILLTOP EAST ALONG RIDGE TO INTERMITTENT STREAM VALLEY AND ADJOINING W-FACING SLOPE.  
**Ecological:** ON EXPOSED SERPENTINE RIDGETOP SURROUNDED BY GRASSLAND. GROWING WITH YUCCA AND DUDLEYA ABRAMSII MURINA. GROWING ON SOUTH, WEST, AND NORTH-FACING SLOPES. CHORIZANTHE BREWERI IS IN THIS VICINITY TOO.

**Threat:** POSSIBLE THREAT FROM GRAZING.  
**General:** ABOUT 50 PLANTS OBSERVED IN 1987.

**Owner/Manager:** PVT

**Layia jonesii**

Jones' layia

Element Code: PDAST5N090

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CNPS List: 1B.2
State: None	State: S1.1	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.  
**Micro:** CLAY SOILS AND SERPENTINE OUTCROPS. 5-155M.

<b>Occurrence No.</b> 13	<b>Map Index:</b> 61370	<b>EO Index:</b> 61406	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-19

**Quad Summary:** Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31971° / -120.74815°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910825 E704699	<b>Range:</b> 11E
<b>Area:</b> 7.1 acres	<b>Section:</b> 13
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** FIRST RIDGE WEST OF CERRO ROMUALDO, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA A. MOST SITES SURVEYED IN 2002; ONE COLONY SURVEYED IN 2003.  
**Ecological:** CLAY STEEP SLOPE WITH SISYRINCHIUM BELLUM, CALYSTEGIA MACROSTEGIA, BLOOMERIA CROCEA, HEMIZONIA CONGESTA SSP. LUZULIFOLIA, DELPHINIUM PARRYI, CHLOROGALUM POMERIDIANUM, AND NASSELLA.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
**General:** MORE THAN 800 PLANTS SEEN IN 2002. PLANTS WERE LOCALLY COMMON AND IT WAS A GOOD YEAR ACCORDING TO WETHERWAX AND PAINTER. THE RARE DUDLEYA ABRAMSII SSP. BETTINAE AND LOMATIUM PARVIFOLIUM ALSO OCCUR AT THIS SITE.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 14	<b>Map Index:</b> 61373	<b>EO Index:</b> 61409	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2000-04-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-04-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-19

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33938° / -120.68937°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913130 E709993	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 04
<b>Elevation:</b> 740 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** SOUTH END OF LARGE SERPENTINE OUTCROP WEST OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA T.  
**Ecological:** CLAY STEEP SLOPE WITH SISYRINCHIUM BELLUM, CALYSTEGIA MACROSTEGIA, BLOOMERIA CROCEA, HEMIZONIA CONGESTA SSP. LUZULIFOLIA, DELPHINIUM PARRYI, CHLOROGALUM POMERIDIANUM, AND NASSELLA.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
**General:** LESS THAN 100 PLANTS SEEN IN 2002. THE RARE DUDLEYA ABRAMSII SSP. MURINA, STREPTANTHUS ALBIDUS SSP. PERAMOENUS, AND CHORIZANTHE BREWERI.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Layia jonesii**

Jones' layia

Element Code: PDAST5N090

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CNPS List: 1B.2
State: None	State: S1.1	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.

**Micro:** CLAY SOILS AND SERPENTINE OUTCROPS. 5-155M.

<b>Occurrence No.</b> 15	<b>Map Index:</b> 59926	<b>EO Index:</b> 61451	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1979-05-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1979-05-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-26

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31507° / -120.64993°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910518 E713642	<b>Range:</b> 12E
<b>Radius:</b> 4/5 mile	<b>Section:</b> 14
<b>Elevation:</b> 800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** POLY CANYON ABOVE BRIZZOLARI CREEK, SAN LUIS OBISPO.

**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB IN GENERAL VICINITY OF POLY CANYON.

**Ecological:** ON GRASSY HILLSIDE, CANYON ABOVE CREEK, SOIL IN AREA DERIVED FROM SERPENTINE.

**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1979 COLLECTION BY ASHLEY. NEEDS FIELDWORK.

**Owner/Manager:** UNKNOWN



Linderiella occidentalis

California linderiella

Element Code: ICBRA06010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3	CDFG Status:
State: None	State: S2S3	

**Habitat Associations**

**General:** SEASONAL POOLS IN UNFLOWED GRASSLANDS WITH OLD ALLUVIAL SOILS UNDERLAIN BY HARDPAN OR IN SANDSTONE DEPRESSIONS.  
**Micro:** WATER IN THE POOLS HAS VERY LOW ALKALINITY, CONDUCTIVITY, AND TDS.

<b>Occurrence No.</b> 186	<b>Map Index:</b> 42793	<b>EO Index:</b> 42793	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2000-03-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-03-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-04-18

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35546° / -120.69122°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3914910 E709783	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 33
<b>Elevation:</b> 1,300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POINT	

**Location:** BETWEEN THE UPPER ENDS OF DAIRY CREEK & CHORRO CREEK, 4 MILES NORTH OF SAN LUIS OBISPO.  
**Location Detail:** POND IS LOCATED ON LEVEL LAND SURROUNDED BY STEEP SLOPES.  
**Ecological:** HABITAT CONSISTS OF A POND (MOST LIKELY MAN-MADE); SURROUNDED BY GRAZED ANNUAL GRASSLAND. MAXIMUM POOL SURFACE IS 250 SQ METERS (MAX DEPTH = 70CM, AVE DEPTH = 45CM).  
**Threat:** THREATENED BY OVER-GRAZING BY CATTLE.  
**General:** 100+ ADULTS OBSERVED ON 24 MAR 2000; VOUCHER SPECIMEN SUBMITTED TO LACM.  
**Owner/Manager:** DOD-CALIFORNIA NATIONAL GUARD

<b>Occurrence No.</b> 216	<b>Map Index:</b> 51873	<b>EO Index:</b> 51873	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-02-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-02-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41534° / -120.59438°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921763 E718422	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 08
<b>Elevation:</b> 968 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 0.7 MILE ESE OF THE INTERSECTION OF OAK ROAD AND EL CAMINO REAL, 6 MILES SSE OF ATASCADERO.  
**Location Detail:** DESIGNATED SMR POND 9. THIS POND WAS CREATED WHEN HANSEN MINE ACCESS ROAD WAS BUILT, BISECTING A WETLAND DRAINAGE, WITH NO CULVERT INSTALLED.  
**Ecological:** HABITAT CONSISTS OF A SMALL, EPHEMERAL POND, SURROUNDED BY NON-NATIVE GRASSLAND/OAK SAVANNAH. POND DIMENSIONS (2003 SURVEY) WERE ~50' X 20'; BOTTOM SEDIMENTS ARE A FINE MUD, TURBIDITY IS LOW. ELEOCHARIS IS THE DOMINANT EMERGENT VEGETATION.  
**Threat:** THREATENED BY POLLUTANT INPUTS FROM VEHICLE TRAFFIC ON HANSON MINE ROAD RECEIVES HIGH TRUCK TRAFFIC.  
**General:** AN UNKNOWN NUMBER COLLECTED ON 10 FEB 2003 AND DEPOSITED AT CAS.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

Linderiella occidentalis

California linderiella

Element Code: ICBRA06010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G3 State: S2S3	CDFG Status:

**Habitat Associations**

**General:** SEASONAL POOLS IN UNFLOWED GRASSLANDS WITH OLD ALLUVIAL SOILS UNDERLAIN BY HARDPAN OR IN SANDSTONE DEPRESSIONS.  
**Micro:** WATER IN THE POOLS HAS VERY LOW ALKALINITY, CONDUCTIVITY, AND TDS.

<b>Occurrence No.</b> 217	<b>Map Index:</b> 51857	<b>EO Index:</b> 51876	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-04-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-29

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40944° / -120.60027°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921095 E717903	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 17 <b>Qtr:</b> XX
<b>Elevation:</b> 1,029 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** 0.3 MILE SE OF THE INTERSECTION OF OAK ROAD AND EL CAMINO REAL, 6 MILES SSE OF ATASCADERO  
**Location Detail:** DESIGNATED SMR POND 31.  
**Ecological:** HABITAT CONSISTS OF A SMALL, WETLAND POOL (MAXIMUM DEPTH = 6"), ADJACENT TO A PUMPING STATION/TANK FARM; SURROUNDED BY VALLEY OAK SAVANNAH/MIXED OAK WOODLANDS TO THE EAST. SCAPHIOPUS HAMMONDII TADPOLES ALSO FOUND AT THIS SITE.  
**General:** AN UNKNOWN NUMBER OF IMMATURE SHRIMP OBSERVED ON 1 APR 2003; NO SHRIMP FOUND ON SUBSEQUENT VISITS DURING 2003.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Occurrence No.</b> 218	<b>Map Index:</b> 51877	<b>EO Index:</b> 51877	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-04-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-29

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.42527° / -120.59610°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3922861 E718239	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 05 <b>Qtr:</b> XX
<b>Elevation:</b> 981 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** 1 MILE NNE OF THE INTERSECTION OF OAK ROAD AND EL CAMINO REAL, 5 MILES SSE OF ATASCADERO  
**Location Detail:** DESIGNATED SMR POND 24.  
**Ecological:** HABITAT CONSISTS OF A SMALL DEPRESSION POOL AT THE BOTTOM OF A NATURAL SWALE; POOL IS EPHEMERAL; SURROUNDED BY GRAZED ANNUAL GRASSLAND.  
**General:** IMMATURE FAIRY SHRIMP, WITH A FEW GRAVID FEMALES, WERE OBSERVED AND KEYED IN THE FIELD ON 9 APR 2003; NO VOUCHER SPECIMENS COLLECTED. IN 2003, THE POOL DRIED UP BEFORE THE FAIRY SHRIMP REACHED MATURITY.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

**Lupinus ludovicianus**

San Luis Obispo County lupine

Element Code: PDFAB2B2G0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** OPEN AREAS IN SANDY SOIL, SANTA MARGARITA FORMATION. 50-525M.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 12854	<b>EO Index:</b> 19192	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1980-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1986-07-07
<b>Presence:</b> Possibly Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-12-23

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.20218° / -120.64567°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3898003 E714327	<b>Range:</b> 12E
<b>Area:</b> 12.5 acres	<b>Section:</b> 25
<b>Elevation:</b> 320 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** ABOUT 0.8 MILE ENE OF INDIAN KNOB ALONG BOTH SIDES OF DIRT ROAD, NORTH OF PISMO BEACH.  
**Location Detail:** MAPPED ALONG BOTH SIDES OF ROAD WITHIN THE SW 1/4 NW 1/4 SECTION 25.  
**Ecological:** ON SILICEOUS SANDSTONE OF SANTA MARGARITA FORMATION.  
**Threat:** RANCHING WITH GRAZING IN VICINITY.  
**General:** 200 PLANTS SEEN IN 1980; REDUCED TO 60 PLANTS AFTER CATTLE DRIVEN THROUGH SITE. SITE HAS NOT BEEN SEEN SINCE 1980; ACCESS LIMITED.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 10	<b>Map Index:</b> 13067	<b>EO Index:</b> 19195	<b>Dates Last Seen</b>
<b>Occ Rank:</b> None			<b>Element:</b> 1906-05-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1986-06-01
<b>Presence:</b> Extirpated			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1996-11-20

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16830° / -120.59267°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894361 E719244	<b>Range:</b> 13E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 4
<b>Elevation:</b> 440 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** OAK PARK (SCH) ALONG ROAD 1.9 MILES SOUTHEAST OF TIBER SIDING ON SPRR, 2 MILES SOUTH OF EDNA STATION.  
**General:** MALCOLM MCLEOD AND RHONDA RIGINS-PIMENTEL HAVE REPEATEDLY SEARCHED AREA, BUT NO PLANTS FOUND. OAK PARK SCHOOL WAS RAZED MANY YEARS AGO AND HOUSE NOW ON SITE.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 17	<b>Map Index:</b> 12899	<b>EO Index:</b> 13876	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1982-04-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1982-04-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-11

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.19729° / -120.63390°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897486 E715411	<b>Range:</b> 12E
<b>Area:</b> 44.6 acres	<b>Section:</b> 25
<b>Elevation:</b> 440 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** HILLS N OF PRICE CANYON, N OF PISMO CR, NNE OF PISMO BEACH.  
**Ecological:** PLANTS ON SANTA MARGARITA FORMATION SAND.  
**General:** ACCESS DENIED SINCE 1980. PLANTS DO BEST AROUND GOPHER DIGGINGS.  
**Owner/Manager:** PVT

**Lupinus ludovicianus**

San Luis Obispo County lupine

Element Code: PDFAB2B2G0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, CISMONTANE WOODLAND.  
**Micro:** OPEN AREAS IN SANDY SOIL, SANTA MARGARITA FORMATION. 50-525M.

<b>Occurrence No.:</b> 24	<b>Map Index:</b> 24010	<b>EO Index:</b> 7299	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2004-06-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-06-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-19

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35451° / -120.55121°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915110 E722509	<b>Range:</b> 13E
<b>Area:</b> 2.1 acres	<b>Section:</b> 35 <b>Qtr:</b> SW
<b>Elevation:</b> 1,200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** SANTA MARGARITA RANCH, APPROX 0.6 MILE WEST OF JCT OF POZO ROAD AND LAS PILITAS ROAD, CUESTA RIDGE VINEYARD.  
**Location Detail:** WEST OF UNMAPPED DIRT ROAD ON THE NE SIDE OF LOW RIDGE. MAPPED IN SE1/4 OF SW1/4 SEC 35.  
**Ecological:** IN GRASSLAND/SAVANNA WITH VALLEY OAK. ASSOCIATED WITH CHORIZANTHE RECTISPINA, TRICHOSTEMMA LANCEOLATUM, CLARKIA SPECIOSA SSP. SPECIOSA, LESSINGIA FILAGINIFOLIA, LINANTHUS LINIFLORUS, NAVARRETIA ATRACTYLOIDES, BROMUS HORDEACEUS, ETC.  
**Threat:** VINEYARD CONVERSION, GRAZING FOR WEED CONTROL.  
**General:** 30 PLANTS OVER ABOUT 1/20 ACRE IN 1993. 250 PLANTS SEEN IN 2004. PLANTS WERE NOT EXTIRPATED BY VINEYARD INSTALLATION IN 2000.  
**Owner/Manager:** PVT

Malacothamnus palmeri var. involuocratus

Carmel Valley bush-mallow

Element Code: PDMAL0Q0B1

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
Federal: None Global: G3T2Q CNPS List: 1B.2  
State: None State: S2.2

Habitat Associations

General: CISMONTANE WOODLAND, CHAPARRAL.

Micro: TALUS HILLTOPS AND SLOPES, SOMETIMES ON SERPENTINE. BURN DEPENDENT. 30-1100M.

Occurrence No. 1 Map Index: 28911 EO Index: 29878 Dates Last Seen: \_\_\_\_\_  
Occ Rank: Unknown Element: 1946-06-29  
Origin: Natural/Native occurrence Site: 1946-06-29  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 1997-03-07

Quad Summary: Atascadero (3512046/246B)

County Summary: San Luis Obispo

Lat/Long: 35.42461° / -120.73998° Township: 29S  
UTM: Zone-10 N3922478 E705176 Range: 11E  
Radius: 3/5 mile Mapping Precision: NON-SPECIFIC Section: 12 Qtr: NE  
Elevation: 1,200 ft Symbol Type: POINT Meridian: M

Location: NEAR CERRO ALTO PUBLIC CAMP, BETWEEN MORRO BAY AND ATASCADERO.

Location Detail: MAPPED IN VICINITY OF CERRO ALTO CAMPGROUND ON THE NORTHWEST SLOPE OF CERRO ALTO.

Ecological: STEEP ROCKY SLOPE.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1947 COLLECTION BY HOOVER.

Owner/Manager: UNKNOWN

Malacothamnus palmeri var. palmeri

Santa Lucia bush-mallow

Element Code: PDMAL0Q0B5

Status

NDDB Element Ranks

Other Lists

Federal: None

Global: G3T2Q

CNPS List: 1B.2

State: None

State: S2.2

Habitat Associations

General: CHAPARRAL.

Micro: DRY ROCKY SLOPES, MOSTLY NEAR SUMMITS, BUT OCCASIONALLY EXTENDING DOWN CANYONS TO THE SEA. 60-365M.

Occurrence No. 3

Map Index: 58799

EO Index: 58835

Dates Last Seen

Occ Rank: Unknown

Element: 1927-07-31

Origin: Natural/Native occurrence

Site: 1927-07-31

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2004-12-20

Quad Summary: Atascadero (3512046/246B), Morro Bay North (3512047/247A)

County Summary: San Luis Obispo

Lat/Long: 35.42911° / -120.75187°

Township: 29S

UTM: Zone-10 N3922953 E704086

Range: 11E

Area:

Mapping PrecisionNON-SPECIFIC

Section: 01

Qtr: N

Elevation: 1,000 ft

Symbol Type:POLYGON

Meridian: M

Location: ALONG ROAD BETWEEN ATASCADERO AND MORRO BAY (HIGHWAY 41); NORTHWEST OF CERRO ALTO.

Location Detail: MAPPED ALONG ROAD AT 1000 FT ELEVATION CITED IN SOURCE.

Ecological: CHAPARRAL.

General: NEEDS FIELDWORK.

Owner/Manager: USFS-LOS PADRES NF

Monardella crispa

crisp monardella

Element Code: PDLAM18070

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
Federal: None Global: G2 CNPS List: 1B.2  
State: None State: S2.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: COASTAL DUNES, COASTAL SCRUB.

Micro: OFTEN ON THE BORDERS OF OPEN, SAND AREAS, USUALLY ADJACENT TO TYPICAL BACKDUNE SCRUB VEGETATION. 5-120M.

Occurrence No. 34 Map Index: 55468 EO Index: 55468 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
Occ Rank: Unknown Element: 1964-06-27  
Origin: Natural/Native occurrence Site: 1964-06-27  
Presence: Presumed Extant  
Trend: Unknown Record Last Updated: 2004-05-12

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.28782° / -120.88088° Township: 30S  
UTM: Zone-10 N3907021 E692708 Range: 10E  
Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: XX  
Elevation: Symbol Type: POINT Meridian: M

Location: HAZARD CANYON, SAN LUIS OBISPO COUNTY.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AT MOUTH OF CANYON NEAR SAND DUNES.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1964 COLLECTION BY HARDHAM. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

**Monardella frutescens**

San Luis Obispo monardella

Element Code: PDLAM180X0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2 State: S2.2	CNPS List: 1B.2

**Habitat Associations**

**General:** COASTAL DUNES, COASTAL SCRUB.  
**Micro:** STABILIZED SAND OF THE IMMEDIATE COAST. 10-100M.

<b>Occurrence No.:</b> 8	<b>Map Index:</b> 40404	<b>EO Index:</b> 35614	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1963-06-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1963-06-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-01-14

**Quad Summary:** Morro Bay South (3512037/247D), Morro Bay North (3512047/247A), Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30762° / -120.87208°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909234 E693461	<b>Range:</b> 10E
<b>Radius:</b> 5 mile	<b>Section:</b> 23
<b>Elevation:</b> 150 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SOUTH OF MORRO BAY.  
**Location Detail:** HILLSIDE, 400' ELEVATION.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1963 COLLECTION BY HOWE.  
**Owner/Manager:** UNKNOWN



**Monardella palmeri**

Palmer's monardella

Element Code: PDLAM180H0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: ON SERPENTINE, OFTEN FOUND ASSOCIATED WITH SARGENT CYPRESS FORESTS. 200-800M.

Occurrence No. 2 Map Index: 58246 EO Index: 58282 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1987-07-01  
 Origin: Natural/Native occurrence Site: 1987-07-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-11-29

Quad Summary: Lopez Mtn. (3512035/246D), San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28633° / -120.62174° Township: 30S  
 UTM: Zone-10 N3907391 E716281 Range: 13E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 30 Qtr: XX  
 Elevation: 900 ft Symbol Type:POLYGON Meridian: M

Location: RESERVOIR CANYON; ABOUT 1 MI NORTH OF SAN LUIS OBISPO OFF HWY 101.  
 Location Detail: ABOUT 3/4 MI UP RESERVOIR CANYON TRAIL, ON SOUTH SIDE OF CANYON.  
 Ecological: AMONG QUERCUS DUMOSA ON STEEP N-FACING SLOPE; SERPENTINE SOIL. IN 3-5 YEAR OLD BURN.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: UNKNOWN

Occurrence No. 3 Map Index: 58247 EO Index: 58283 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1993-08-03  
 Origin: Natural/Native occurrence Site: 1993-08-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-11-30

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35827° / -120.63930° Township: 29S  
 UTM: Zone-10 N3915333 E714494 Range: 12E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 36 Qtr: SW  
 Elevation: 1,360 ft Symbol Type:POINT Meridian: M

Location: NORTH PORTAL CUESTA TUNNEL; JUST WEST OF HWY 101, APPROX 1 MI NORTHWEST OF CUESTA PASS.  
 Location Detail: ON EAST SIDE OF THE CANYON, IN SCREE/CRUMBLD ROCK AT BASE OF ROADCUT; NE 1/4 OF SW 1/4 OF SECTION 36.  
 Ecological: SERPENTINE ROCK FACE.  
 Threat: RATHER BARE GROUND, PROBABLY CREATED DURING TUNNEL CONSTRUCTION. AREA IS FULL OF TRASH.  
 General: 25 INDIVIDUALS OBSERVED IN 1993.  
 Owner/Manager: PVT

Occurrence No. 4 Map Index: 58248 EO Index: 58284 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1990-07-26  
 Origin: Natural/Native occurrence Site: 1990-07-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-11-30

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34863° / -120.64660° Township: 30S  
 UTM: Zone-10 N3914248 E713856 Range: 12E  
 Area: 228.5 acres Mapping PrecisionSPECIFIC Section: 01 Qtr: XX  
 Elevation: 2,000 ft Symbol Type:POLYGON Meridian: M

Location: RIDGE JUST WEST OF CUESTA PASS; ALONG THE ROAD LEADING TO THE TV TOWER (FOREST RD 29S11).  
 Ecological: SARGENT CYPRESS FOREST IN SERPENTINE CHAPARRAL. SOME MENTIONED ASSOC. INCLUDE: ARCTOSTAPHYLOS OBISPOENSIS, RHAMNUS CALIFORNICA, R. CROCEA, GALIUM, CHLOROGALUM POMERIDIANUM, STACHYS RIGIDA, PEDICULARIS DENSIFLORA, ETC.  
 General: COLLECTIONS FROM "RIDGE NORTHWEST OF CUESTA PASS" AND "CUESTA RIDGE BOTANICAL AREA" ALSO ATTRIBUTED TO THIS SITE. LOTS OF COLLECTIONS FROM THIS AREA, BUT ONLY ONE OLD MAP FROM 1977 RECEIVED. NEED BETTER MAP OF POPULATION.  
 Owner/Manager: USFS-LOS PADRES NF?

**Monardella palmeri**

Palmer's monardella

Element Code: PDLAM180H0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: ON SERPENTINE, OFTEN FOUND ASSOCIATED WITH SARGENT CYPRESS FORESTS. 200-800M.

Occurrence No. 5 Map Index: 39719 EO Index: 58286 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-06-06  
 Origin: Natural/Native occurrence Site: 2001-06-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-19

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.25665° / -120.76977° Township: 31S  
 UTM: Zone-10 N3903785 E702892 Range: 11E  
 Area: 15.5 acres Mapping Precision: SPECIFIC Section: 02 Qtr: SW  
 Elevation: 1,330 ft Symbol Type: POLYGON Meridian: M

Location: JUST NORTH OF PREFUMO CANYON ROAD; NORTH OF BENCHMARK 1335 AND GRAVEL PIT IN THE IRISH HILLS.  
 Location Detail: IN A SERPENTINE SEEP BETWEEN AND IN TWO SWALES; BETWEEN 1080-1240 FT ELEV. NE 1/4 OF SW 1/4 OF SECTION 2. FORMER OCCURRENCES #16 AND #17 ATTRIBUTED TO THIS SITE.  
 Ecological: SERPENTINE BOG, SURROUNDED BY QUERCUS AGRIFOLIA WOODLAND AND CEANOTHUS CUNEATUS CHAPARRAL. OTHER RARE SPP: CALOCHORTUS CLAVATUS VAR. CLAVATUS, C. OBISPOENSIS, CHORIZANTHE BREWERI, DUDLEYA ABRAMSII SSP. MURINA, LOTMATIUM PARVIFOLIUM, ET AL.  
 Threat: RURAL RESIDENTIAL AREA; CATTLE GRAZING A POSSIBLE THREAT.  
 General: UNKNOWN NUMBER OF PLANTS SEEN DURING 1992 SURVEY FOR DUDLEYA ABRAMSII SSP. MURINA AND 2001 SURVEY FOR CIRSIUM FONTINALE OBISPOENSE. MULTIPLE COLLECTIONS FROM RIDGE BETWEEN PREFUMO & SEE CYNUS & ALONG PREFUMO CYN RD ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Occurrence No. 6 Map Index: 12709 EO Index: 58290 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1979-05-29  
 Origin: Natural/Native occurrence Site: 1979-05-29  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-11-30

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.42452° / -120.69669° Township: 29S  
 UTM: Zone-10 N3922559 E709107 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 09 Qtr: NW  
 Elevation: 1,400 ft Symbol Type: POINT Meridian: M

Location: ABOUT 0.5 MI WEST OF EAGLE PEAK, NEAR CONFLUENCE OF HALE CREEK AND ATASCADERO CREEK; SOUTH OF ATASCADERO.  
 Location Detail: EAST OF ROAD AND CONFLUENCE OF CREEKS, IN NE 1/4 OF NW 1/4 OF SECTION 9.  
 Ecological: GROWING IN THE SHADE OF SHRUBS ON A SERPENTINE OUTCROP. ADENOSTEMA FASCICULATA CHAPARRAL WITH QUERCUS CHRYSOLEPIS AND YUCCA WHIPPLEI.  
 Threat: PROPOSED EAGLE RANCH LAND EXCHANGE.  
 General: PLANTS OBSERVED OVER 0.1 HECTARE IN 1979. COLONY REPORTED AS STABLE OR INCREASING.  
 Owner/Manager: USFS-LOS PADRES NF

**Monardella palmeri**

Palmer's monardella

Element Code: PDLAM180H0

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CISMONTANE WOODLAND, CHAPARRAL.  
 Micro: ON SERPENTINE, OFTEN FOUND ASSOCIATED WITH SARGENT CYPRESS FORESTS. 200-800M.

Occurrence No. 9 Map Index: 58259 EO Index: 58295 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-12-02

Quad Summary: Atascadero (3512046/246B), Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.41578° / -120.73559° Township: 29S  
 UTM: Zone-10 N3921508 E705597 Range: 12E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 07 Qtr: XX  
 Elevation: 1,500 ft Symbol Type:POINT Meridian: M

Location: CERRO ALTO.  
 Location Detail:"CERRO ALTO" VAGUE; MAPPED TO INCLUDE BOTH THE MOUNTAIN AND THE CAMPGROUND.  
 Ecological: SERPENTINE.  
 General: NEEDS FIELDWORK.  
 Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 18 Map Index: 61357 EO Index: 61393 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2000-06-12  
 Origin: Natural/Native occurrence Site: 2000-06-12  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-19

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.34956° / -120.67264° Township: 30S  
 UTM: Zone-10 N3914296 E711487 Range: 12E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 03 Qtr: NE  
 Elevation: 1,450 ft Symbol Type:POINT Meridian: M

Location: SOUTH OF PICK & SHOVEL MINE, EAST OF CHORRO CREEK, NEAR EASTERN BOUNDARY OF CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA X. MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY WETHERWAX AND PAINTER: NAD 27 711583E 3914102N.  
 Ecological: OPENING IN CHAPARRAL ON SERPENTINE GRAVELS ON CLAY, GENTLE SLOPE.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER BURNING REGIME, FERAL PIGS.  
 General: LESS THAN 15 PLANTS SEEN IN 2000.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

Occurrence No. 19 Map Index: 61359 EO Index: 61395 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-05-30  
 Origin: Natural/Native occurrence Site: 2003-05-30  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-19

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31854° / -120.74938° Township: 30S  
 UTM: Zone-10 N3910693 E704590 Range: 11E  
 Area: 1.9 acres Mapping PrecisionSPECIFIC Section: 13 Qtr: NW  
 Elevation: 400 ft Symbol Type:POLYGON Meridian: M

Location: FIRST RIDGE WEST OF CERRO ROMUALDO, ABOUT 0.65 MILE SOUTH OF THE WEST END OF O'SULLIVAN AIRFIELD, CAMP SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA A.  
 Ecological: ON STEEP SLOPE IN ECOTONE BETWEEN RIPARIAN WOODLAND AND SERPENTINE GRASSLAND. WITH ERIOPHYLLUM CONFERTIFLORUM, CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, CHORIZANTHE PALMERI, OROBANCHE CALIFORNICA SSP. GRANDIS, OROBANCHE FASCICULATA.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, IMPROPER BURNING REGIME.  
 General: LESS THAN 15 PLANTS SEEN IN 2000 AT SOUTHERN COLONY AND LESS THAN 5 PLANTS SEEN IN 2003 IN NORTHERN COLONY. THE RARE DUDLEYA ABRAMSII SSP. BETTINAE, CASTILLEJA DENSIFLORA SSP. OBISPOENSIS, AND CHORIZANTHE PALMERI ALSO OCCUR AT THIS SITE.  
 Owner/Manager: DOM-CAMP SAN LUIS OBISPO

**Navarretia nigelliformis ssp. radians**

shining navarretia

Element Code: PDPLM0C0J2

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G4T2T3	CNPS List: 1B.2
State: None	State: S2S3.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.  
 Micro: APPARENTLY IN GRASSLAND, AND NOT NECESSARILY IN VERNAL POOLS. 200-1000M.

Occurrence No. 45	Map Index: 61319	EO Index: 61355	_____ Dates Last Seen _____
Occ Rank: Fair			Element: 2003-07-31
Origin: Natural/Native occurrence			Site: 2004-00-4X
Presence: Presumed Extant			
Trend: Decreasing			Record Last Updated: 2005-05-16

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.47529° / -120.58786°	Township: 28S
UTM: Zone-10 N3928427 E718852	Range: 13E
Radius: 80 meters	Section: 20
Elevation: 1,571 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SE
Symbol Type: POINT	

Location: ROCKY CANYON ROAD, ALONG UNNAMED DRAINAGE TO ROCKY CANYON CREEK, CRESTON.  
 Location Detail: MAPPED WITHIN THE NE 1/4 OF THE SE 1/4 OF SECTION 20.  
 Ecological: ON A GRASSY SLOPE ABOVE A WETLAND DRAINAGE WITH CHAMISE CHAPARAL SURROUNDING THE SITE. WETLANDS AND SMALL SEASONAL AGRICULTURAL PONDS ARE LOCATED ALONG AN UNNAMED DRAINAGE TO ROCKY CANYON CREEK.  
 Threat: AREA SCHEDULED FOR HOME CONSTRUCTION, BUT PLANTS SHOULD NOT BE IMPACTED ACCORDING TO ALTHOUSE (2003).  
 General: 25 PLANTS SEEN IN 2003. PLANTS NOT FOUND IN APRIL 2004.  
 Owner/Manager: PVT

**Neotoma lepida intermedia**

San Diego desert woodrat

Element Code: AMAFF08041

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G5T3? CDFG Status: SC  
 State: None State: S3?

Habitat Associations

General: COASTAL SCRUB OF SOUTHERN CALIFORNIA FROM SAN DIEGO COUNTY TO SAN LUIS OBISPO COUNTY.  
 Micro: MODERATE TO DENSE CANOPIES PREFERRED. THEY ARE PARTICULARLY ABUNDANT IN ROCK OUTCROPS & ROCKY CLIFFS & SLOPES.

Occurrence No. 28 Map Index: 33617 EO Index: 30212 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1993-04-16  
 Origin: Natural/Native occurrence Site: 1993-04-16  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1997-01-07

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22829° / -120.86460° Township: 31S  
 UTM: Zone-10 N3900449 E694331 Range: 10E  
 Area: 18.3 acres Mapping Precision: SPECIFIC Section: 14 Qtr: XX  
 Elevation: 400 ft Symbol Type: POLYGON Meridian: M

Location: MOUTH OF CROWBAR CANYON, 1.25 MILES NNW OF DIABLO CANYON NUCLEAR POWER PLANT, SOUTH OF MONTANA DE ORO STATE PARK.  
 Location Detail: TRAPLINE #332: LOCATED ON A NW SLOPE ADJACENT TO WHERE THE CANYON HITS THE COASTAL BLUFF.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB ON A SOUTH-FACING SLOPE, WITH SHALE ROCK OUTCROPS. VEGETATION IS 3-4 FEET HIGH, DOMINATED BY ARTEMISIA CALIFORNICA, BACCHARIS PILULARIS, AND SALVIA MELLIFERA; GIANT RYE, POISON OAK, ETC, ALSO PRESENT.

General: 2 ADULT MALES, 1 ADULT FEMALE, AND 1 JUVENILE MALE CAPTURED ON 15-16 APRIL 1993.

Owner/Manager: PVT-PGE

Occurrence No. 29 Map Index: 33618 EO Index: 30213 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Good Element: 1993-04-16  
 Origin: Natural/Native occurrence Site: 1993-04-16  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1997-02-21

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.21950° / -120.86790° Township: 31S  
 UTM: Zone-10 N3899468 E694052 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 23 Qtr: XX  
 Elevation: 50 ft Symbol Type: POINT Meridian: M

Location: SE OF LITTLE ROCK, ADJACENT TO LION ROCK, SOUTH OF CROWBAR CANYON, SOUTH OF MONTANA DE ORO STATE PARK.

Location Detail: TRAPLINE #335.

Ecological: HABITAT CONSISTS OF COASTAL BLUFF SCRUB, WITH ROCK OUTCROPS. DOMINANT PLANTS INCLUDE ARTEMISIA CALIFORNICA, POISON OAK, ERIOGONUM SP, EROPHYLLUM SP, ERIGERON SP, CARPOBROTUS AEQUALATERUS, AND BROMUS DIANDRUS.

General: 1 ADULT MALE, 1 ADULT FEMALE, AND 1 JUVENILE MALE OBSERVED ON 15-16 APRIL 1993.

Owner/Manager: PVT-PGE

Occurrence No. 30 Map Index: 33619 EO Index: 30214 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 1993-04-16  
 Origin: Natural/Native occurrence Site: 1993-04-16  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1997-01-07

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.21189° / -120.82164° Township: 31S  
 UTM: Zone-10 N3898715 E698281 Range: 11E  
 Area: 16.8 acres Mapping Precision: SPECIFIC Section: 20 Qtr: XX  
 Elevation: 1,120 ft Symbol Type: POLYGON Meridian: M

Location: 0.75 MILE NE OF GREEN PEAK, 2 MILES EAST OF DIABLO CANYON NUCLEAR POWER PLANT.

Location Detail: TRAPLINE #334.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB WITH ROCK OUTCROPS, DOMINATED BY ARTEMISIA CALIFORNICA, POISON OAK, AND POA SP, WITH SCATTERED COAST LIVE OAKS.

General: 1 ADULT MALE, 1 ADULT FEMALE, AND 1 JUVENILE FEMALE CAPTURED ON 15-16 APRIL 1993.

Owner/Manager: PVT-PGE

**Neotoma lepida intermedia**

San Diego desert woodrat

Element Code: AMAFF08041

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G5T3?	CDFG Status: SC
State: None	State: S3?	

**Habitat Associations**

**General:** COASTAL SCRUB OF SOUTHERN CALIFORNIA FROM SAN DIEGO COUNTY TO SAN LUIS OBISPO COUNTY.  
**Micro:** MODERATE TO DENSE CANOPIES PREFERRED. THEY ARE PARTICULARLY ABUNDANT IN ROCK OUTCROPS & ROCKY CLIFFS & SLOPES.

<b>Occurrence No.</b> 31	<b>Map Index:</b> 33620	<b>EO Index:</b> 30215	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1993-04-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-04-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-01-07

**Quad Summary:** Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.20553° / -120.82885°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3897995 E697640	<b>Range:</b> 11E
<b>Area:</b> 11.7 acres	<b>Section:</b> 30
<b>Elevation:</b> 1,260 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** GREEN PEAK, 1.5 MILES SE OF DIABLO NUCLEAR POWER PLANT.  
**Location Detail:** TRAPLINE #333.  
**Ecological:** HABITAT CONSISTS OF INTRODUCED ANNUAL GRASSLAND, WITH ROCK OUTCROPS; DOMINATED BY BLACK MUSTARD, BROMUS SP, HORDEUM SP, AND PHACELIA SP.  
**Threat:** THREATENED BY CATTLE GRAZING.  
**General:** 2 ADULT MALES, 1 ADULT FEMALE, AND 1 JUVENILE MALE CAPTURED ON 15-16 APRIL 1993.  
**Owner/Manager:** PVT-PGE

<b>Occurrence No.</b> 32	<b>Map Index:</b> 33621	<b>EO Index:</b> 30036	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1993-04-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-04-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1997-01-22

**Quad Summary:** Port San Luis (3512027/222A), Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25622° / -120.88572°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3903506 E692342	<b>Range:</b> 10E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 3
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** 0.2 MILE SSE OF PETERSON RANCH, EAST OF THE MOUTH OF COON CREEK, WSW OF LOS OSOS.  
**Location Detail:** TRAPLINE #336.  
**Ecological:** HABITAT CONSISTS OF COASTAL SAGE SCRUB, DOMINATED BY COYOTE BUSH, OLDMAN SAGE, BLACK SAGE, HEMIZONIA SP, BRACKEN FERN, POISON OAK, AND MORNING GLORY.  
**General:** 1 ADULT FEMALE CAPTURED ON 15-16 APRIL 1993.  
**Owner/Manager:** PVT-PGE

Northern Coastal Salt Marsh

Element Code: CTT52110CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3  
 State: None State: S3.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
 General:  
 Micro:

Occurrence No. 31 Map Index: 12434 EO Index: 16138 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1986-03-XX  
 Origin: Natural/Native occurrence Site: 1986-03-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-20

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.34241° / -120.83958° Township: 30S  
 UTM: Zone-10 N3913158 E696332 Range: 11E  
 Area: 593.2 acres Mapping Precision: SPECIFIC Section: 06 Qtr: SW  
 Elevation: Symbol Type: POLYGON Meridian: M

Location: N-E MORRO BAY AT MOUTH OF CHORRO CREEK.  
 Ecological: SALICORNIA SALT MARSH.  
 Threat: EVIDENCE OF ACCRETION FROM CHORRO CR. PUBLIC TIDELANDS NEXT TO STATE PARK.  
 General: THIS WAS OCC #031 OF CTT52110CA.  
 Owner/Manager: UNKNOWN

Occurrence No. 32 Map Index: 12374 EO Index: 16136 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1986-03-XX  
 Origin: Natural/Native occurrence Site: 1986-03-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-20

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.31876° / -120.85409° Township: 30S  
 UTM: Zone-10 N3910505 E695070 Range: 10E  
 Area: 176.7 acres Mapping Precision: SPECIFIC Section: 13 Qtr: NW  
 Elevation: Symbol Type: POLYGON Meridian: M

Location: S MORRO BAY.  
 Ecological: SALICORNIA SALT MARSH.  
 Threat: SUBSTANTIAL GROWTH SINCE 1974 REPORT; PUBLIC TIDELANDS NEXT TO STATE PARK.  
 General: THIS WAS OCC #032 OF CTT52110CA.  
 Owner/Manager: UNKNOWN

Northern Interior Cypress Forest

Element Code: CTT83220CA

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G2	
State: None	State: S2.2	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General:

Micro:

Occurrence No. 1	Map Index: 12768	EO Index: 14971	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1986-05-20
Origin: Natural/Native occurrence			Site: 1986-05-20
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-09-01

Quad Summary: San Luis Obispo (3512036/246C), Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.36376° / -120.67446°	Township: 29S
UTM: Zone-10 N3915866 E711285	Range: 12E
Area: 953.1 acres	Section: 34
Elevation: 2,400 ft	Meridian: M
	Qtr: NE

Mapping Precision: SPECIFIC  
 Symbol Type: POLYGON

Location: CUESTA RIDGE BOTANICAL AREA, 2 MILES WEST OF SANTA MARGARITA.  
 Location Detail: ONE LARGE AREA WITH SEVERAL OUTLIERS. SERPENTINE CHAPARRAL AROUND CYPRESSES.  
 Ecological: SARGENT CYPRESS STAND OF VARIED AGE CLASSES, DENSITY, UNDERSTORY. PARTS EVEN AGED MONOCULTURE, PARTS MIXED AGED CYPRESS W/CHAPARRAL UNDERSTORY. PART BURNED 1939.  
 Threat: RD AND FIREBREAK NEAR RIDGE. FORMER USE MINING.  
 General: IN BOTANICAL AREA. THIS WAS OCC #001 OF CTT83220CA  
 Owner/Manager: USFS-LOS PADRES NF



**Nyctinomops macrotis**

big free-tailed bat

Element Code: AMACD04020

\_\_\_\_\_ **Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G5 **CDFG Status:** SC  
**State:** None **State:** S2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** LOW-LYING ARID AREAS IN SOUTHERN CALIFORNIA.

**Micro:** NEED HIGH CLIFFS OR ROCKY OUTCROPS FOR ROOSTING SITES. FEEDS PRINCIPALLY ON LARGE MOTHS.

**Occurrence No.:** 19 **Map Index:** 12335 **EO Index:** 59595 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1981-12-18  
**Origin:** Natural/Native occurrence **Site:** 1981-12-18  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-01-24

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

**Lat/Long:** 35.31163° / -120.86824° **Township:** 30S  
**UTM:** Zone-10 N3909687 E693801 **Range:** 10E  
**Radius:** 1 mile **Mapping Precision:** NON-SPECIFIC **Section:** 14 **Qtr:** XX  
**Elevation:** 80 ft **Symbol Type:** POINT **Meridian:** M

**Location:** MORRO BAY STATE PARK.

**Location Detail:** EXACT LOCATION UNKNOWN. LOCATION ONLY GIVEN AS MORRO BAY. LAT/LONG COORDINATES PROVIDED BY MANIS FALL JUST NORTH OF CIRCLE WITH AN UNCERTAINTY OF 3218 METERS (~2 MILES).

**General:** ONE MALE SPECIMEN COLLECTED 18 DEC 1981 BY D. CONSTANTINE AT "MORRO BAY." DEPOSITED AT MVZ #181992.

**Owner/Manager:** DPR-MORRO BAY SP

**Oncorhynchus mykiss irideus**

steelhead - south/central California coast ESU

Element Code: AFCHA0209H

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G5T2Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** FED LISTING REFERS TO RUNS IN COASTAL BASINS FROM THE PAJARO RIVER SOUTH TO, BUT NOT INCLUDING, THE SANTA MARIA RIVER.  
**Micro:**

<b>Occurrence No. 6</b>	<b>Map Index:</b> 34099	<b>EO Index:</b> 30209	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1980-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1980-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-09-29

**Quad Summary:** Morro Bay South (3512037/247D), Morro Bay North (3512047/247A), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35228° / -120.78651°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914359 E701132	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 03 <b>Qtr:</b> XX
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** CHORRO CR & TRIBS, BETWEEN MORRO BAY & SAN LUIS OBISPO, ALONG HWY 1 TO CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
**Location Detail:** IN CHORRO CR FROM MORRO BAY TO CHORRO RESERVOIR. IN SAN BERNARD CREEK TO ~400 FEET ELEVATION. IN SAN LUISTO CREEK TO ABOUT 5.6 KM UPSTREAM FROM MOUTH. IN DAIRY CREEK TO JUST OUTSIDE THE NORTHERN BOUNDARY OF CHORRO REGIONAL PARK.  
**Ecological:** DENSE CHAPARRAL IN HEADWATERS, TO ROLLING GRASSLAND & OAK WOODLAND, THEN THROUGH AGRICULTURAL & URBAN AREAS TO MORRO BAY. 13 MIGRATION BARRIERS WERE IDENTIFIED THROUGHOUT THE DRAINAGE, THEIR ELIMINATION WOULD TRIPLE SPAWNING/NURSERY HABITAT.  
**Threat:** POLLUTION (AG DISCHARGE, CHLORINATED SECONDARILY TREATED SEWAGE), DIVERSIONS, BARRIERS (CLUVERTS, DAM, CONCRETE APRON).  
**General:** RUN SIZE ESTIMATED AT 160 FISH IN 1976. SINCE 1979, UP TO 5000 STEELHEAD SMOLTS STOCKED ANNUALLY AS MITIGATION FOR DEPT OF CORRECTIONS CHORRO CREEK DAM. SUITABLE SPAWNING AND REARING HABITAT NOTED FOR THE CHORRO CREEK DRAINAGE.  
**Owner/Manager:** PVT, DOC, SLO COUNTY, DOD

<b>Occurrence No. 7</b>	<b>Map Index:</b> 34100	<b>EO Index:</b> 30211	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-09-29

**Quad Summary:** Morro Bay South (3512037/247D), Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.24525° / -120.85906°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3902341 E694794	<b>Range:</b> 10E
<b>Area:</b>	<b>Section:</b> 12 <b>Qtr:</b> XX
<b>Elevation:</b> 320 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** COON CREEK, 4.5 MILES SOUTH OF THE SOUTHERN PORTION OF MORRO BAY, MONTANA DE ORO STATE PARK.  
**Location Detail:** PACIFIC OCEAN TO THE SOUTHEAST BOUNDARY OF MONTANA DE ORO STATE PARK AT APPROXIMATELY THE 600 FOOT ELEVATION CONTOUR.  
**Ecological:** SOUTHERN COASTAL STREAM.  
**General:** CREEK RUNS THROUGH SOUTHERN PORTION OF MONTANA DE ORO STATE PARK. BOTH ADULT AND JUVENILE STEELHEAD OBSERVED BY PARK PERSONNEL IN RECENT YEARS (AS REPORTED IN 1993).  
**Owner/Manager:** DPR-MONTANA DE ORO SP, PVT

**Oncorhynchus mykiss irideus**

steelhead - south/central California coast ESU

Element Code: AFCHA0209H

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened State: None	Global: G5T2Q State: S2	CDFG Status: SC

**Habitat Associations**

**General:** FED LISTING REFERS TO RUNS IN COASTAL BASINS FROM THE PAJARO RIVER SOUTH TO, BUT NOT INCLUDING, THE SANTA MARIA RIVER.  
**Micro:**

<b>Occurrence No.</b> 8	<b>Map Index:</b> 34101	<b>EO Index:</b> 30210	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-09-29

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27170° / -120.87152°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3905251 E693598	<b>Range:</b> 10E
<b>Area:</b> 192.0 acres	<b>Section:</b> 35 <b>Qtr:</b> XX
<b>Elevation:</b> 140 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC      **Symbol Type:**POLYGON

**Location:** ISLAY CREEK, APPROXIMATELY 3 MILES SOUTH OF THE SOUTHERN PORTION OF MORRO BAY. IN MONTANA DE ORO STATE PARK.  
**Location Detail:** PACIFIC OCEAN TO MIGRATION BARRIER, 4.8 KM UPSTREAM. RESIDENT RAINBOW TROUT POPULATION ABOVE BARRIER.  
**Ecological:** THE CREEK HAS A VERY SMALL AND SHALLOW LAGOON. STEELHEAD FOUND BELOW BARRIER.  
**General:** 1966: IN BRIEF DFG SURVEY, 1 ADULT STEELHEAD OBSERVED & IT WAS DETERMINED THAT THE CREEK SUPPORTED ONLY A SMALL STEELHEAD POPULATION. 1993: PARK PERSONNEL CONTINUE TO SEE SPAWNERS & HIGH DENSITIES OF JUVENILE STEELHEAD IN LOWER ISLAY CR.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

<b>Occurrence No.</b> 10	<b>Map Index:</b> 34103	<b>EO Index:</b> 30205	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1997-07-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1997-07-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-09-29

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40073° / -120.82315°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3919660 E697683	<b>Range:</b> 11E
<b>Area:</b> 458.5 acres	<b>Section:</b> 17 <b>Qtr:</b> XX
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC      **Symbol Type:**POLYGON

**Location:** MORRO CREEK, ALONG HIGHWAY 41, NORTHEAST OF HIGHWAY 1, EAST OF THE TOWN OF MORRO BAY.  
**Location Detail:** PACIFIC OCEAN TO CASCADE & WATERFALL BARRIER 12 KM UPSTREAM. LITTLE MORRO CREEK UNSUITABLE FOR STEELHEAD 1962, EXTREMELY LOW, UNSTABLE FLOW & LACK OF SPAWNING GRAVEL. SITE QUALITY GOOD, 1997 SURVEY.  
**Ecological:** MIGRATION BARRIER 12 KM FROM MOUTH. GRAVEL BEDS SILTED IN LOWER STREAM, SUITABLE SPAWNING GRAVELS BETWEEN KM 13 & 18. MOST O. MYKISS FOUND FROM KM 11 TO 15. DFG STEELHEAD REPORTS DATE BACK TO 1947. 1951 REPORT STATED RUNS HERE WERE SMALL.  
**Threat:** DAMS, DIVERSIONS, UNSTABLE FLOWS DUE TO EXTENSIVE PUMPING, POLLUTION (AG WASTEWATER, DUMPING GARBAGE, URBAN RUNOFF)  
**General:** ADDITIONAL DIVERSIONS AND WELLS HAVE CONTINUED TO DEplete THE FLOW IN THE MORRO CREEK DRAINAGE. NO RECENT ASSESSMENT MADE TO ASCERTAIN IMPACTS ON THE STEELHEAD RESOURCE. 8 JUVENILES OBSERVED 1997.  
**Owner/Manager:** PVT-PGE

**Oncorhynchus mykiss irideus**

steelhead - south/central California coast ESU

Element Code: AFCHA0209H

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G5T2Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** FED LISTING REFERS TO RUNS IN COASTAL BASINS FROM THE PAJARO RIVER SOUTH TO, BUT NOT INCLUDING, THE SANTA MARIA RIVER.  
**Micro:**

<b>Occurrence No.:</b> 12	<b>Map Index:</b> 34105	<b>EO Index:</b> 30206	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2002-07-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-07-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-10-17

**Quad Summary:** Arroyo Grande NE (3512025/221A), Pismo Beach (3512026/221B)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16959° / -120.62580°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894431 E716222	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 6 <b>Qtr:</b> XX
<b>Elevation:</b> 90 ft	<b>Meridian:</b> M

**Location:** PISMO CREEK & TRIBUTARY, WEST CORRAL DE PIEDRA CREEK, PRICE CANYON, BETWEEN EDNA & PISMO BEACH.

**Location Detail:** FROM LOWER MIDDLE PISMO CREEK TO THE LOWERMOST PORTION OF WEST CORRAL DE PIEDRA CREEK.

**Ecological:** 1972: SPAWNING GRAVELS PRESENT BUT NOT ABUNDANT & NO FISH OBS FROM MOUTH TO EDNA. 1974: STEELHEAD OBS SUMMER & FALL IN ELECTROFISHING SURVEYS IN UPPER HALF OF PISMO CR & LOWERMOST WEST CORRAL DE PIEDRA CR. 2002: DENSE WILLOWS IN LOWER CR.

**Threat:** SILTATION, CHEMICAL POLLUTION, 1 METER HIGH DIVERSION DAM, DEVELOPMENT

**General:** BASED ON 1990 DFG FILE DOCUMENTS, STEELHEAD APPARENTLY STILL ENTER PISMO CREEK. 8 JUL 2002: A 2" FRY WAS FOUND DEAD, AND 2 OTHERS OBSERVED ALIVE IN LOWER PISMO CREEK BY RR BRIDGE.

**Owner/Manager:** PVT, DPR-PISMO SB, UNKNOWN

<b>Occurrence No.:</b> 16	<b>Map Index:</b> 34109	<b>EO Index:</b> 30252	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1988-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1988-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-09-30

**Quad Summary:** Morro Bay North (3512047/247A)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.44244° / -120.82955°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3924274 E697000	<b>Range:</b> 11E
<b>Area:</b> 497.2 acres	<b>Section:</b> 31 <b>Qtr:</b> XX
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M

**Location:** TORO CREEK, NORTH OF MORRO BAY.

**Location Detail:** FROM MOUTH AT PACIFIC OCEAN TO 15 KM UPSTREAM. FISH OBSERVED FROM STREAM KM 6 THROUGH KM 15. HIGHEST QUALITY REARING HABITAT AND LARGEST INDIVIDUALS SEEN IN KM 8 THROUGH 10.

**Ecological:** 1978 SURVEY FOUND EXCELLENT SPAWNING AREAS WERE AVAILABLE, ALTHOUGH THEY WERE NOT OVERLY ABUNDANT. HEAVY GRAZING PRESSURE IN THE UPPERMOST AND LOWERMOST PORTIONS OF THE STREAM HAD REMOVED RIPARIAN VEGETATION ALONG THE CREEK.

**Threat:** DEVELOPMENT, EROSION AND SILTATION, HEAVY GRAZING, POTENTIAL CULVERT BARRIER BETWEEN KM 11-12.

**General:** A VIABLE STEELHEAD FISHERY RESOURCE HAS BEEN REPORTED BY DFG THROUGH 1988.

**Owner/Manager:** PVT, DPR, USFS

**Oncorhynchus mykiss irideus**

steelhead - south/central California coast ESU

Element Code: AFCHA0209H

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G5T2Q	CDFG Status: SC
State: None	State: S2	

**Habitat Associations**

**General:** FED LISTING REFERS TO RUNS IN COASTAL BASINS FROM THE PAJARO RIVER SOUTH TO, BUT NOT INCLUDING, THE SANTA MARIA RIVER.  
**Micro:**

<b>Occurrence No.</b> 17	<b>Map Index:</b> 36721	<b>EO Index:</b> 31718	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1999-09-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-09-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-11-08

**Quad Summary:** Oceano (3512015/221D), Tar Spring Ridge (3512024/220B), Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13506° / -120.54724°	<b>UTM:</b> Zone-10 N3890774 E723473	<b>Area:</b>	<b>Mapping Precision:</b> NON-SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 32S	<b>Range:</b> 13E	<b>Section:</b> 14	<b>Qtr:</b> XX
<b>Elevation:</b> 200 ft					<b>Meridian:</b> M			

**Location:** ARROYO GRANDE CREEK, ARROYO GRANDE VALLEY.  
**Location Detail:** FROM MOUTH AT PACIFIC OCEAN IN PISMO STATE BEACH (NEAR OCEANO AND HWY 1) TO BELOW LOPEZ DAM (UPPER EXTENT OF STEELHEAD DISTRIBUTION COULD NOT BE PRECISELY DETERMINED FROM SOURCE DOCUMENT).  
**Ecological:** HABITAT CONSISTS OF POOLS (25-50CM DEEP), RIFFLES, AND GLIDES, WITH OVERHANGING VEGETATION. SURROUNDED BY RURAL RESIDENTIAL/GRAZED GRASSLANDS. CALIFORNIA RED-LEGGED FROG ALSO OCCURS IN THIS STREAM.  
**General:** SAMPLED 9/24 AND 9/27/96, WITH A TOTAL OF 116 FISH COLLECTED. FISH ABUNDANCE RANGED FROM LOW (MOST COMMON) TO MODERATE. 10-15 JUVENILES OBSERVED ON 12 SEP 1999 NEAR ARROYO GRANDE.  
**Owner/Manager:** PVT, DPR-PISMO SB

<b>Occurrence No.</b> 21	<b>Map Index:</b> 41538	<b>EO Index:</b> 41538	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1999-01-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-01-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-08-31

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32759° / -120.67148°	<b>UTM:</b> Zone-10 N3911860 E711650	<b>Radius:</b> 80 meters	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 10	<b>Qtr:</b> XX
<b>Elevation:</b> 480 ft					<b>Meridian:</b> M			

**Location:** UNNAMED TRIB TO STENNER CREEK, 1.4 MILES NE OF HIGHWAY 1 AT STENNER CREEK ROAD JCT, 2.7 MILES NNW OF SAN LUIS OBISPO.  
**Location Detail:** INSIDE CULVERT UNDER STENNER CREEK ROAD, STENNER CREEK LOCATED 50 FEET DOWNSTREAM. SMALL STREAM MAY FLOW YEAR ROUND DUE TO OVERFLOW FROM CITY WATER FACILITIES OR UPSTREAM SEEPS.  
**Ecological:** DEEP POOL AT CULVERT OUTLET SHADED BY CULVERT AND DENSE WILLOWS. STREAM BOTTOM 100% COVERED BY THICK ALGAL MAT. UPSTREAM THE BED IS COMPOSED PRIMARILY OF SOIL AND HEAVY VEGETATION, VERY LITTLE GRAVEL.  
**General:** 5 OBSERVED, 1 ADULT AND 4 JUVENILES, 1999.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 22	<b>Map Index:</b> 41540	<b>EO Index:</b> 41540	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 1997-08-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1997-08-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-08-31

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29407° / -120.64347°	<b>UTM:</b> Zone-10 N3908202 E714285	<b>Area:</b> 24.1 acres	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 25	<b>Qtr:</b> NW
<b>Elevation:</b> 320 ft					<b>Meridian:</b> M			

**Location:** SAN LUIS CREEK, CUESTA COUNTY PARK, SAN LUIS OBISPO.  
**Location Detail:** FISH LADDER WITHIN CUESTA COUNTY PARK.  
**Ecological:** GRAVEL STREAM BED.  
**Threat:** HEAVY HUMAN USE (KIDS & DOGS PLAY IN CREEK), PROPOSED PROJECT RIPRAP REPAIR OF DAMS & STREAM BANK, REPAIR FISH LADDER.  
**General:** 19 OBSERVED 6 YEARLINGS AND 13 YOUNG OF THE YEAR; THE SURVEY LOOKED FOR RED-LEGGED FROG BUT FOUND NONE, 1997.  
**Owner/Manager:** SLO COUNTY-PARKS DEPT

**Oncorhynchus mykiss irideus**

steelhead - south/central California coast ESU

Element Code: AFCHA0209H

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened State: None	Global: G5T2Q State: S2	CDFG Status: SC

**Habitat Associations**

**General:** FED LISTING REFERS TO RUNS IN COASTAL BASINS FROM THE PAJARO RIVER SOUTH TO, BUT NOT INCLUDING, THE SANTA MARIA RIVER.  
**Micro:**

<b>Occurrence No.</b> 25	<b>Map Index:</b> 55878	<b>EO Index:</b> 55894	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-07-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-07-02
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-22

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.21741° / -120.73395°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3899506 E706250	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 19
<b>Elevation:</b> 300 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** DAVIS CANYON CREEK, 0.6 MI UPSTREAM FROM THE CONFLUENCE WITH SEE CANYON CREEK.  
**Ecological:** STREAM IS IN A STEEP-SIDED CANYON WITH PERENNIAL FLOW AND COOL TEMPERATURES. WELL SHADED RIPARIAN CANOPY CONSISTING PRIMARILY OF DOGWOOD & WILLOWS. SMALL APPLE ORCHARD ADJACENT TO CREEK.  
**Threat:** UNAUTHORIZED BANK MODIFICATION (BACKHOE USED TO REMOVE ARUNDO) RESULTED IN SOME BANK EROSION.  
**General:** 6 YOUNG OF THE YEAR AND AGE 1+ FISH OBSERVED 2 JUL 2003.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 26	<b>Map Index:</b> 55880	<b>EO Index:</b> 55896	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-04-23
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-23
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-23

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.22407° / -120.73260°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3900248 E706356	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 18
<b>Elevation:</b> 250 ft	<b>Qtr:</b> SW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** SEE CANYON CREEK, ABOUT 0.9 MI UPSTREAM FROM THE CONFLUENCE WITH DAVIS CANYON CREEK, IN THE IRISH HILLS.  
**Ecological:** PERENNIAL CREEK TRIBUTARY TO SAN LUIS OBISPO CREEK. HABITAT CONSISTS OF BOULDER & LARGE COBBLE SUBSTRATE WITH SMALL PLUNGE POOLS, RUNS & LOW GRADIENT RIFFLES. POOL DEPTHS 4-20 INCHES. SOME UNDERCUT BANKS. CANOPY >70%. WATER TEMPS <70 F.  
**Threat:** POSSIBLE THREAT FROM FUTURE DEVELOPMENT.  
**General:** 1 JUVENILE OBSERVED 23 APR 2003.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 27	<b>Map Index:</b> 55886	<b>EO Index:</b> 55902	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-07-02
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-07-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-06-23

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25271° / -120.67392°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3903548 E711622	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 03
<b>Elevation:</b> 120 ft	<b>Qtr:</b> SE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** SAN LUIS OBISPO CREEK, EAST OF HWY 101, SOUTH OF SAN LUIS OBISPO.  
**Ecological:** PERENNIAL COASTAL CREEK. SUBSTRATE OF GRAVEL AND SAND WITH SMALL SCOUR POOLS LONG EXISTING BANK STABILIZATION. ISOLATED POOLS 4-15 INCHES DEEP. SOME UNDERCUT BANKS BETWEEN BOULDERS PLACED AS RIP-RAP. CANOPY <30%. WATER TEMP ABOUT 65 F.  
**Threat:** POLLUTION, REDUCED COVER, POACHING, PREDATION. IRRIGATION DEMANDS DRY THE CHANNEL & ISOLATES FISH IN POOLS.  
**General:** 110 JUVENILES OBSERVED 2 JUL 2003. NONE OBSERVED ON 9 JUL 2003. HERON, EGRET & RACCOON TRACKS WERE OBSERVED ALONG THE BANKS OF THE POOLS.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

**Phrynosoma coronatum (frontale population)**

coast (California) horned lizard

Element Code: ARACF12022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4G5	CDFG Status: SC
State: None	State: S3S4	

**Habitat Associations**

**General:** FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.  
**Micro:** OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

<b>Occurrence No. 11</b>	<b>Map Index:</b> 39846	<b>EO Index:</b> 34848	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1994-03-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-03-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-29

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33461° / -120.73203°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912511 E706127	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 07
<b>Elevation:</b> 320 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** EL CHORRO REGIONAL PARK, 0.7 MILES NW OF CAMP SAN LUIS OBISPO ENTRANCE, 0.3 MILE NNE OF HIGHWAY 1.  
**Location Detail:** 4.2 MILES NW OF SAN LUIS OBISPO. SOILS RANGE FROM CLAY TO SANDY, WITH SEVERAL ROCK OUTCROPS. SLOPES ARE RELATIVELY GENTLE WITH VARIOUS ASPECTS.  
**Ecological:** MOSTLY ANNUAL GRASSLAND WITH NUMEROUS NATIVE GRASSLAND SPECIES. DOMINANT PLANTS: BROMUS MADRITONSIS, B. DIANDRUS, AVENA SPP, ERODIUM BOTRYS, BRASSICA SPP, RANUNCULUS CALIFORNICA, VIOLA PEDUNCULATA, PLASIOBOTHYS SPP, SANICULA ARGUTA, ETC..  
**Threat:** CATTLE, HUMANS, UNLEASHED DOGS, PROPOSAL TO BUILD A GOLF COURSE.  
**General:** 1 LIZARD OBSERVED BY R. FARRIS. OTHER RARE SPECIES OBSERVED; RANA AURORA DRAYTONII, ELANUS LEUCURUS, DUDLEYA BLOCHMANIAE.  
**Owner/Manager:** SLO COUNTY

<b>Occurrence No. 12</b>	<b>Map Index:</b> 39847	<b>EO Index:</b> 34849	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1994-05-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-09-29

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33928° / -120.73641°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913020 E705717	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 06
<b>Elevation:</b> 320 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** EL CHORRO REGIONAL PARK, 1.1 MILES NW OF CAMP SAN LUIS OBISPO ENTRANCE, 0.5 MILE NNE OF HIGHWAY 1 NEXT TO PENNINGTON CR.  
**Location Detail:** 4.6 MILES NW OF SAN LUIS OBISPO. SOILS RANGE FROM CLAY TO SANDY, WITH SEVERAL ROCK OUTCROPS. SLOPES ARE RELATIVELY GENTLE WITH VARIOUS ASPECTS.  
**Ecological:** MOSTLY ANNUAL GRASSLAND WITH NUMEROUS NATIVE GRASSLAND SPECIES. DOMINANT PLANTS: BROMUS MADRITONSIS, B. DIANDRUS, AVENA SPP, ERODIUM BOTRYS, BRASSICA SPP, RANUNCULUS CALIFORNICA, VIOLA PEDUNCULATA, PLASIOBOTHYS SPP, SANICULA ARGUTA, ETC..  
**Threat:** CATTLE, HUMANS, UNLEASHED DOGS, PROPOSAL TO BUILD A GOLF COURSE.  
**General:** 1 LIZARD OBSERVED BY C. WISHNER. OTHER RARE SPECIES OBSERVED; RANA AURORA DRAYTONII, ELANUS LEUCURUS, DUDLEYA BLOCHMANIAE.  
**Owner/Manager:** SLO COUNTY

**Phrynosoma coronatum (frontale population)**

coast (California) horned lizard

Element Code: ARACF12022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4G5	CDFG Status: SC
State: None	State: S3S4	

**Habitat Associations**

**General:** FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.

**Micro:** OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

<b>Occurrence No.</b> 37	<b>Map Index:</b> 39975	<b>EO Index:</b> 34977	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1994-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-10-21

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33134° / -120.72721°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912158 E706574	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 07 <b>Qtr:</b> XX
<b>Elevation:</b> 360 ft	<b>Meridian:</b> M

**Mapping Precision:**NON-SPECIFIC  
**Symbol Type:**POLYGON

**Location:** EL CHORRO GOLF COURSE, EL CHORRO REGIONAL PARK, 0.4 MILE NORTH OF HIGHWAY 1 AT THE EXIT TO CAMP SAN LUIS OBISPO.

**Location Detail:** GRASSLAND AREA

**Ecological:** NON-NATIVE ARGENTINE ANTS ARE OUT COMPETEING THE LIZARD'S PREFERED FOOD, NATIVE HARVESTER ANTS (THE LIZARDS GENERALLY DO NOT EAT THE NON-NATIVE ANTS).

**Threat:** GOLF COURSE DEVELOPMENT, PREDATION BY PETS, OVERCOLLECTION, LOSS OF PRIMARY PREY (HARVESTER ANTS), HABITAT LOSS.

**General:** 2 WERE OBSERVED THOUGH THEY WILL BE EXTIRPATED IF GOLF COURSE IS BUILT.

**Owner/Manager:** SLO COUNTY

<b>Occurrence No.</b> 44	<b>Map Index:</b> 45546	<b>EO Index:</b> 45546	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2001-05-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-05-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2001-08-08

**Quad Summary:** Morro Bay North (3512047/247A)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.38769° / -120.86293°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3918134 E694101	<b>Range:</b> 10E
<b>Area:</b> 29.8 acres	<b>Section:</b> UN <b>Qtr:</b> XX
<b>Elevation:</b> 25 ft	<b>Meridian:</b> X

**Mapping Precision:**SPECIFIC  
**Symbol Type:**POLYGON

**Location:** MORRO STRAND STATE BEACH, MORRO BAY

**Location Detail:** SAND DUNES BETWEEN "THE CLOISTERS" DEVELOPMENT AND BEACH; HALF WAY BETWEEN AZURE STREET AND HWY 41.

**Ecological:** FOREDUNES OF LUPINUS CHAMISSONIS, BETWEEN RELATIVLY PRISTINE FOREDUNES AND BACKDUNES OF EXOTIC AMMOPHILA ARENARIA. OTHER SPECIES INCLUDE MORRO SHOULDERBAND SNAIL. NEW HOUSING DEVELOPMENT TO THE EAST; STATE BEACH TO THE WEST.

**Threat:** RED FOX WAS OBSERVED TRYING TO EAT THIS ANIMAL.

**General:** 1 ADULT FOUND, CAUGHT IN PLASTIC LANDSCAPING MESH.

**Owner/Manager:** DPR-MORRO STRAND SB

<b>Occurrence No.</b> 48	<b>Map Index:</b> 48862	<b>EO Index:</b> 48862	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2002-09-11
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-09-11
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-10-02

**Quad Summary:** Morro Bay South (3512037/247D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30369° / -120.82369°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3908894 E697871	<b>Range:</b> 11E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 20 <b>Qtr:</b> XX
<b>Elevation:</b> 259 ft	<b>Meridian:</b> M

**Mapping Precision:**NON-SPECIFIC  
**Symbol Type:**POINT

**Location:** SE EDGE OF LOS OSOS

**Location Detail:** LOS OSOS STATE RESERVE IS NEARBY; HOUSING TRACTS SURROUND SITE.

**Ecological:** HABITAT CONSISTS OF MARITIME CHAPARRAL, WITH LOOSE, SANDY SOILS ON A GENTLY SLOPING TERRAIN (~30% SLOPE); DOMINATED BY MORRO MANZANITA, CEANOTHUS, CHAMISE, BLACK SAGE, AND CALIFORNIA BUCKWHEAT.

**Threat:** THREATENED BY DEVELOPMENT.

**General:** ON 11 SEP 2002, 1 ADULT WAS CAPTURED/RELOCATED ABOUT 100 METERS FROM CLEARING ACTIVITY.

**Owner/Manager:** PVT



**Phrynosoma coronatum (frontale population)**

coast (California) horned lizard

Element Code: ARACF12022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G4G5	CDFG Status: SC
State: None	State: S3S4	

**Habitat Associations**

**General:** FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.  
**Micro:** OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

<b>Occurrence No.</b> 52	<b>Map Index:</b> 53179	<b>EO Index:</b> 53179	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-08-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-11-05

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14314° / -120.51659°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891741 E726243	<b>Range:</b> 14E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 18
<b>Elevation:</b> 330 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** CANYON DE LOS ALISOS, 0.3 MILE NORTH OF HUASNA ROAD, 4 MILES NE OF ARROYO GRANDE  
**Ecological:** HABITAT CONSISTS PRIMARILY OF OAK WOODLAND/GRASSLAND/COASTAL SCRUB, DOMINATED BY MOCK HEATHER AND TAR PLANT; SLOPE ~15%. SITE CONTAINS PATCHES OF OPEN GROUND, BUT SOIL NOT CHARACTERIZED AS "SANDY" SOIL.  
**Threat:** THREATENED BY DIVISION OF PROPERTY INTO FOUR PARCELS FOR HOUSING DEVELOPMENT.  
**General:** 1 JUVENILE OBSERVED ON 21 AUG 2003.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 62	<b>Map Index:</b> 58067	<b>EO Index:</b> 58103	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-04-30
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-04-30
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-11-15

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32722° / -120.81939°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911513 E698204	<b>Range:</b> 11E
<b>Area:</b> 4.9 acres	<b>Section:</b> 08
<b>Elevation:</b> 120 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** NORTH SIDE OF EL MORO AVENUE, 0.25 MILE EAST OF SOUTH BAY BOULEVARD, BAYWOOD PARK.  
**Location Detail:** SITE IS CURRENTLY OPEN LAND; SURROUNDED BY RURAL RESIDENTIAL TO THE NORTH, WEST, AND EAST, AND OPEN SPACE/LOS OSOS MIDDLE SCHOOL TO THE SOUTH.  
**Ecological:** HABITAT CONSISTS OF MATITIME CHAPARRAL, DOMINATED BY CEANOTHUS CUNEATUS AND PRUNUS FASCICULATA VAR PUNCTUATA. SOILS ARE MADE UP OF BAYWOOD FINE, A SANDY SOIL. SLOPE IS FLAT, BUT A GRADUAL NORTFACING SLOPE IS FOUND DIRECTLY TO THE SOUTH.  
**Threat:** THREATENED BY EXCESSIVE RECREATIONAL (HIKING, DOG-WALKING, PAINTBALL ACTIVITY) USE OF SITE.  
**General:** 1 ADULT AND 1 JUVENILE OBSERVED ON 30 APR 2004.  
**Owner/Manager:** BLM

**Plebejus icarioides moroensis**

Morro Bay blue butterfly

Element Code: IILEPG801B

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5T1T3 CDFG Status:  
 State: None State: S1S3

Habitat Associations

General: INHABITS STABILIZED DUNES & ADJACENT AREAS OF COASTAL SAN LUIS OBISPO & NW SANTA BARBARA COUNTIES.  
 Micro: LARVAL FOODPLANT THOUGHT TO BE LUPINUS CHAMISSONIS.

Occurrence No. 1 Map Index: 46282 EO Index: 60813 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1987-04-26  
 Origin: Natural/Native occurrence Site: 1987-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-04-01

Quad Summary: Morro Bay North (3512047/247A), Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.36658° / -120.84739° Township: 29S  
 UTM: Zone-10 N3915823 E695564 Range: 10E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 36 Qtr: XX  
 Elevation: Symbol Type: POINT Meridian: M

Location: MORRO BAY.  
 Location Detail: EXACT LOCATION NOT GIVEN; MAPPED AROUND TOWN OF MORRO BAY.  
 General: 1 SPECIMEN DEPOSITED IN UC DAVIS BOHART MUSEUM OF ENTOMOLOGY.  
 Owner/Manager: UNKNOWN, PVT

**Poa diabolii**

Diablo Canyon blue grass

Element Code: PMPOA4Z390

Status: \_\_\_\_\_ NDDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G1 CNPS List: 1B.2  
 State: None State: S1.2

Habitat Associations

General: CHAPARRAL (MESIC SITES), CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
 Micro: SHALE, SOMETIMES BURNED AREAS. 120-400M.

Occurrence No. 1 Map Index: 61199 EO Index: 61235 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-05-06  
 Origin: Natural/Native occurrence Site: 2001-05-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-03

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.22797° / -120.86365° Township: 31S  
 UTM: Zone-10 N3900416 E694418 Range: 10E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 14 Qtr: E  
 Elevation: 385 ft Symbol Type:POLYGON Meridian: M

Location: 0.3-0.4 KM (0.2-0.25 MI) EAST ON CROWBAR CANYON ROAD FROM COAST ROAD, NORTH OF DIABLO CANYON POWER PLANT.  
 Location Detail: ELEVATION RANGES FROM ABOUT 200-700 FEET.  
 Threat: LIGHT GRAZING.  
 General: 3 2001 COLLECTIONS ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.  
 Owner/Manager: PVT-PGE

Occurrence No. 2 Map Index: 61200 EO Index: 61236 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-04-19  
 Origin: Natural/Native occurrence Site: 2001-04-19  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-03

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.24300° / -120.87703° Township: 31S  
 UTM: Zone-10 N3902056 E693164 Range: 10E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 11 Qtr: XX  
 Elevation: 1,197 ft Symbol Type:POINT Meridian: M

Location: RIDGE ABOVE (SOUTHWEST OF) COON CREEK CANYON, NORTH RANCH; ABOUT 2.5 AIRMI NW OF DIABLO CANYON POWER PLANT.  
 Location Detail: ABOUT 0.4 MI NW ALONG ROAD FROM "LAST" PEAK. MAPPED BASED ON COORDINATES PROVIDED.  
 General: 2001 KEIL COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.  
 Owner/Manager: PVT?

Occurrence No. 3 Map Index: 61201 EO Index: 61237 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 2001-04-27  
 Origin: Natural/Native occurrence Site: 2001-04-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-03

Quad Summary: Port San Luis (3512027/222A)  
 County Summary: San Luis Obispo

Lat/Long: 35.23812° / -120.86227° Township: 31S  
 UTM: Zone-10 N3901544 E694519 Range: 10E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 11 Qtr: SE  
 Elevation: 1,312 ft Symbol Type:POLYGON Meridian: M

Location: RIDGE TOP SOUTH OF COON CREEK, ABOUT 0.5 KM (0.3 MI) EAST OF "LAST" BENCHMARK; NORTH OF DIABLO CANYON POWER PLANT.  
 Location Detail: ABOVE ROAD CUT.  
 General: 2001 FRENZEL COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.  
 Owner/Manager: PVT?

**Poa diaboli**

Diablo Canyon blue grass

Element Code: PMPOA4Z390

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G1 State: S1.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL (MESIC SITES), CISMONTANE WOODLAND, COASTAL SCRUB, CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** SHALE, SOMETIMES BURNED AREAS. 120-400M.

<b>Occurrence No.</b> 4	<b>Map Index:</b> 61202	<b>EO Index:</b> 61238	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 193X-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 193X-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-03

**Quad Summary:** Port San Luis (3512027/222A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.23313° / -120.83955°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3901036 E696599	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 18 <b>Qtr:</b> XX
<b>Elevation:</b>	<b>Meridian:</b> M
	<b>Mapping Precision:</b> NON-SPECIFIC <b>Symbol Type:</b> POLYGON

**Location:** RUDA CANYON.  
**Location Detail:** UNKNOWN WHERE PLANTS WERE SEEN IN RUDA CANYON.  
**General:** 1993 CLIFTON COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 5	<b>Map Index:</b> 61203	<b>EO Index:</b> 61239	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2003-04-07
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-04-07
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-03

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26435° / -120.87395°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904431 E693394	<b>Range:</b> 10E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 02 <b>Qtr:</b> NW
<b>Elevation:</b> 1,100 ft	<b>Meridian:</b> M
	<b>Mapping Precision:</b> NON-SPECIFIC <b>Symbol Type:</b> POINT

**Location:** NORTH SLOPES OF VALENCIA PEAK; MONTANA DE ORO STATE PARK.  
**Location Detail:** RANGE OF 240-383 M ELEV (789-1256 FT). MAPPED BASED ON COORDINATE RANGE PROVIDED.  
**Threat:** PRIOR TO STATE PARK DESIGNATION, AREA WAS GRAZED; LATER, IT WAS USED FOR MILITARY EXERCISES. NOW A STATE PARK.  
**General:** 1998 KEIL COLLECTION "WEST SLOPES OF VALENCIA PEAK, ABOUT 230 M" ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.  
**Owner/Manager:** DPR-MONTANA DE ORO SP

**Polyphylla nubila**

Atascadero June beetle

Element Code: IICOL68040

----- Status ----- NDDB Element Ranks ----- Other Lists -----  
 Federal: None Global: G1  
 State: None State: S1 CDFG Status: -----

Habitat Associations

General: KNOWN ONLY FROM SAND DUNES IN SAN LUIS OBISPO COUNTY.  
 Micro:

Occurrence No. 1 Map Index: 12855 EO Index: 5650 Dates Last Seen -----  
 Occ Rank: Unknown Element: 1956-05-15  
 Origin: Natural/Native occurrence Site: 1956-05-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-12-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.28302° / -120.64684° Township: 30S  
 UTM: Zone-10 N3906969 E714007 Range: 12E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 25 Qtr: XX  
 Elevation: 400 ft Symbol Type:POINT Meridian: M

Location: SAN LUIS OBISPO.

General: ONE MALE COLLECTED 5/15/56 BY D.A. LARUE OF RIVERSIDE, CA. R.M. YOUNG OBTAINED SPECIMEN IN A TRADE WITH LARUE. ONE SPECIMEN COLLECTED 26 APR 1956 BY W.A. WALLACE.

Owner/Manager: UNKNOWN

Occurrence No. 2 Map Index: 25134 EO Index: 6115 Dates Last Seen -----  
 Occ Rank: Unknown Element: 1991-06-15  
 Origin: Natural/Native occurrence Site: 1991-06-15  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2006-08-21

Quad Summary: Atascadero (3512046/246B), Templeton (3512056/269C)  
 County Summary: San Luis Obispo

Lat/Long: 35.48708° / -120.66995° Township: 28S  
 UTM: Zone-10 N3929556 E711372 Range: 12E  
 Radius: 1 mile Mapping PrecisionNON-SPECIFIC Section: 15 Qtr: XX  
 Elevation: 900 ft Symbol Type:POINT Meridian: M

Location: ATASCADERO.

General: FOUR MALES COLLECTED AT A LIGHT IN ATASCADERO ON 23 MAY 1946 AND DEPOSITED IN CAS (HOLOTYPE #5879); DESCRIBED BY VAN DYKE AS A NEW SPECIES IN 1947. AN UNKNOWN NUMBER COLLECTED ON 25 JUL 1967, AND ONE SPECIMEN COLLECTED ON 15 JUN 1991.

Owner/Manager: UNKNOWN

**Progne subis**  
 purple martin

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Element Code:</b> ABPAU01010
<b>Federal:</b> None	<b>Global:</b> G5	<b>Other Lists</b>
<b>State:</b> None	<b>State:</b> S3	<b>CDFG Status:</b> SC

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**Habitat Associations**

**General:** INHABITS WOODLANDS, LOW ELEVATION CONIFEROUS FOREST OF DOUGLAS-FIR, PONDEROSA PINE, & MONTEREY PINE.  
**Micro:** NESTS IN OLD WOODPECKER CAVITIES MOSTLY, ALSO IN HUMAN-MADE STRUCTURES. NEST OFTEN LOCATED IN TALL, ISOLATED TREE/SNAG.

<b>Occurrence No.</b> 15	<b>Map Index:</b> 51862	<b>EO Index:</b> 51862	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-06-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-06-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-07-29

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35953° / -120.56941°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915627 E720842	<b>Range:</b> 13E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 34 <b>Qtr:</b> XX
<b>Elevation:</b> 1,165 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POINT

**Location:** ALONG TROUT CREEK, WEST OF POZO ROAD, SANTA MARGARITA RANCH  
**Location Detail:** NEST TREES ARE FOUND WITHIN THE CUESTA RIDGE VINEYARD ON THE SANTA MARGARITA RANCH.  
**Ecological:** NESTING HABITAT CONSISTS OF OLD SYCAMORES, ALTHOUGH THE TREES USED VARIES FROM YEAR TO YEAR. VINEYARD CONVERSION ON SURROUNDING LANDS APPEARS NOT TO HAVE AFFECTED THIS NESTING COLONY.  
**General:** 10+ ADULTS OBSERVED NESTING ON 1 JUN 2003.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

<b>Occurrence No.</b> 26	<b>Map Index:</b> 67111	<b>EO Index:</b> 67261	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2006-04-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-04-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-11-16

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.46300° / -120.67481°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3926875 E710994	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 27 <b>Qtr:</b> XX
<b>Elevation:</b> 915 ft	<b>Meridian:</b> M

**Mapping Precision:** SPECIFIC  
**Symbol Type:** POINT

**Location:** JUST NNE OF THE INTERSECTION OF HIGHWAY 41 AND SAN GABRIEL ROAD, SW EDGE OF ATASCADERO.  
**Location Detail:** ONLY KNOWN PURPLE MARTIN BREEDING SITE IN SAN LUIS OBISPO COUNTY.  
**Ecological:** HABITAT CONSISTS OF SYCAMORE WOODLAND ALONG ATASCADERO CREEK.  
**Threat:** THREATENED BY ENCROACHING DEVELOPMENT, THE PRESENCE OF EUROPEAN STARLINGS, AND A PROPOSED PED/BIKE PATH ALONG THE CREEK.  
**General:** KNOWN NEST SITE FOR AT LEAST THE PAST 20 YEARS. 10 PAIRS OBSERVED NESTING IN A SYCAMORE (PLATANUS RACEMOSA).  
**Owner/Manager:** UNKNOWN

**Pyrgulopsis taylori**

San Luis Obispo pyrg

Element Code: IMGASJ0A50

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G1	CDFG Status:
State: None	State: S1	

**Habitat Associations**

General: FRESHWATER HABITATS IN SAN LUIS OBISPO COUNTY.

Micro:

<b>Occurrence No.</b> 1	<b>Map Index:</b> 67897	<b>EO Index:</b> 68047	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1994-05-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-01-25

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31585° / -120.64772°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910609 E713841	<b>Range:</b> 12E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 13
<b>Elevation:</b> 530 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POINT	

**Location:** BRIZZIOLARI CREEK, 1.6 KM NORTH OF CALIFORNIA POLYTECHNIC UNIVERSITY.

**Location Detail:**LOCATION GIVEN AS "BRIZZIOLARI CREEK, 1.6 KM N OF CALIFORNIA POLYTECNIC UNIVERSITY"

**General:** USNM CATALOG #883789 CONSISTING OF ABOUT 200 SPECIMENS COLLECTED AT SITE/STATION #RH-94-5 BY R. HERSHLER.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 2	<b>Map Index:</b> 67901	<b>EO Index:</b> 68048	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2000-06-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-06-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-01-25

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34834° / -120.62995°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914251 E715370	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 01
<b>Elevation:</b> 1,800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** SAN LUIS OBISPO CREEK, CUESTA PASS.

**Location Detail:**COLLECTION # 874459 FROM 2/3 WAY UP CUESTA PASS; COLLECTION #903986 FROM SPRING, SAN LUIS OBISPO CREEK, JUST E OF HWY 101 BELOW CUESTA PASS (NOT SHOWN ON TOPO MAP).

**General:** USNM CATALOG #903986 CONSISTS OF 1 SPECIMEN FROM SITE #27 BY R. HERSHLER; #874459 CONSISTS OF ABOUT 150 SPECIMENS COLLECTED BY J.J. LANDYE FROM SITE L91-18.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 3	<b>Map Index:</b> 67900	<b>EO Index:</b> 68049	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-11-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-11-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-01-25

**Quad Summary:** San Luis Obispo (3512036/246C)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32513° / -120.72957°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911465 E706375	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 07
<b>Elevation:</b> 250 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** CAMP SAN LUIS OBISPO, CHORRO CREEK, 0.1 MI W OF THE JUNCTION OF THE JEEP TRAIL AND ROAD TO BOUNDARY SPRINGS.

**Location Detail:**EXACT LOCATION UNKNOWN; BOUNDARY SPRINGS MAY REFER TO CLUSTER OF SPRINGS SHOWN WEST OF CAMP SAN LUIS OBISPO ON TOPO MAP. MAPPED IN GENERAL AREA OF CAMP SAN LUIS OBISPO.

**General:** USNM CATALOG #854590, CONSISTING OF 5 SPECIMENS COLLECTED BY L.M. PAGE, K.S. CUMMINGS, AND C.A. MAYER.

**Owner/Manager:** UNKNOWN

**Pyrgulopsis taylori**

San Luis Obispo pyrg

Element Code: IMGASJ0A50

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G1 State: S1	CDFG Status:

**Habitat Associations**

General: FRESHWATER HABITATS IN SAN LUIS OBISPO COUNTY.

Micro:

<b>Occurrence No.</b> 4	<b>Map Index:</b> 67902	<b>EO Index:</b> 68050	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1994-05-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-01-25

**Quad Summary:** Lopez Mtn. (3512035/246D)

**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30885° / -120.60993°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3909915 E717295	<b>Range:</b> 13E
<b>Radius:</b> 2/5 mile	<b>Section:</b> 20
<b>Elevation:</b> 1,400 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** UNNAMED SPRING, SAN LUIS OBISPO CREEK, 4.6 KM NORTH OF SAN LUIS OBISPO,, EAST OF HWY 101.

**Location Detail:** EXACT LOCATION UNKNOWN; MAPPED 4. 6 KM NORTH OF CENTER OF SAN LUIS OBISPO AT UNNAMED SPRING CLUSTER ON TOPO MAP.

**General:** USNM CATALOG #860646, HOLOTYPE SPECIMEN, COLLECTED BY R. HERSHLER.

**Owner/Manager:** UNKNOWN



**Rallus longirostris obsoletus**

California clapper rail

Element Code: ABNME05016

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: Endangered	Global: G5T1 State: S1	CDFG Status:

**Habitat Associations**

**General:** SALT-WATER & BRACKISH MARSHES TRAVERSED BY TIDAL SLOUGHS IN THE VICINITY OF SAN FRANCISCO BAY.  
**Micro:** ASSOCIATED WITH ABUNDANT GROWTHS OF PICKLEWEED, BUT FEEDS AWAY FROM COVER ON INVERTEBRATES FROM MUD-BOTTOMED SLOUGHS.

<b>Occurrence No.</b> 54	<b>Map Index:</b> 12409	<b>EO Index:</b> 25843	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1939-02-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1939-02-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1989-08-10

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33766° / -120.84789°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912614 E695588	<b>Range:</b> 10E
<b>Radius:</b> 1 mile	<b>Section:</b> XX
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** MORRO BAY.  
**General:** POSSIBLE BREEDING POPULATION.  
**Owner/Manager:** UNKNOWN

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 46	<b>Map Index:</b> 24412	<b>EO Index:</b> 29092	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1996-08-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1996-08-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1998-04-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33671° / -120.72710°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912754 E706571	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 7 <b>Qtr:</b> XX
<b>Elevation:</b> 400 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POLYGON

**Location:** DAIRY CREEK & TRIBUTARY, EL CHORRO REGIONAL PARK, NW OF SAN LUIS OBISPO.  
**Location Detail:** 2 FROGS OBSERVED (IN 1995) JUST NORTH OF HWY 1; THE REMAINDER OF THE OBSERVATIONS WERE MADE 0.7-1.0 MILE UPSTREAM.  
**Ecological:** HABITAT CONSISTS OF A PERENNIAL STREAM (DAIRY CREEK), SURROUNDED BY RIPARIAN, DOMINATED BY COAST LIVE OAK AND SYCAMORE, AND AN UNDERSTORY OF WILLOWS.  
**Threat:** THREATENED BY PROPOSED GOLF COURSE, WHICH WOULD ENCOURAGE ENCROACHMENT BY BULLFROGS, WHICH ARE FOUND ON NEARBY CAMP SLO.  
**General:** ONE JUVENILE CAPTURED ON 10 MAR 93. 9 ADULTS WERE OBSERVED, 12 SEP 95. 40 NEWLY-TRANSFORMED JUVENILES OBSERVED ALONG A 500-FT SEGMENT OF CREEK, 19 SEP 95; SOME STILL ABOVE GROUND, 30 OCT 95. 8 ADULTS CAPTURED/RELEASED, APR 29-AUG 12, 1996.

**Owner/Manager:** SLO COUNTY

<b>Occurrence No.</b> 148	<b>Map Index:</b> 33271	<b>EO Index:</b> 19285	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1995-07-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1995-07-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-09-13

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14225° / -120.53164°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3891607 E724875	<b>Range:</b> 13E
<b>Area:</b> 4.0 acres	<b>Section:</b> 13 <b>Qtr:</b> XX
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M

**Mapping Precision:** SPECIFIC  
**Symbol Type:** POLYGON

**Location:** JUST WEST OF THE INTERSECTION OF HUASNA ROAD AND BRANCH MILL ROAD, ARROYO GRANDE.  
**Ecological:** HABITAT CONSISTS OF TWO AGRICULTURAL IMPOUNDMENTS (APPROX 4 FEET DEEP), WHICH ARE SPARSELY VEGETATED; SURROUNDED BY AGRICULTURAL FIELDS AND GRAZED GRASSLAND.  
**Threat:** THREATENED BY REGULAR DRAINING FOR FARMING ACTIVITIES.  
**General:** 6 JUVENILE FROGS OBSERVED ON 12 JULY 1995.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 149	<b>Map Index:</b> 33274	<b>EO Index:</b> 1879	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-09-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36315° / -120.69716°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915750 E709224	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 33 <b>Qtr:</b> NW
<b>Elevation:</b> 1,425 ft	<b>Meridian:</b> M

**Mapping Precision:** NON-SPECIFIC  
**Symbol Type:** POLYGON

**Location:** WHISKEY SPRING AND VICINITY, CAMP SAN LUIS OBISPO.  
**Location Detail:** PAGE'S SITE #CLSO1 IN 1994; KLEINFELDER SITE 2 IN 2004.  
**Ecological:** HABITAT CONSISTS OF A SPRING AND INTERMITTENT DRAINAGE WITH RIPARIAN.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** 8 MAY 1993: LARVAE OBS/1 AD CAPTURED. 6/6/93: LARVAE/2 ADS OBS IN SPRING. 21 MAR 1994: LARVAE/7 ADS OBS. 5/28/94: LARVAE/4 ADS OBS. 1998: 95 INDIVIDUALS OBS (CAS 210395, 210483). 30 AUG, 1 SEP, 14 SEP & 16 SEP 2004: UNKNOWN NUMBER OBSERVED.

**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 150	<b>Map Index:</b> 33275	<b>EO Index:</b> 1878	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1994-05-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1994-05-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-10-03

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36451° / -120.69017°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915916 E709855	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 33
<b>Elevation:</b> 1,650 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** DUGHI SPRING, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
**Location Detail:** PAGE'S SITE #CLSO2.  
**Ecological:** HABITAT CONSISTS OF A SPRING.  
**General:** ON 8 MAY 1993, 6 LARVAE AND 2 ADULTS WERE OBSERVED. ON 6 JUNE 1993, 1 ADULT WAS OBSERVED. ON 21 MARCH 1994, MANY LARVAE AND 2 ADULTS WERE OBSERVED. ON 28 MAY 1994, 1 ADULT WAS OBSERVED.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 151	<b>Map Index:</b> 33298	<b>EO Index:</b> 1622	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-06-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-06-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-10-04

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34375° / -120.69458°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913603 E709508	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 4
<b>Elevation:</b> 675 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** ALPHA RANGE POND, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
**Location Detail:** PAGE'S SITE #CLSO12.  
**Ecological:** HABITAT CONSISTS OF A FRESHWATER POND.  
**General:** 3 ADULT FROGS OBSERVED IN THE WATER ON 6 JUNE 1993.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 152	<b>Map Index:</b> 33299	<b>EO Index:</b> 1624	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1993-05-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1993-05-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1995-10-03

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34983° / -120.69126°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914285 E709794	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 4
<b>Elevation:</b> 815 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** TRIBUTARY TO CHORRO RESERVOIR, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
**Location Detail:** PAGE'S SITE #CLSO7.  
**General:** 1 ADULT FROG CAPTURED/RELEASED ON 9 MAY 1993.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: Threatened **Global:** G4T2T3 **CDFG Status:** SC  
 State: None **State:** S2S3

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

**Occurrence No.** 155 **Map Index:** 32878 **EO Index:** 13766 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Excellent **Element:** 1998-10-01  
**Origin:** Natural/Native occurrence **Site:** 1998-10-01  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1999-08-17

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.30245° / -120.64221° **Township:** 30S  
**UTM:** Zone-10 N3909134 E714377 **Range:** 12E  
**Area:** 33.9 acres **Mapping Precision:**SPECIFIC **Section:** 24 **Qtr:** XX  
**Elevation:** 480 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** MIOSSI CREEK, 0.5 - 1.0 KM NORTH OF HIGHWAY 101; APPROX. 1.4 KM EAST OF CALIFORNIA POLYTECHNIC STATE UNIVERSITY.  
**Location Detail:** TRIBUTARY TO SAN LUIS OBISPO CREEK.  
**Ecological:** HABITAT CONSISTS OF A PERENNIAL, SPRING-FED CREEK; DEEP (<1.5M) POOLS, NUMEROUS BASKING SITES. STREAM SUBSTRATE OF SAND, GRAVEL, COBBLE, BEDROCK; GRADIENT VARIABLE: RIFFLES IN SPOTS. SURROUNDED BY ROLLING OAK SAVANNAH, RIPARIAN HARDWOODS.  
**Threat:** POSSIBLE THREAT: CATTLE GRAZING, CA DEPT WATER RESOURCES PIPELINE.  
**General:** 29 ADULTS, 14 JUVENILES, AND LARVAE OBSERVED IN MAY 1995; FOUND ESPECIALLY WHERE BANK GRADIENT IS TOO STEEP TO ALLOW CATTLE ACCESS. 4 ADULTS AND 4 JUVENILES (SOME WITH TAILS) OBSERVED ON 1 OCT 1998.  
**Owner/Manager:** PVT-MIOSSI

**Occurrence No.** 156 **Map Index:** 32879 **EO Index:** 495 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1995-05-31  
**Origin:** Natural/Native occurrence **Site:** 1995-05-31  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1996-02-08

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.29463° / -120.63456° **Township:** 30S  
**UTM:** Zone-10 N3908283 E715094 **Range:** 12E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 25 **Qtr:** NE  
**Elevation:** 360 ft **Symbol Type:**POINT **Meridian:** M

**Location:** TRIBUTARY TO SAN LUIS OBISPO CREEK FLOWING UNDER HIGHWAY 101; APPROX. 0.1 KM SE OF HIGHWAY 101 X FOX HOLLOW ROAD.  
**Location Detail:** BETWEEN FOX HOLLOW ROAD AND RESERVOIR CANYON ROAD.  
**Ecological:** SMALL (2-3M WIDE, <0.5M DEEP) DRAINAGE WITH DENSE WILLOW COVER ALONG CORRIDOR; BASKING SITE AND LOW COVER ABUNDANCE HIGH; SEDGES, RUSHES, DUCKWEED; SUBSTRATE MUD/SAND, UNDERCUT BANKS; FLOWS UNDER HIGHWAY 101.  
**Threat:** SURROUNDING LAND: CATTLE GRAZELAND, NEAR POLICE FIRING RANGE; POSSIBLE THREAT: RUNOFF FROM HWY 101, PIPELINE CROSSING.  
**General:** 1 JUVENILE FLUSHED FROM SEDGE BASKING SITE TO UNDERCUT BANK (60MM SVL; 34.5 GRAMS).  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 157 **Map Index:** 32881 **EO Index:** 494 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Excellent **Element:** 1995-05-01  
**Origin:** Natural/Native occurrence **Site:** 1995-05-01  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1996-03-18

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.28669° / -120.61297° **Township:** 30S  
**UTM:** Zone-10 N3907449 E717079 **Range:** 13E  
**Area:** 22.7 acres **Mapping Precision:**SPECIFIC **Section:** 29 **Qtr:** W  
**Elevation:** 600 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** TRIBUTARY TO RESERVOIR CANYON CREEK; APPROX. 4.0 KM EAST OF SAN LUIS OBISPO.  
**Ecological:** SMALL SEASONAL DRAINAGES IN OAK SAVANNAH/GRASSLAND, RIPARIAN HARDWOODS LINE CORRIDOR; COVER AND BASKING SITE ABUNDANCE HIGH; UNDERCUT BANKS; SUBSTRATE GRAVEL, COBBLE, SAND, WOODY DEBRIS.  
**Threat:** POSSIBLE THREATS: CATTLE TRAMPLING, ACCESS ROADS, CA DEPT WATER RESOURCES PIPELINE.  
**General:** 1 ADULT FOUND UNDER WOODY DEBRIS NEAR SMALL, DEEP POOL PROTECTED FROM CATTLE TRAMPLING BY STEEP BANKS.  
**Owner/Manager:** PVT

Rana draytonii

California red-legged frog

Element Code: AAABH01022

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** Threatened **Global:** G4T2T3 **CDFG Status:** SC  
**State:** None **State:** S2S3

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

**Occurrence No.:** 245 **Map Index:** 38521 **EO Index:** 33528 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1996-11-19  
**Origin:** Natural/Native occurrence **Site:** 1996-11-19  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1998-04-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.29469° / -120.63003° **Township:** 30S  
**UTM:** Zone-10 N3908299 E715506 **Range:** 13E  
**Radius:** 1/10 mile **Mapping Precision:** NON-SPECIFIC **Section:** 30 **Qtr:** XX  
**Elevation:** 400 ft **Symbol Type:** POINT **Meridian:** M

**Location:** RESERVOIR CANYON, VICINITY OF SAN LUIS OBISPO CREEK, EAST OF SAN LUIS OBISPO  
**General:** SINGLE ADULT FOUND DOR ON 19 AUG 1996; CARCASS PROVIDED TO USFWS.  
**Owner/Manager:** UNKNOWN

**Occurrence No.:** 246 **Map Index:** 38522 **EO Index:** 33529 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1996-10-07  
**Origin:** Natural/Native occurrence **Site:** 1996-10-07  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1998-04-01

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.36172° / -120.80529° **Township:** 29S  
**UTM:** Zone-10 N3915368 E699401 **Range:** 11E  
**Radius:** 1/10 mile **Mapping Precision:** NON-SPECIFIC **Section:** 33 **Qtr:** XX  
**Elevation:** 55 ft **Symbol Type:** POINT **Meridian:** M

**Location:** SAN BERNARDO CREEK, VICINITY OF HWY 1, EAST OF MORRO BAY.  
**General:** 1 ADULT COLLECTED/RELEASED ON 7 OCTOBER 1996.  
**Owner/Manager:** UNKNOWN

**Occurrence No.:** 247 **Map Index:** 38526 **EO Index:** 33533 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 1996-09-10  
**Origin:** Natural/Native occurrence **Site:** 1996-09-10  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 1998-04-01

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.42535° / -120.86016° **Township:** 29S  
**UTM:** Zone-10 N3922317 E694263 **Range:** 10E  
**Radius:** 1/10 mile **Mapping Precision:** NON-SPECIFIC **Section:** 12 **Qtr:** XX  
**Elevation:** 75 ft **Symbol Type:** POINT **Meridian:** M

**Location:** TORO CREEK, IN THE VICINITY OF THE SECOND ROAD CROSSING, 1 MILE NE OF HWY 1, NORTH OF MORRO BAY  
**General:** 1 COLLECTED/RELEASED ON 4 SEP 1996, AND 1 COLLECTED/RELEASED ON 10 SEP 1996.  
**Owner/Manager:** UNKNOWN

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status: Threatened  
 Federal: Threatened  
 State: None  
 NDDB Element Ranks: Global: G4T2T3  
 State: S2S3  
 Other Lists: CDFG Status: SC

Habitat Associations

General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
 Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 258 Map Index: 39777 EO Index: 34779 Dates Last Seen: 1998-09-06  
 Occ Rank: Poor Element: 1998-09-06  
 Origin: Natural/Native occurrence Site: 1998-09-06  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-09-22

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.17617° / -120.68517° Township: 32S  
 UTM: Zone-10 N3895034 E710797 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 04 Qtr: XX  
 Elevation: 175 ft Symbol Type: POINT Meridian: M

Location: GRAGG CANYON, 0.7 MILE EAST OF HWY 101, EAST OF AVILA BEACH.  
 Location Detail: ADULT FROGS WERE OBSERVED IN A SPRING LOCATED ACROSS FROM THE PROPOSED VISITOR CENTER  
 Ecological: HABITAT CONSISTS OF A SPRING WITHIN A GRASSLAND AREA  
 Threat: CURRENTLY THREATENED BY CATTLE GRAZING (RIPARIAN COVER HAS BEEN ELIMINATED); SITE PROPOSED FOR DEVELOPMENT.  
 General: 2 ADULT FROGS OBSERVED DURING A NIGHT SURVEY ON 5 SEP 1998; 3 ADULT FROGS OBSERVED DURING A NIGHT SURVEY ON 6 SEP 1998.  
 Owner/Manager: PVT

Occurrence No. 291 Map Index: 40926 EO Index: 40926 Dates Last Seen: 2004-09-01  
 Occ Rank: Excellent Element: 2004-09-01  
 Origin: Natural/Native occurrence Site: 2004-09-01  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-06-16

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35534° / -120.69259° Township: 29S  
 UTM: Zone-10 N3914894 E709658 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 33 Qtr: SE  
 Elevation: 1,200 ft Symbol Type: POINT Meridian: M

Location: "MUCKY POND," 1 MILE NORTH OF CHORRO RESERVOIR, CAMP SAN LUIS OBISPO  
 Location Detail: SITE 5  
 Ecological: HABITAT CONSISTS OF RIPARIAN SURROUNDING A SPRING.  
 General: 8 INDIVIDUALS OBSERVED IN 1998. 1 LARVA COLLECTED (CAS 210485) ON 2 JUN 1998. UNKNOWN NUMBER OBSERVED ON 1 SEP 2004.  
 Owner/Manager: DOD-ARMY NATIONAL GUARD

Occurrence No. 292 Map Index: 40927 EO Index: 40927 Dates Last Seen: 1998-XX-XX  
 Occ Rank: Excellent Element: 1998-XX-XX  
 Origin: Natural/Native occurrence Site: 1998-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1999-03-01

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33374° / -120.70818° Township: 30S  
 UTM: Zone-10 N3912464 E708297 Range: 12E  
 Radius: 1/10 mile Mapping Precision: NON-SPECIFIC Section: 08 Qtr: NE  
 Elevation: 500 ft Symbol Type: POINT Meridian: M

Location: APPROXIMATELY 1 MILE NE OF CAMP SAN LUIS OBISPO, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
 Ecological: HABITAT CONSISTS OF RIPARIAN.  
 General: 4 INDIVIDUALS OBSERVED IN 1998.  
 Owner/Manager: DOD-ARMY NATIONAL GUARD

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 293	<b>Map Index:</b> 40928	<b>EO Index:</b> 40928	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1998-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-03-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32302° / -120.70239°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911287 E708851	<b>Range:</b> 12E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 17
<b>Elevation:</b> 360 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** NORTH SIDE OF CHORRO CREEK, JUST WEST OF THE CALIFORNIA MENS COLONY, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION.  
**Location Detail:** MAPPED ACCORDING TO UTM COORDINATED GIVEN.  
**Ecological:** HABITAT CONSISTS OF RIPARIAN.  
**General:** 6 INDIVIDUALS OBSERVED IN 1998.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD

<b>Occurrence No.</b> 294	<b>Map Index:</b> 40930	<b>EO Index:</b> 40930	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1998-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-03-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31983° / -120.72065°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910895 E707200	<b>Range:</b> 12E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 18
<b>Elevation:</b> 310 ft	<b>Qtr:</b> NE
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** VICINITY OF CHORRO CREEK, JUST SE OF CAMP SAN LUIS OBISPO, CAMP SAN LUIS OBISPO NATIONAL GUARD RESERVATION  
**Location Detail:** MAPPED ACCORDING TO UTM COORDINATES GIVEN.  
**Ecological:** HABITAT CONSISTS OF RIPARIAN.  
**General:** 1 INDIVIDUAL OBSERVED IN 1998.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD

<b>Occurrence No.</b> 295	<b>Map Index:</b> 40933	<b>EO Index:</b> 40933	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-09-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33887° / -120.68648°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913079 E710257	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 04
<b>Elevation:</b> 650 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** SEDIMENT PONDS ON THE NORTH AND WEST FORKS OF CHORRO CREEK AND TRIBUTARIES TO CHORRO RESERVOIR, CAMP SAN LUIS OBISPO  
**Location Detail:** INCLUDES SITES 6, 32, AND 33  
**Ecological:** HABITAT CONSISTS OF SEDIMENT PONDS AND ASSOCIATED RIPARIAN ALONG CHORRO CREEK.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** 13 INDIVIDUALS OBSERVED IN 1998. ADULT FEMALE COLLECTED (CAS 210394) ON 3 JUN 1998. 1 LARVA COLLECTED (CAS 210486) ON 4 JUN 1998. UNKNOWN NUMBER OBSERVED ON 30 AUG, 1 SEP, 14 SEP, AND 16 SEP 2004, AT 3 LOCATIONS.  
**Owner/Manager:** DOD-ARMY NATIONAL GUARD

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 296	<b>Map Index:</b> 40986	<b>EO Index:</b> 40986	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1999-07-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-07-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-04-29

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.43904° / -120.87278°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3923811 E693084	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 02
<b>Elevation:</b> 150 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** WILLOW CREEK, ADJACENT TO THE OLD CREEK ROAD CROSSING, 1 MILE EAST OF CAYUCOS  
**Location Detail:** THE BACKWATER BREEDING POOL IS FORMED WITHIN BEDROCK ON THE NW SIDE OF WILLOW CREEK AND APPEARS TO BE ISOLATED FROM ALL BUT THE HIGHEST WINTER FLOWS.  
**Ecological:** HABITAT CONSISTS OF GRAZED RIPARIAN WOODLAND, DOMINATED BY SALIX AND AN UNDERSTORY OF TOXICODENDRON DIVERSILOBUM AND RUBINUS URSINUS. POOL WHERE FROGS WERE FOUND WAS SURROUNDED BY OVERHANGING ROCKS/BANKS WITH MINIMAL VEGETATION IN THE POOL.  
**Threat:** POSSIBLE THREAT DUE TO EROSION OCCURRING UPSTREAM ON PRIVATE PROPERTY.  
**General:** 2 ADULTS OBSERVED IN A BACKWATER POOL ON 4 MAR 1999. 7+ FROGS AND SEVERAL TADPOLES OBSERVED ON 13 JUL 1999; 2 FROGS WERE IN THE PLUNGE POOL BELOW THE ROAD CULVERT, AND 5+ FROGS PLUS THE TADPOLES WERE IN A BREEDING POOL 100 FEET DOWNSTREAM.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 303	<b>Map Index:</b> 41232	<b>EO Index:</b> 41232	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 1998-12-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-12-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-06-15

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.18603° / -120.73277°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3896027 E706437	<b>Range:</b> 12E
<b>Radius:</b> 3/5 mile	<b>Section:</b> 31
<b>Elevation:</b> 30 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** AVILA BEACH GOLF COURSE, 5 MILES SSW OF SAN LUIS OBISPO.  
**Ecological:** HABITAT CONSISTS OF A SMALL, FLOWING STREAM WITH INTERMITTENT RIPARIAN, DOMINATED BY SYCAMORES AND WILLOWS, ALONG THE GOLF COURSE FAIRWAYS. SURROUNDING HILLSIDES ARE DOMINATED BY OAK WOODLAND. EMERGENT VEGETATION FOUND ALONG STREAM CHANNEL.  
**Threat:** THREATS INCLUDE GOLF COURSE MAINTENANCE ACTIVITIES, NEARBY DEVELOPMENT, & PROXIMITY OF HIGH POPULATIONS OF BULLFROGS.  
**General:** 1 ADULT RLF OBSERVED ON 6 DEC 1998.  
**Owner/Manager:** AVILA BEACH GOLF RESORT



**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 312	<b>Map Index:</b> 41474	<b>EO Index:</b> 41474	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1999-07-19
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-07-19
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-08-16

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.46100° / -120.74015°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3926515 E705069	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 25
<b>Elevation:</b> 1,160 ft	<b>Qtr:</b> SE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** MORRO CREEK, ADJACENT TO HIGHWAY 41, 4 MILES SW OF ATASCADERO  
**Location Detail:** SITE IS LOCATED AT MILEAGE POST 9.9, ABOUT 80 FEET FROM THE ROAD, IN DEVIL'S GAP; THIRD POOL ABOVE THE BIG WATERFALL.  
**Ecological:** HABITAT CONSISTS OF A SHALLOW POOL IN A CLEAR, COOL, INTERMITTENT STREAM, WITH A WILLOW/COAST LIVE OAK/LAUREL RIPARIAN CORRIDOR. DEEP POOLS NEARBY WITH EMERGENT AND OVERHANGING VEGETATION; STREAM CUT DOWN TO SERPENTINE BEDROCK.  
**Threat:** THREATENED BY HUMAN RECREATIONAL USE.  
**General:** 1 JUVENILE FROG OBSERVED ON 19 JUL 1999.  
**Owner/Manager:** CALTRANS

<b>Occurrence No.</b> 319	<b>Map Index:</b> 41844	<b>EO Index:</b> 41844	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 1999-09-12
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1999-09-12
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-11-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.12891° / -120.55562°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3890073 E722726	<b>Range:</b> 13E
<b>Area:</b>	<b>Section:</b> 23
<b>Elevation:</b> 140 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** ARROYO GRANDE CREEK, 1 MILE EAST OF THE INTERSECTION OF CORBIT CANYON ROAD AND UPPER ARROYO GRANDE ROAD, ARROYO GRANDE  
**Ecological:** HABITAT CONSISTS OF RIPARIAN, <45% OF STREAM BANK VEGETATED BY WILLOW, COTTONWOOD, POISON OAK, BLACKBERRY, NETTLE, AND SEDGES. STREAM INHABITED BY STEELHEAD (SOUTH/CENTRAL ESU).  
**General:** 1 ADULT OBSERVED ON 12 SEP 1999; MANY MORE EXPECTED TO BE IN THE AREA.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 395	<b>Map Index:</b> 43194	<b>EO Index:</b> 43194	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 2000-05-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-05-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-07-11

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.41247° / -120.67102°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3921277 E711470	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 10
<b>Elevation:</b> 1,500 ft	<b>Qtr:</b> SE
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** VICINITY OF MCLAIN SPRING, KATHLEEN VALLEY, SOUTH OF ATASCADERO.  
**Location Detail:** FROG WAS FOUND IN A CONCRETE SPRING BOX.  
**Ecological:** HABITAT CONSISTS OF A SPRING.  
**Threat:** THREATENED BY LACK OF PERENNIAL WATER.  
**General:** 1 JUVENILE OBSERVED, 18 MAY 2000.  
**Owner/Manager:** UNKNOWN

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 409	<b>Map Index:</b> 44177	<b>EO Index:</b> 44177	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2000-02-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-02-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-11-01

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33375° / -120.75203°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912374 E704312	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 12
<b>Elevation:</b> 185 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** ALONG HIGHWAY 1, 6 MILES NW OF SAN LUIS OBISPO  
**Ecological:** HABITAT CONSISTS MOSTLY OF GRASSLANDS, WITH PATCHES OF COASTAL SCRUB AND OAK WOODLANDS.  
**General:** ONE ADULT FROG FOUND DEAD ON THE HIGHWAY ON 15 FEB 2000.  
**Owner/Manager:** CALTRANS

<b>Occurrence No.</b> 418	<b>Map Index:</b> 44705	<b>EO Index:</b> 44705	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2000-10-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-10-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2001-01-08

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.13430° / -120.57015°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3890639 E721387	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 22
<b>Elevation:</b> 140 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POINT	

**Location:** CORBIT CANYON CREEK (AKA TALLY HO CREEK), AT THE JUNCTION OF CORBIT CANYON AND POORMAN CANYON, ARROYO GRANDE  
**Location Detail:** ~3-FT DEEP POOL UNDER HIGHWAY 227 BRIDGE, 40 FEET EAST OF TALLY HO ROAD.  
**Ecological:** HABITAT CONSISTS OF A FRESHWATER MARSH, DOMINATED BY SEDGES; MANY ESCAPED ORNAMENTALS PRESENT.  
**Threat:** THREATENED BY THE PRESENCE OF NON-NATIVE PREDATORS (CATS, SUNFISH) AND POOR WATER QUALITY.  
**General:** 1 INDIVIDUAL OBSERVED ON 20 OCT 2000.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 424	<b>Map Index:</b> 45157	<b>EO Index:</b> 45157	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2000-05-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-05-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2001-04-02

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.39935° / -120.85877°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3919436 E694451	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 13
<b>Elevation:</b> 80 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** DEL MAR PARK, MORRO BAY  
**Ecological:** HABITAT CONSISTS OF A LOW-VEGETATION STREAM, CONSISTING OF RUSHES, WILLOWS, AND BARE SHORES. SURROUNDED BY CITY PARK AND GRAZED GRASSLANDS.  
**Threat:** THREATENED BY A YEARLY STREAM VEGETATION REMOVAL PERFORMED BY THE CITY.  
**General:** 3 INDIVIDUALS OBSERVED ON 10 MAY 2000.  
**Owner/Manager:** PVT-CHEVRON, CITY OF MORRO BAY

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

Status: Threatened  
 Federal: Threatened  
 State: None  
 NDDB Element Ranks: Global: G4T2T3  
 State: S2S3  
 Other Lists: CDFG Status: SC

Habitat Associations

General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
 Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 425 Map Index: 45158 EO Index: 45158 Dates Last Seen: 2005-05-31  
 Occ Rank: Good Element: 2005-05-31  
 Origin: Natural/Native occurrence Site: 2005-05-31  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-11-15

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.39797° / -120.86551° Township: 29S  
 UTM: Zone-10 N3919269 E693843 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 14 Qtr: XX  
 Elevation: 10 ft Symbol Type: POINT Meridian: M

Location: ALVA PAUL CREEK, JUST UPSTREAM FROM THE CREEK MOUTH ON MORRO STRAND STATE BEACH, MORRO BAY.  
 Location Detail: THIS SITE IS LOCATED ON A PORTION OF STATE PARK PROPERTY THAT IS CLOSED TO THE PUBLIC AND IS UNDERGOING RESTORATION.  
 Ecological: HABITAT CONSISTS OF THICK SEDGES IN THE CREEK, BUT SURROUNDING AREA IS DOMINATED BY ICEPLANT. UPSTREAM IS A STEEP SLOPE LEADING TO HOUSES; STATE BEACH SURROUNDS THE CREEK MOUTH.  
 Threat: THREATENED BY ICEPLANT ENCROACHMENT, UNSHIELDED BRIGHT STREET LIGHTS ON BEACHCOMBER DRIVE, AND PREDATION BY FERAL CATS.  
 General: 1 AD OBS 50 FEET U/S FROM CREEK MOUTH, 1 OCT 2000. 3 ADULTS OBS, 1 AUG 2001. 8 ADS/60 JUV/S (EST 100-150 JUVS EST) OBS, 29 OCT 2002. 13 ADS/1 JUV OBS/ 1 CALLING, 15 FEB 2005; 1 HATCHING EGG MASS OBS, 8 APR 2005; 1 JUV OBS, 31 MAY 2005.

Owner/Manager: DPR-MORRO STRAND SB

Occurrence No. 426 Map Index: 45159 EO Index: 45159 Dates Last Seen: 2000-05-10  
 Occ Rank: Good Element: 2000-05-10  
 Origin: Natural/Native occurrence Site: 2000-05-10  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-04-02

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.40702° / -120.86347° Township: 29S  
 UTM: Zone-10 N3920278 E694006 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 14 Qtr: XX  
 Elevation: 110 ft Symbol Type: POINT Meridian: M

Location: ALVA PAUL CREEK, AT THE NORTH END OF MORRO BAY  
 Ecological: HABITAT CONSISTS OF LOW, GRAZED ANNUAL GRASSES AND AN EXPOSED STREAM. RESIDENTIAL AREA LIES ADJACENT TO THE GRAZED AREA.  
 Threat: THREATENED BY DEVELOPMENT NOW THAT THE LAND IS NO LONGER USED AS AN OIL PIPELINE ROUTE.  
 General: 10 INDIVIDUALS OBSERVED ON 10 MAY 2000.

Owner/Manager: PVT-CHEVRON

Occurrence No. 427 Map Index: 45160 EO Index: 45160 Dates Last Seen: 2001-02-28  
 Occ Rank: Unknown Element: 2001-02-28  
 Origin: Natural/Native occurrence Site: 2001-02-28  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2001-04-02

Quad Summary: Morro Bay North (3512047/247A)  
 County Summary: San Luis Obispo

Lat/Long: 35.40446° / -120.86675° Township: 29S  
 UTM: Zone-10 N3919987 E693714 Range: 10E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 14 Qtr: XX  
 Elevation: 60 ft Symbol Type: POINT Meridian: M

Location: AREA BORDERED BY TIDE AVENUE, PANORAMA, MAIN STREET, AND VASHON, AT THE NORTH END OF MORRO BAY  
 Ecological: HABITAT CONSISTS OF EXOTIC WEEDS AND SOME SEDGES ALONG THE CREEK EDGE. ONE POOL HAS FORMED DUE TO EROSION, AND THIS IS WHERE THE FROGS ARE FOUND.  
 Threat: THREATENED BY VEGETATION CLEARING EACH YEAR DURING THE PEAK OF FROG ACTIVITY, AND LAND IS FOR SALE FOR DEVELOPMENT.  
 General: 3 ADULTS OBSERVED ON 22 JUN 2000. 3 ADULTS OBSERVED ON 28 FEB 2001.

Owner/Manager: PVT

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 428	<b>Map Index:</b> 45161	<b>EO Index:</b> 45161	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2000-05-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-05-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2001-04-03

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34357° / -120.81997°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913325 E698112	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 05
<b>Elevation:</b> 50 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** UNNAMED TRIBUTARY THAT EMPTIES INTO MORRO BAY AT THE MORRO ESTUARY NATURAL PRESERVE, MORRO BAY  
**Ecological:** HABITAT CONSISTS OF THICK WILLOW COVER ON A SHADED CREEK.  
**General:** 1 ADULT OBSERVED ON 17 MAY 2000.  
**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No.</b> 452	<b>Map Index:</b> 45734	<b>EO Index:</b> 45734	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-09-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32279° / -120.73083°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911203 E706266	<b>Range:</b> 12E
<b>Area:</b> 30.9 acres	<b>Section:</b> 18
<b>Elevation:</b> 250 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** LOWER CHORRO CREEK, VICINITY OF THE INTERSECTION OF COLUSA AVENUE AND VENTURA AVENUE, CAMP SAN LUIS OBISPO.  
**Location Detail:** SITE 29 (BRIDGE 107) & SITE 30 (BRIDGE 105 & 106).  
**Ecological:** HABITAT CONSISTS OF A CREEK WITH ~40% EMERGENT VEGETATION.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** 1 ADULT FEMALE COLLECTED (CAS 210392) ON 1 JUN 1998. AN UNKNOWN NUMBER OBSERVED ON 31 AUG, 2 SEP, AND 15 SEP 2004.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 453	<b>Map Index:</b> 45735	<b>EO Index:</b> 45735	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1998-06-01
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-06-01
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2001-08-30

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32062° / -120.70564°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911014 E708562	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 17
<b>Elevation:</b> 380 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** CAMP SAN LUIS OBISPO, CHORRO CREEK. 0.85 MILES NORTH OF CHUMASH PEAK, BETWEEN THE STATE PRISON & HWY 1.  
**General:** CAS# 210393, MALE.  
**Owner/Manager:** DOD-CAMP SAN LUIS OBISPO

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: Threatened **Global:** G4T2T3 **CDFG Status:** SC  
 State: None **State:** S2S3

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

**Occurrence No.** 459 **Map Index:** 45816 **EO Index:** 45816 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-08-02  
**Origin:** Natural/Native occurrence **Site:** 2002-08-02  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2002-09-05

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.13015° / -120.57290° **Township:** 32S  
**UTM:** Zone-10 N3890172 E721148 **Range:** 13E  
**Area:** 16.9 acres **Mapping Precision:**SPECIFIC **Section:** 22 **Qtr:** XX  
**Elevation:** 150 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** TALLY HO CREEK, NEAR THE ENDS OF MAY STREET AND PASEO STREET, ARROYO GRANDE  
**Location Detail:**BULLFROGS PRESENT IN AN UPSTREAM POOL/DEVELOPMENT.  
**Ecological:** HABITAT CONSISTS OF 3 DEEP POOLS IN TALLY HO CREEK, SURROUNDED BY A WILLOW RIPARIAN CORRIDOR, WITH WILLOW BRANCHES HANGING INTO THE POOLS AND KIKUYU GRASS ON THE BANKS.  
**Threat:** THREATENED BY FERAL CATS, EROSION/SEDIMENTATION, BULLFROGS, AND DEVELOPMENT.  
**General:** ADULT FROGS OBSERVED IN 1999, 2000, AND 2001. 1 ADULT AND 10 JUVENILE FORGS OBSERVED ON 2 AUG 2002.  
**Owner/Manager:** PVT

**Occurrence No.** 477 **Map Index:** 46897 **EO Index:** 46897 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Poor **Element:** 2001-10-07  
**Origin:** Natural/Native occurrence **Site:** 2001-10-07  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2002-01-02

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.40033° / -120.86628° **Township:** 29S  
**UTM:** Zone-10 N3919530 E693767 **Range:** 10E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 14 **Qtr:** XX  
**Elevation:** 20 ft **Symbol Type:**POINT **Meridian:** M

**Location:** ALONG BEACHCOMBER AVENUE, AT THE END OF ORCAS ROAD, JUST EAST OF MORRO STRAND STATE BEACH CAMPGROUND, MORRO BAY  
**Location Detail:**SITE IS PARTIALLY-SHADED BY THE BEACHCOMBER AVENUE OVERPASS.  
**Ecological:** HABITAT CONSISTS OF A 10-FOOT DIAMETER POOL (2-3 FEET DEEP). SURROUNDED BY A STATE BEACH CAMPGROUND TO THE WEST AND A RESIDENTIAL AREA TO THE EAST.  
**Threat:** THREATENED BY ISOLATION BY DEVELOPED AREAS.  
**General:** 3 JUVENILES OBSERVED ON 7 OCT 2001.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 494 **Map Index:** 47268 **EO Index:** 47268 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2002-02-07  
**Origin:** Natural/Native occurrence **Site:** 2002-02-07  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2002-02-20

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.39278° / -120.60430° **Township:** 29S  
**UTM:** Zone-10 N3919237 E717582 **Range:** 13E  
**Area:** 6.7 acres **Mapping Precision:**SPECIFIC **Section:** 20 **Qtr:** XX  
**Elevation:** 1,000 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** SANTA MARGARITA COMMUNITY PARK, SANTA MARGARITA; ALONG YERBA BUENA CREEK (NORTH OF SR 58) JUST SOUTH OF RAILROAD TRACKS.  
**Ecological:** HABITAT CONSISTS OF NARROW CHANNEL (STEEP BANK WITH FLAT TOP) AND POND UP TO 6 FEET DEEP. BARREN SOIL WITH EMERGENT VEGETATION (TULE ETC.) SURROUNDS THE POND. SOUTHWESTERN POND TURTLE OBSERVED IN VICINITY. SURROUNDING LAND: COUNTY PARK.  
**Threat:** THREAT CONSISTS OF HUMAN DISTURBANCE.  
**General:** 7 FEB 2002: 4 ADULTS OBSERVED.  
**Owner/Manager:** SLO COUNTY

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 528	<b>Map Index:</b> 48230	<b>EO Index:</b> 48230	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2002-07-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-07-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-07-12

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.37899° / -120.65930°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3917588 E712622	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 26
<b>Elevation:</b> 1,200 ft	<b>Qtr:</b> NW
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** 3 MILES WSW OF SANTA MARGARITA; TASAJERA CREEK, ALONG TASSAJERA CREEK RD 1.1 MILES NW FROM HWY 101.  
**Ecological:** HABITAT CONSISTS OF SECLUDED POOL ALONG CREEK, WELL SHADED WITH EMERGENT VEGETATION; BEDROCK AND BOULDERS UNDER CONCRETE BRIDGE. ONCORHYNCHUS MYKISS IRIDEUS PRESENT. SURROUNDING LAND IS RURAL RESIDENTIAL.

**General:** 1 ADULT OBSERVED ON 8 JUL 2002.

**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 567	<b>Map Index:</b> 48755	<b>EO Index:</b> 48755	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2002-09-03
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-09-03
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2002-09-10

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16805° / -120.52185°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894491 E725695	<b>Range:</b> 14E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 06
<b>Elevation:</b> 525 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** EAST OF THE NORTH END OF ARROYO GRANDE VALLEY. 0.5 MILE SE OF ORCUTT RD LOPEZ DR INTERSECTION.  
**Ecological:** HABITAT CONSISTS OF A RESERVOIR, SURROUNDED BY DISTURBED GRASSLANDS, DOMINATED BY NON-NATIVE GRASSES/ANNUAL HERBS. DOMINANTS ALONG THE BANK INCLUDE HEMIZONIA SPP, HIRSCHFELDIA INCANA, ARTEMISIA CALIFORNICA; SCIRPUS SPP DOMINATES POND EDGE.

**Threat:** THREATENED BY LANDOWNER'S PLANS TO DRAIN AND FILL THE RESERVOIR.

**General:** 1 ADULT AND 20 JUVENILES OBSERVED ON 3 SEP 2002.

**Owner/Manager:** PVT

<b>Occurrence No.</b> 626	<b>Map Index:</b> 51343	<b>EO Index:</b> 51343	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2002-05-18
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-18
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-05-21

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34555° / -120.55999°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3914096 E721737	<b>Range:</b> 13E
<b>Radius:</b> 80 meters	<b>Section:</b> 03
<b>Elevation:</b> 1,200 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** TACO CREEK, TRIBUTARY TO RINCONADA CREEK, TRIBUTARY TO THE SALINAS RIVER, NE OF SAN LUIS OBISPO  
**Location Detail:** TACO CREEK HAS ONE ROAD CROSSING IN THE ACTIVE STREAM CHANNEL.  
**Ecological:** HABITAT CONSISTS OF A SEASONAL TRIBUTARY TO A PERENNIAL STREAM, ADJACENT TO AN AG POND CONTAINING BULLFROGS, BLACK BULLHEADS, AND SW POND TURTLES. POOL IS SHADED BY A LARGE VALLEY OAK; ROOT TANGLES ARE EXPOSED FROM AN UNDERCUT BANK.

**Threat:** THREATENED BY THE PRESENCE OF BULLFOGS.

**General:** 1 ADULT OBSERVED ON 18 MAY 2002.

**Owner/Manager:** PVT-SANTA MARGARITA RANCH

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

Status

NDDB Element Ranks

Other Lists

Federal: Threatened

Global: G4T2T3

CDFG Status: SC

State: None

State: S2S3

Habitat Associations

General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.

Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 627

Map Index: 51344

EO Index: 51344

Dates Last Seen

Occ Rank: Good

Element: 2002-09-27

Origin: Natural/Native occurrence

Site: 2002-09-27

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2003-05-21

Quad Summary: Lopez Mtn. (3512035/246D)

County Summary: San Luis Obispo

Lat/Long: 35.36055° / -120.56749°

UTM: Zone-10 N3915744 E721014

Radius: 80 meters

Elevation: 1,150 ft

Township: 29S

Range: 13E

Section: 34

Qtr: XX

Mapping Precision SPECIFIC

Symbol Type: POINT

Meridian: M

Location: TROUT CREEK, TRIBUTARY TO THE SALINAS RIVER, 1 MILE ESE OF MILLER FLAT, NE OF SAN LUIS OBISPO

Location Detail: TROUT CREEK HAS SEVERAL CROSSINGS IN THE ACTIVE STREAM CHANNEL.

Ecological: HABITAT CONSISTS OF AN INTERMITTENT STREAM; A SERIES OF BEAVER DAMS SLOW WATER FLOWS AND CREATE MODERATE-SIZED POOLS WITH SOME EMERGENT VEGETATION AND OVERHANGING WILLOWS. VINEYARDS ADJACENT TO STREAM, WITH A 100' SETBACK.

Threat: THREATENED BY CATTLE GRAZING AND POSSIBLY BULLFROGS (NO BULLFROGS WERE SEEN, BUT THEY ARE KNOWN FROM THIS DRAINAGE).

General: 4 JUVENILES OBSERVED ON 27 SEP 2002

Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 628

Map Index: 51345

EO Index: 51345

Dates Last Seen

Occ Rank: Good

Element: 2002-05-18

Origin: Natural/Native occurrence

Site: 2002-05-18

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2003-05-21

Quad Summary: Lopez Mtn. (3512035/246D)

County Summary: San Luis Obispo

Lat/Long: 35.34275° / -120.58627°

UTM: Zone-10 N3913727 E719355

Radius: 80 meters

Elevation: 1,240 ft

Township: 30S

Range: 13E

Section: 04

Qtr: SW

Mapping Precision SPECIFIC

Symbol Type: POINT

Meridian: M

Location: TROUT CREEK, TRIBUTARY TO WATER CANYON CREEK, 2.5 MILES EAST OF CUESTA PASS, NE OF SAN LUIS OBISPO

Location Detail: TROUT CREEK HAS SEVERAL CROSSINGS IN THE ACTIVE STREAM CHANNEL.

Ecological: HABITAT CONSISTS OF AN INTERMITTENT STREAM CONTAINING A SMALL SCOUR POOL AT AN OXBOW UNDER A WESTERN SYCAMORE. STREAM IS VEGETATED BY RED WILLOW THICKETS AND COAST LIVE OAK WOODLAND IS FOUND IN THE POOL VICINITY. SAND AND COBBLE SUBSTRATE.

Threat: POSSIBLY THREATENED BY CATTLE GRAZING.

General: 5 ADULTS OBSERVED SUNNING ON THE BANK OF A SMALL SCOUR POOL ON 18 MAY 2002.

Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 639

Map Index: 51371

EO Index: 51371

Dates Last Seen

Occ Rank: Good

Element: 1991-XX-XX

Origin: Natural/Native occurrence

Site: 1991-XX-XX

Presence: Presumed Extant

Trend: Unknown

Record Last Updated: 2003-05-22

Quad Summary: San Luis Obispo (3512036/246C)

County Summary: San Luis Obispo

Lat/Long: 35.29010° / -120.62759°

UTM: Zone-10 N3907796 E715740

Area: 1.2 acres

Elevation: 400 ft

Township: 30S

Range: 13E

Section: 30

Qtr: NW

Mapping Precision SPECIFIC

Symbol Type: POLYGON

Meridian: M

Location: RESERVOIR IN RESERVOIR CANYON, SAN LUIS OBISPO.

Ecological: HABITAT CONSISTS OF AN OLD, DETERIORATED RESERVOIR THAT WAS ONCE A SOURCE OF WATER FOR SAN LUIS OBISPO.

Threat: THREATENED BY DEGRADATION OF WATER QUALITY FROM UPSTREAM USES (CATTLE).

General: 1 INDIVIDUAL CAPTURED IN 1991.

Owner/Manager: CITY OF SAN LUIS OBISPO

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 648	<b>Map Index:</b> 51512	<b>EO Index:</b> 51512	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-05-10
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-10
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-06-11

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33016° / -120.72666°	<b>UTM:</b> Zone-10 N3912028 E706627	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 07	<b>Qtr:</b> XX
<b>Radius:</b> 80 meters	<b>Elevation:</b> 320 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Meridian:</b> M	

**Location:** UNNAMED DRAINAGE EAST OF AND TRIBUTARY TO DAIRY CREEK, 0.3 MILE UPSTREAM FROM THE CONFLUENCE, EL CHORRO REGIONAL  
**Ecological:** HABITAT CONSISTS OF SEVERAL PONDS WITHIN A DRAINAGE; VEGETATED BY WESTERN SYCAMORE, ARROYO WILLOW, CALIFORNIA BLACKBERRY, POISON OAK, & WATERCRESS. ANNUAL GRASSLAND TO NORTH & EAST, EL CHORRO REGIONAL PARK & BOTANICAL GARDEN TO SOUTH & WEST  
**General:** ON 10 MAY 2003, 3 ADULTS OBSERVED AND MULTIPLE "PLOPS" HEARD FROM FROGS ENTERING WATER.  
**Owner/Manager:** SLO COUNTY-EL CHORRO RP

<b>Occurrence No.</b> 673	<b>Map Index:</b> 53685	<b>EO Index:</b> 53685	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-09-25
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-09-25
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2003-12-23

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27667° / -120.77443°	<b>UTM:</b> Zone-10 N3905996 E702417	<b>Township:</b> 30S	<b>Range:</b> 11E	<b>Section:</b> 34	<b>Qtr:</b> NE
<b>Radius:</b> 80 meters	<b>Elevation:</b> 450 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POINT	<b>Meridian:</b> M	

**Location:** UPPER LOS OSOS CREEK, 3.5 MILES SE OF LOS OSOS  
**Ecological:** HABITAT CONSISTS OF WILLOW-DOMINATED RIPARIAN, ALONG WITH ALDERS AND SYCAMORES; SILT/GRAVEL SUBSTRATE. FROGS FOUND IN POOLS CONTAINING ASSOCIATED WILLOW ROOT MASSES.  
**Threat:** THREATENED BY PRESENCE OF CATTLE.  
**General:** 6 ADULTS AND 5 JUVENILES OBSERVED ON 25 SEP 2003; FROGS WERE FOUND DURING PRE-CONSTRUCTION SURVEYS.  
**Owner/Manager:** PVT

<b>Occurrence No.</b> 728	<b>Map Index:</b> 54227	<b>EO Index:</b> 54227	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2003-09-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-09-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-02-02

**Quad Summary:** Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34505° / -120.56942°	<b>UTM:</b> Zone-10 N3914020 E720881	<b>Township:</b> 30S	<b>Range:</b> 13E	<b>Section:</b> 03	<b>Qtr:</b> XX
<b>Area:</b> 2.5 acres	<b>Elevation:</b> 1,233 ft	<b>Mapping Precision:</b> SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Meridian:</b> M	

**Location:** PONDED AREA OF TROUT CREEK, ON THE SW SIDE OF SANTA MARGARITA VALLEY, 6 MILES NE OF SAN LUIS OBISPO  
**Location Detail:** DURING SEP 2003, THE POND MEASURED 120' X 90', WITH TEMPERATURES FROM 64-67 DEGREES F.  
**Ecological:** HABITAT CONSISTS OF A POND, SURROUNDED BY GRAZING LAND. SHORELINE VEGETATION WAS DOMINATED BY EXTENSIVE STANDS OF ELEOCHARIS MACROSTACHYA; CATTLE GRAZING DURING SUMMER REMOVED ALL EMERGENT VEGETATION. BULLFROGS PRESENT IN LARGE NUMBERS.  
**Threat:** THREATENED BY NATIVE AND NON-NATIVE PREDATORS.  
**General:** DURING 2001 AND 2002, THIS POND DRIED UP, ELIMINATING A POPULATION OF INTRODUCED FISH AND REDUCING THE BULLFROG POPULATION. NO CRLF'S OBSERVED DURING A 2002 SURVEY. 5 ADULTS AND 34 JUVENILES OBSERVED ON 17 SEP 2003.  
**Owner/Manager:** PVT-SANTA MARGARITA CO



**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: Threatened **Global:** G4T2T3 **CDFG Status:** SC  
 State: None **State:** S2S3

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

**Occurrence No.** 741 **Map Index:** 55176 **EO Index:** 55176 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-09-25  
**Origin:** Natural/Native occurrence **Site:** 2003-09-25  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-04-15

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.38112° / -120.60426° **Township:** 29S  
**UTM:** Zone-10 N3917944 E717617 **Range:** 13E  
**Area:** 17.4 acres **Mapping Precision:**SPECIFIC **Section:** 29 **Qtr:** XX  
**Elevation:** 1,047 ft **Symbol Type:**POLYGON **Meridian:** M

**Location:** YERBA BUENA CREEK, 0.5 MILE SOUTH OF SANTA MARGARITA  
**Ecological:** HABITAT CONSISTS OF THE LAST DRYING POOLS OF YERBA BUENA CREEK; VALLEY OAKS PROVIDED DEEP SHADE OVER THE POOLS, REDUCING THE WATER TEMPERATURES.  
**Threat:** THREATS INCLUDE POTENTIAL PREDATION, FUTURE DEVELOPMENT, AND VINEYARD RUNOFF.  
**General:** ON 25 SEP 2003, 14 METAMORPHING TADPOLES/FROGS WERE OBSERVED IN THE LAST DRYING POOLS IN THIS STRETCH OF CREEK.  
**Owner/Manager:** PVT-SANTA MARGARITA CO

**Occurrence No.** 836 **Map Index:** 61612 **EO Index:** 61648 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2004-09-15  
**Origin:** Natural/Native occurrence **Site:** 2004-09-15  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.32887° / -120.69628° **Township:** 30S  
**UTM:** Zone-10 N3911949 E709392 **Range:** 12E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 09 **Qtr:** XX  
**Elevation:** 445 ft **Symbol Type:**POINT **Meridian:** M

**Location:** CHORRO CREEK, AT THE LOWER CHORRO CREEK CROSSING, JUST NORTH OF THE CALIFORNIA MEN'S COLONY, CAMP SAN LUIS OBISPO  
**Location Detail:** SITE 22, LOCATED AT THE PUMP STATION ON RESERVOIR LOOP.  
**Ecological:** HABITAT CONSISTS OF A CREEK WITH 40-50% EMERGENT VEGETATION.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** UNKNOWN NUMBER OBSERVED ON 15 SEP 2004.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Occurrence No.** 837 **Map Index:** 61613 **EO Index:** 61649 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2004-09-15  
**Origin:** Natural/Native occurrence **Site:** 2004-09-15  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.32559° / -120.69871° **Township:** 30S  
**UTM:** Zone-10 N3911581 E709179 **Range:** 12E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 09 **Qtr:** XX  
**Elevation:** 440 ft **Symbol Type:**POINT **Meridian:** M

**Location:** CHORRO CREEK, ADJACENT TO THE INTERSECTION OF MONTEREY AVENUE AND THE EAST PRISON ENTRANCE, CAMP SAN LUIS OBISPO  
**Location Detail:** SITE 21  
**Ecological:** HABITAT CONSISTS OF A CREEK WITH 40-50% EMERGENT VEGETATION.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** UNKNOWN NUMBER OBSERVED ON 2 SEP AND 15 SEP 2004.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened State: None	Global: G4T2T3 State: S2S3	CDFG Status: SC

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 838	<b>Map Index:</b> 61614	<b>EO Index:</b> 61650	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-09-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32253° / -120.71973°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911197 E707276	<b>Range:</b> 12E
<b>Area:</b> 21.4 acres	<b>Section:</b> 17
<b>Elevation:</b> 328 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POLYGON	

**Location:** LOWER CHORRO CREEK, EAST AND WEST OF THE HIGHWAY 1 BRIDGE IN THE EAST CANTONMENT AREA, CAMP SAN LUIS OBISPO  
**Location Detail:** SITE 25 (BRIDGE 109) AND SITE 29 (BRIDGE 108)  
**Ecological:** HABITAT CONSISTS OF A CREEK WITH 40-50% EMERGENT VEGETATION.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** UNKNOWN NUMBER OBSERVED ON 2 SEP AND 15 SEP 2004.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 839	<b>Map Index:</b> 61615	<b>EO Index:</b> 61651	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-09-16
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-09-16
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-06-16

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32493° / -120.70986°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911484 E708167	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 08
<b>Elevation:</b> 345 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** CULVERT OF UNNAMED TRIBUTARY TO LOWER CHORRO CREEK, ON KERN AVENUE NEAR USPFO, CAMP SAN LUIS OBISPO  
**Location Detail:** SITE 24  
**Ecological:** HABITAT CONSISTS OF A CREEK WITH 40-50% EMERGENT VEGETATION.  
**Threat:** THREATENED BY CATTLE GRAZING, EROSION, AND A BRIDGE REMOVAL PROJECT.  
**General:** UNKNOWN NUMBER OBSERVED ON 1 SEP, 14 SEP, AND 16 SEP 2004.  
**Owner/Manager:** DOM-CAMP SAN LUIS OBISPO

<b>Occurrence No.</b> 843	<b>Map Index:</b> 62484	<b>EO Index:</b> 62521	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2005-06-13
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-06-13
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-09-07

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.16431° / -120.63538°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3893825 E715363	<b>Range:</b> 12E
<b>Radius:</b> 80 meters	<b>Section:</b> 01
<b>Elevation:</b> 80 ft	<b>Qtr:</b> XX
<b>Mapping Precision:</b> SPECIFIC	<b>Meridian:</b> M
<b>Symbol Type:</b> POINT	

**Location:** UNNAMED TRIBUTARY TO PISMO CREEK, 0.2 MILE UPSTREAM FROM THE PISMO CREEK CONFLUENCE, 1.5 MILES NORTH OF PISMO BEACH  
**Ecological:** HABITAT SURROUNDING THE STREAM CONSISTS OF COAST LIVE OAK WOODLAND, DOMINATED BY QUERCUS AGRIFOLIA, WITH ASSOCIATES THAT INCLUDE RHAMNUS CROCEA, HETEROMELES ARBUTIFOLIA, TOXICODENDRON DIVERSILOBUM, AND BROMUS DIANDRUS.  
**Threat:** THREATENED BY BULLFROGS, CATTLE GRAZING, AND ADJACENT VEHICULAR TRAFFIC.  
**General:** 1 ADULT OBSERVED ON 13 JUN 2005.  
**Owner/Manager:** PVT

Rana draytonii

California red-legged frog

Element Code: AAABH01022

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Threatened	Global: G4T2T3	CDFG Status: SC
State: None	State: S2S3	

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

<b>Occurrence No.</b> 850	<b>Map Index:</b> 63251	<b>EO Index:</b> 63343	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 2005-04-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-04-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-11-29

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.39015° / -120.86259°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3918408 E694125	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 23
<b>Elevation:</b> 22 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** MORRO STRAND STATE BEACH, MORRO BAY  
**Location Detail:** SAND DUNES BETWEEN "THE CLOISTERS" DEVELOPMENT AND BEACH; LOCATED ON STATE PARK PROPERTY THAT IS CLOSED TO THE PUBLIC DURING SUMMER.  
**Ecological:** HABITAT CONSISTS OF A FORMER NATURAL DUNE WETLAND THAT WAS MODIFIED BY THE CLOISTERS DEVELOPMENT TO RECEIVE URBAN RUN-OFF FROM AT LEAST 200 ACRES NORTH OF HIGHWAY 1 AND DRAIN TO THE OCEAN. POND IS STOCKED WITH INTRODUCED FISH SPECIES.  
**Threat:** THREATENED BY MODIFICATIONS TO SURFACE AND SUBSURFACE HYDROLOGY AND NON-NATIVE FISH WASHED DOWN FROM THE CLOISTERS.  
**General:** 1 ADULT RANID (NOT POSITIVELY ID'ED TO SPECIES) JUMPED INTO POND AND 1 TADPOLE (POSITIVELY ID'ED) CAPTURED IN A DIPNET ON 8 APR 2005  
**Owner/Manager:** DPR-MORRO STRAND SB

<b>Occurrence No.</b> 885	<b>Map Index:</b> 65003	<b>EO Index:</b> 65082	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2006-06-06
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2006-06-06
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2006-07-05

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31971° / -120.77829°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910763 E701959	<b>Range:</b> 11E
<b>Radius:</b> 80 meters	<b>Section:</b> 15
<b>Elevation:</b> 180 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** TRIBUTARY TO LOS OSOS CREEK THAT CROSSES TURRI ROAD, ~2 MILES WEST OF CAMP SAN LUIS OBISPO  
**Ecological:** HABITAT CONSISTS OF AN EPHEMERAL DRAINAGE; AT THE TIME OF THE SURVEY, POOLS (12-20" DEEP) EXISTED AT EITHER END OF THE TURRI ROAD CULVERT; EMERGENT VEGETATION WAS FOUND IN THE DOWNSTREAM POOL, BUT THERE WAS NO DENSE BANKSIDE VEGETATION.  
**Threat:** THREATENED BY GRAZING AND FUTURE EROSION CONTROL WORK.  
**General:** 1 TADPOLE OBSERVED IN THE UPSTREAM POOL AND 8 ADULT FROGS OBSERVED INSIDE THE 60" CMP, IN ~2" OF WATER.  
**Owner/Manager:** SLO COUNTY

**Rana draytonii**

California red-legged frog

Element Code: AAABH01022

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
 Federal: Threatened **Global:** G4T2T3 **CDFG Status:** SC  
 State: None **State:** S2S3

**Habitat Associations**

**General:** LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.  
**Micro:** REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

**Occurrence No.** 895 **Map Index:** 65909 **EO Index:** 65988 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Excellent **Element:** 2006-08-09  
**Origin:** Natural/Native occurrence **Site:** 2006-08-09  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2006-08-18

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.24496° / -120.68081° **Township:** 31S  
**UTM:** Zone-10 N3902674 E711016 **Range:** 12E  
**Radius:** 80 meters **Mapping Precision:** SPECIFIC **Section:** 10 **Qtr:** NW  
**Elevation:** 120 ft **Symbol Type:** POINT **Meridian:** M

**Location:** JUST NORTH OF THE CONFLUENCE OF PREFUMO CREEK & SAN LUIS OBISPO CREEK, SAN LUIS OBISPO.  
**Location Detail:** SITE IS AN ABANDONED AREA WITHIN THE CITY OF SAN LUIS OBISPO'S WATER TREATMENT AREA; MANAGED FOR WILDLIFE (PRIMARILY WATERFOWL).  
**Ecological:** HABITAT CONSISTS OF DEEP CONCRETE CHANNELS WITH LARGE AREAS OF VEGETATIVE COVER (DUCKWEED)  
**Threat:** THREATENED BY NUMEROUS LARGE BULLFROGS WHICH ALSO INHABIT THIS SITE.  
**General:** 1 ADULT, 1 JUVENILE AND 1 OF UNKNOWN AGE OBSERVED ON 9 AUG 2006.  
**Owner/Manager:** CITY OF SAN LUIS OBISPO

**Occurrence No.** 900 **Map Index:** 66579 **EO Index:** 66717 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Excellent **Element:** 2006-09-27  
**Origin:** Natural/Native occurrence **Site:** 2006-09-27  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2006-10-04

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.47673° / -120.83039° **Township:** 28S  
**UTM:** Zone-10 N3928077 E696840 **Range:** 11E  
**Area:** **Mapping Precision:** NON-SPECIFIC **Section:** 30 **Qtr:** NW  
**Elevation:** 530 ft **Symbol Type:** POLYGON **Meridian:** M

**Location:** OLD CREEK, ALONG SANTA RITA ROAD, 2 MILES EAST OF THE INTERSECTION WITH OLD CREEK ROAD, 4 MILES NE OF CAYUCOS.  
**Ecological:** HABITAT CONSISTS OF A HIGH-GRADIENT STREAM WITH BOULDER OUTCROPS AND A SAND/GRAVEL SUBSTRATE; EXCELLENT HABITAT THROUGHOUT THE DRAINAGE.  
**Threat:** THREATENED BY PROPOSED REPAIR OF AN ERODING ROAD SHOULDER.  
**General:** 1 ADULT OBSERVED ON 27 SEP 2006.  
**Owner/Manager:** SLO COUNTY, PVT

**Occurrence No.** 1004 **Map Index:** 71684 **EO Index:** 72584 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2008-07-01  
**Origin:** Natural/Native occurrence **Site:** 2008-07-01  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2008-07-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.31762° / -120.80163° **Township:** 30S  
**UTM:** Zone-10 N3910484 E699843 **Range:** 11E  
**Radius:** 80 meters **Mapping Precision:** SPECIFIC **Section:** 16 **Qtr:** NW  
**Elevation:** 40 ft **Symbol Type:** POINT **Meridian:** M

**Location:** WARDEN CREEK AT THE WEST END OF WARDEN LAKE. ABOUT 1.5 MILES EAST OF LOS OSOS.  
**Ecological:** VEGETATION IN POND WAS WILLOW AND SCIRPUS. SURROUNDING VEGETATION WAS GRAZED GRASSLAND, COASTAL SAGE SCRUB, DUNE SCRUB & OAK WOODLANDS. SOILS PRIMARILY BAYWOOD SAND FINES.  
**Threat:** POTENTIAL THREAT FROM WATER WITHDRAWAL AND DEVELOPMENT OF A WASTEWATER TREATMENT PLANT AT WARDEN LAKE.  
**General:** 2 ADULTS OBSERVED ON 1 JUL 2008.  
**Owner/Manager:** PVT

**Sanicula maritima**

adobe sanicle

Element Code: PDAPH1Z0D0

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.1  
 State: Rare State: S2.2

Habitat Associations

General: MEADOWS AND SEEPS, VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL, COASTAL PRAIRIE.  
 Micro: MOIST CLAY OR ULTRAMAFIC SOILS. 30-240M.

Occurrence No. 1 Map Index: 12643 EO Index: 20058 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 1980-03-08  
 Origin: Natural/Native occurrence Site: 2000-04-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2007-05-23

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31384° / -120.73308° Township: 30S  
 UTM: Zone-10 N3910205 E706085 Range: 12E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 18 Qtr: SW  
 Elevation: 500 ft Symbol Type:POLYGON Meridian: M

Location: ON OPEN SLOPE, W BASE OF CERRO ROMAULDO AND SW BASE ALONG O'CONNOR WAY, W OF SAN LUIS OBISPO.  
 Location Detail: AREA BELOW WATER TOWER SEARCHED IN 2000 (N POLYGON). ALSO LOCATED "ACROSS THE ROAD FROM ROCKY TOP RANCH" (S POLYGON); THE RANCH IS LOCATED AT 1779 O'CONNOR WAY.  
 Ecological: IN BLACK MUCK OF GULLIES ON OPEN SLOPE. ASSOCIATED WITH RANUNCULUS, SISYRINCHIUM AND LOMATIUM. DISTURBED RIPARIAN AREA.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, FERAL PIGS, TOO FREQUENT FIRES AND/OR FIRES IN WRONG SEASON.  
 General: SITE OF N POLYGON SEARCHED IN 2000; POSSIBLE PLANTS SEEN, BUT SITE DESTROYED BY CATTLE BEFORE ID COULD BE CONFIRMED. 1980 COLLECTION BY KEIL (S POLYGON) ATTRIBUTED TO THIS OCCURRENCE. NEEDS FIELDWORK  
 Owner/Manager: UNKNOWN

Occurrence No. 2 Map Index: 12619 EO Index: 20057 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1947-02-24  
 Origin: Natural/Native occurrence Site: 1947-02-24  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1989-08-11

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.31246° / -120.74712° Township: 30S  
 UTM: Zone-10 N3910023 E704811 Range: 11E  
 Radius: 1/5 mile Mapping PrecisionNON-SPECIFIC Section: 13 Qtr: XX  
 Elevation: 795 ft Symbol Type:POINT Meridian: M

Location: FIRST RIDGE W OF CERRO ROMAULDO, NEAR SAN LUIS OBISPO.  
 Ecological: ON OPEN SLOPE IN HEAVY CLAY.

Owner/Manager: UNKNOWN

Occurrence No. 15 Map Index: 40783 EO Index: 40783 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1996-05-24  
 Origin: Natural/Native occurrence Site: 1996-05-24  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-04-20

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26430° / -120.69160° Township: 31S  
 UTM: Zone-10 N3904796 E709985 Range: 12E  
 Radius: 3/5 mile Mapping PrecisionNON-SPECIFIC Section: 04 Qtr: XX  
 Elevation: 140 ft Symbol Type:POINT Meridian: M

Location: LAGUNA LAKE PARK, SAN LUIS OBISPO.  
 Location Detail: MOIST SWALE ON GENTLE SLOPE NEAR POWERLINE CORRIDOR WEST OF DEVELOPED AREA OF PARK.  
 Ecological: MOIST, SPRING-FED SWALE IN FORMERLY GRAZED GRASSLAND DOMINATED BY EXOTIC ANNUALS WITH SOME NATIVE SPECIES. SEASONAL WETLAND WITH TRIFOLIUM WORMSKIOLDII, JUNCUS PHAEOCEPHALUS, STACHYS BULLATA, ET AL.  
 Threat: PAST HEAVY GRAZING, POTENTIAL EXPANSION OF PARK FACILITIES OR DUMPING OF DREDGE SPOILS REMOVED FROM LAKE.  
 General: 50-100 PLANTS OBSERVED IN 1996. 1947 COLLECTION BY HOOVER AND 1950 COLLECTION BY BELL FROM LOS OSOS VALLEY ATTRIBUTED TO THIS SITE. INCLUDES FORMER OCCURRENCE #3.  
 Owner/Manager: CITY OF SAN LUIS OBISPO, UNK

**Sanicula maritima**

adobe sanicle

Element Code: PDAPH1Z0D0

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.1
State: Rare	State: S2.2	

**Habitat Associations**

**General:** MEADOWS AND SEEPS, VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL, COASTAL PRAIRIE.  
**Micro:** MOIST CLAY OR ULTRAMAFIC SOILS. 30-240M.

<b>Occurrence No.:</b> 20	<b>Map Index:</b> 62085	<b>EO Index:</b> 62121	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2005-09-09
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-09-09
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-05-23

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.25889° / -120.66151°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904261 E712735	<b>Range:</b> 12E
<b>Area:</b> 9.0 acres	<b>Section:</b> 02 <b>Qtr:</b> NW
<b>Elevation:</b> 200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** 0.6 MILE EAST OF HWY 101 AT END OF MARGARITA AVE, AND BELOW RADIO TOWER TO THE NW, IN THE CITY OF SAN LUIS OBISPO.  
**Location Detail:** TWO POLYGONS MAPPED WITHIN THE SE 1/4 AND NW 1/4 OF THE NW 1/4 OF SECTION 2.  
**Ecological:** IN SEEP WETLANDS, DRAINAGES, GRASSLAND W/PATCHES OF COASTAL SCRUB; SERPENTINE SOILS. AT FOOT OF S-FACING HILLSIDES. DOMINANT WETLAND PLANT AT SE OCCURRENCE IS JUNCUS PHAEOCEPHALUS. CIRSIUM FONTINALE OBISPOENSE ALSO PRESENT.  
**Threat:** PROPOSED DEVELOPMENT WILL IMPACT SOME OF THE PLANTS. UNKNOWN GRAZING EFFECTS BY CATTLE. POSSIBLE TRAMPLING.  
**General:** 500 PLANTS IN 4 PATCHES IN SE POLYGON IN 2005; EST. 300 PLANTS IN NW POLYGON IN 2005. RARE PLANTS NEARBY: DUDLEYA ABRAMSII MURINA, CALOCHORTUS OBISPOENSIS, C. SIMULANS, CHORIZANTHE BREWERI, C. PALMERI, CASTILLEJA DENSIFLORA OBISPOENSIS.  
**Owner/Manager:** PVT

**Scrophularia atrata**

black-flowered figwort

Element Code: PDSCR1S010

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

**Habitat Associations**

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL DUNES, COASTAL SCRUB, RIPARIAN SCRUB.  
 Micro: SAND, DIATOMACEOUS SHALES, AND SOILS DERIVED FROM OTHER PARENT MATERIAL; AROUND SWALES AND IN SAND DUNES. 10-250M.

Occurrence No. 29 Map Index: 29110 EO Index: 30967 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 198X-XX-XX  
 Origin: Natural/Native occurrence Site: 198X-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1997-04-14

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.20111° / -120.66049° Township: 31S  
 UTM: Zone-10 N3897853 E712980 Range: 12E  
 Area: 6.3 acres Mapping Precision: SPECIFIC Section: 26 Qtr: XX  
 Elevation: 640 ft Symbol Type: POLYGON Meridian: M

Location: INDIAN KNOB, SOUTH OF SAN LUIS OBISPO AND NORTH OF PISMO BEACH.  
 Location Detail: MAPPED ALONG ROAD ABOUT 0.25 MILE NORTHWEST OF 887' BENCHMARK.  
 Ecological: THE RARE ERIODICTYON ALTISSIMUM, CALOCHORTUS OBISPOENSIS, AND LUPINUS LUDOVICIANUS OCCUR NEARBY.  
 General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY MCLEOD. COLLECTION FROM "HILLS BORDERING SAN LUIS V. ON THE SOUTH, W OF EDNA" (HOOVER #9872 OBI) ALSO INCLUDED IN THIS SITE.  
 Owner/Manager: UNKNOWN

Occurrence No. 30 Map Index: 21053 EO Index: 30968 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Excellent Element: 2003-04-03  
 Origin: Natural/Native occurrence Site: 2003-04-03  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-12

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.14429° / -120.62992° Township: 32S  
 UTM: Zone-10 N3897616 E715914 Range: 13E  
 Area: 13.9 acres Mapping Precision: SPECIFIC Section: 18 Qtr: NW  
 Elevation: 200 ft Symbol Type: POLYGON Meridian: M

Location: EAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, NORTH OF PISMO BEACH.  
 Location Detail: NORTH FROM SEWAGE TREATMENT FACILITY. APPROXIMATELY 2000 FEET FROM HIGHWAY 101.  
 Ecological: IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS.  
 General: 300-400 PLANTS SEEN IN 2003. PLANTS IN DENSE CLUSTERS. 1959 COLLECTION BY HOOVER FROM PRICE CANYON ATTRIBUTED TO THIS SITE.  
 Owner/Manager: PVT

Occurrence No. 31 Map Index: 29109 EO Index: 30966 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1990-03-31  
 Origin: Natural/Native occurrence Site: 1990-03-31  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1997-04-14

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.17590° / -120.71001° Township: 32S  
 UTM: Zone-10 N3894951 E708536 Range: 12E  
 Area: 27.9 acres Mapping Precision: SPECIFIC Section: 5 Qtr: XX  
 Elevation: 150 ft Symbol Type: POLYGON Meridian: M

Location: MALLAGH LANDING, EAST OF AVILA BEACH ALONG CAVE LANDING ROAD.  
 Ecological: COASTAL SCRUB.  
 Threat: DEVELOPMENT PROPOSED FOR SITE.  
 General: 14+ PLANTS OBSERVED IN 1991.  
 Owner/Manager: PVT

**Scrophularia atrata**

black-flowered figwort

Element Code: PDSCR1S010

Status: \_\_\_\_\_ NDDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G2 CNPS List: 1B.2  
 State: None State: S2.2

Habitat Associations

General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL DUNES, COASTAL SCRUB, RIPARIAN SCRUB.  
 Micro: SAND, DIATOMACEOUS SHALES, AND SOILS DERIVED FROM OTHER PARENT MATERIAL; AROUND SWALES AND IN SAND DUNES. 10-250M.

Occurrence No. 32 Map Index: 61299 EO Index: 61335 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2003-XX-07  
 Origin: Natural/Native occurrence Site: 2003-XX-07  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-12

Quad Summary: Arroyo Grande NE (3512025/221A)  
 County Summary: San Luis Obispo

Lat/Long: 35.13804° / -120.62488° Township: 32S  
 UTM: Zone-10 N3890934 E716389 Range: 13E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 18 Qtr: SW  
 Elevation: 100 ft Symbol Type: POINT Meridian: M

Location: NORTH OF HIGHWAY 101 AT JAMES WAY AND VENTANA DRIVE, PISMO BEACH.  
 Location Detail: NORTHWEST OF INTERSECTION. SOME PLANTS ADJACENT TO WETLAND AREAS, HOWEVER MOST PLANTS WERE FOUND ON THE DRIER SOUTH FACING SLOPES WITH COYOTE BUSH OVERSTORY.  
 Ecological: RIPARIAN SCRUB WITH BACCHARIS PILULARIS. CALCAREOUS SHALY SUBSOIL WITH A VERY FRIABLE SANDY SURFACE SOIL.  
 Threat: COMMERCIAL AND RESIDENTIAL DEVELOPMENT.  
 General: 200 PLANTS SEEN IN 2001. 150 SEEN IN 2003, 50-70 PLANTS TRANSPLANTED TO A PERMANENT SETBACK AREA FOR PRESERVATION ON EAST SIDE OF DRAINAGE.  
 Owner/Manager: PVT-INLAND PACIFIC BUILDERS

Occurrence No. 33 Map Index: 61300 EO Index: 61336 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2004-03-25  
 Origin: Natural/Native occurrence Site: 2004-03-25  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-12

Quad Summary: Pismo Beach (3512026/221B)  
 County Summary: San Luis Obispo

Lat/Long: 35.18232° / -120.70077° Township: 31S  
 UTM: Zone-10 N3895683 E709361 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 33 Qtr: SW  
 Elevation: 80 ft Symbol Type: POINT Meridian: M

Location: AT SOUTHEAST CORNER OF MONTE ROAD AND ROUTE 101 ON-RAMP AND A SHORT WAY ALONG MONTE ROAD, EAST OF AVILA BEACH.  
 Location Detail: FROM MONTE ROAD STREET SIGN PLANTS ARE FOUND UP TO 100 FEET EAST ALONG MONTE ROAD AND 30 FEET SOUTH ALONG ROUTE 101 AVILA ON-RAMP. MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY EDLELL: UTM ZONE 10 NAD83 709361E 3895683N.  
 Ecological: CENTRAL COAST SCRUB BELOW COAST LIVE OAK WOODLAND. SOIL IS LOPEZ VERY SHALY CLAY LOAM SOIL. ASSOCIATES INCLUDE: QUERCUS AGRIFOLIA, SALVIA MELLIFERA, MIMULUS AURANTIACUS, ARTEMISIA, LOTUS SCOPARIUS, AND TOXICODENDRON DIVERSILOBUM.  
 Threat: VEGETATION MANAGEMENT (MOWING) ALONG ROASIDES MAY LEAD TO OCCASIONAL DISTURBANCES.  
 General: 15 PLANTS SEEN IN 2004.  
 Owner/Manager: CALTRANS, SLO COUNTY



**Scrophularia atrata**

black-flowered figwort

Element Code: PDSCR1S010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, COASTAL DUNES, COASTAL SCRUB, RIPARIAN SCRUB.  
**Micro:** SAND, DIATOMACEOUS SHALES, AND SOILS DERIVED FROM OTHER PARENT MATERIAL; AROUND SWALES AND IN SAND DUNES. 10-250M.

<b>Occurrence No.</b> 34	<b>Map Index:</b> 61302	<b>EO Index:</b> 61338	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-03-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-03-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-12

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.17217° / -120.69430°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3894571 E709976	<b>Range:</b> 12E
<b>Area:</b> 3.9 acres	<b>Section:</b> 04
<b>Elevation:</b> 160 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> N
<b>Symbol Type:</b> POLYGON	

**Location:** HIGHWAY 101, SOUTH END OF PALISADES PARK, ABOUT 0.4 - 0.7 MILE SOUTH OF GRAGG CANYON, NORTH OF SHELL BEACH.  
**Location Detail:** IN HIGHWAY 101 MEDIAN AND ON NORTHBOUND OUTSIDE RIGHT-OF- WAY.  
**Ecological:** CENTRAL COAST SCRUB WITH BACCHARIS PILULARIS, ARTEMISIA CALIFORNICA, MIMULUS AURANTIACUS, ERIOPHYLLUM CONFERTIFLORUM, MIRABILIS SPP. SOILS ARE DERIVED FROM SHALE (PROBABLY DIATOMACEOUS).  
**Threat:** PLANTS MAY BE DISTURBED BY ROAD MAINTENANCE.  
**General:** IN 2004, 700 PLANTS OBSERVED BETWEEN THIS OCCURRENCE AND OCCURRENCE #35. POPULATIONS ARE PROBABLY MUCH MORE EXTENSIVE THAN MAPPED; ONLY ABOUT 25% OF SUITABLE HABITAT IN HIGHWAY RIGHT-OF-WAY WAS SURVEYED BETWEEN PRICE STREET AND AVILA ROAD.

**Owner/Manager:** CALTRANS

<b>Occurrence No.</b> 35	<b>Map Index:</b> 61303	<b>EO Index:</b> 61339	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2004-03-24
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-03-24
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-12

**Quad Summary:** Pismo Beach (3512026/221B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.14887° / -120.64770°	<b>Township:</b> 32S
<b>UTM:</b> Zone-10 N3892086 E714282	<b>Range:</b> 12E
<b>Area:</b> 2.7 acres	<b>Section:</b> 12
<b>Elevation:</b> 160 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SW
<b>Symbol Type:</b> POLYGON	

**Location:** HIGHWAY 101, JUST NORTH OF PISMO BEACH, ABOUT 0.10 TO 0.25 MILE NORTH OF WHERE HIGHWAY 1 SPLITS OF FROM 101.  
**Location Detail:** IN HIGHWAY 101 MEDIAN ON NORTHBOUND OUTSIDE RIGHT-OF-WAY.  
**Ecological:** CENTRAL COAST SCRUB WITH BACCHARIS PILULARIS, ARTEMISIA CALIFORNICA, MIMULUS AURANTIACUS, ERIOPHYLLUM CONFERTIFLORUM, MIRABILIS SPP. SOILS ARE DERIVED FROM SHALE (PROBABLY DIATOMACEOUS).  
**Threat:** PLANTS MAY BE DISTURBED BY ROAD MAINTENANCE.  
**General:** IN 2004, 700 PLANTS OBSERVED BETWEEN THIS OCCURRENCE AND OCCURRENCE #34. POPULATIONS ARE PROBABLY MUCH MORE EXTENSIVE THAN MAPPED; ONLY ABOUT 25% OF SUITABLE HABITAT IN HIGHWAY RIGHT-OF-WAY WAS SURVEYED BETWEEN PRICE STREET AND AVILA ROAD.

**Owner/Manager:** CALTRANS

**Senecio aphanactis**

chaparral ragwort

Element Code: PDAST8H060

Status: \_\_\_\_\_ NDDB Element Ranks: \_\_\_\_\_ Other Lists: \_\_\_\_\_  
 Federal: None Global: G3? CNPS List: 2.2  
 State: None State: S1.2

Habitat Associations

General: CISMONTANE WOODLAND, COASTAL SCRUB.  
 Micro: DRYING ALKALINE FLATS. 20-575M.

Occurrence No. 12 Map Index: 12772 EO Index: 537 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1927-04-10  
 Origin: Natural/Native occurrence Site: 1927-04-10  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-03-12

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26414° / -120.66934° Township: 31S  
 UTM: Zone-10 N3904826 E712010 Range: 12E  
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 03 Qtr: NE  
 Elevation: 300 ft Symbol Type: POINT Meridian: M

Location: SAN LUIS OBISPO, HILL NEAR CEMETERY.  
 General: ONLY INFO IS ABOVE SITE DESCRIPTION.  
 Owner/Manager: PVT

Occurrence No. 13 Map Index: 12895 EO Index: 28268 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Unknown Element: 1940-03-20  
 Origin: Natural/Native occurrence Site: 1940-03-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-12-04

Quad Summary: San Luis Obispo (3512036/246C), Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.29913° / -120.63462° Township: 30S  
 UTM: Zone-10 N3908782 E715076 Range: 12E  
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 24 Qtr: SE  
 Elevation: 500 ft Symbol Type: POINT Meridian: M

Location: 1 MILE NORTH OF SAN LUIS OBISPO AND 300 YARDS NORTH OF SAN LUIS CREEK.  
 Ecological: SERPENTINE ROCKS WITH ASSOCIATE SPECIES ASTRAGALUS SP., LOMATIUM SP., AND OTHER GRASSES.  
 General: ORIGINAL LABEL: S. SYLVATICUS ANNT TO S. APHANACTIS BY ORNDUFF IN 1960. CONDIT COLLECTION FROM "SCHOOL RIDGE, CALIF POLYTECHNICAL SCHOOL" ATTRIBUTED TO THIS SITE.  
 Owner/Manager: UNKNOWN

Occurrence No. 35 Map Index: 61270 EO Index: 61306 Dates Last Seen: \_\_\_\_\_  
 Occ Rank: Fair Element: 2002-02-26  
 Origin: Natural/Native occurrence Site: 2002-02-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2005-05-09

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.33962° / -120.68964° Township: 30S  
 UTM: Zone-10 N3913157 E709967 Range: 12E  
 Area: 4.5 acres Mapping Precision: SPECIFIC Section: 04 Qtr: SE  
 Elevation: 700 ft Symbol Type: POLYGON Meridian: M

Location: CAMP SAN LUIS OBISPO, OUTCROP WEST OF CHORRO RESERVOIR, NORTHEAST OF SAN LUIS OBISPO.  
 Location Detail: TRAINING AREA T. MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 4.  
 Ecological: GENTLE SERPENTINE SLOPE ON LARGE SERPENTINE ROCK OUTCROP.  
 Threat: CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING ACTIVITIES, IMPROPER BURNING REGIME, FERAL PIGS.  
 General: LESS THAN 50 PLANTS SEEN IN 2001 AND MORE THAN 100 PLANTS SEEN IN 2002.  
 Owner/Manager: DOD-CAMP ROBERTS MR

Serpentine Bunchgrass

Element Code: CTT42130CA

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G2  
 State: None State: S2.2

\_\_\_\_\_ Habitat Associations \_\_\_\_\_  
 General:  
 Micro:

Occurrence No. 14 Map Index: 12853 EO Index: 16262 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: 1976-01-XX  
 Origin: Natural/Native occurrence Site: 1976-01-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1998-07-14

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.30636° / -120.64814° Township: 30S  
 UTM: Zone-10 N3909555 E713828 Range: 12E  
 Area: 271.9 acres Mapping Precision: SPECIFIC Section: 24 Qtr: XX  
 Elevation: 800 ft Symbol Type: POLYGON Meridian: M

Location: CSU, SAN LUIS OBISPO POLYTECHNIC BOTANICAL GARDEN AND PETERSON RANCH UNIT (BRIZZIOLARI CANYON).  
 Location Detail: BOUNDARY SHOWN REPRESENTS SERPENTINE SOILS INTERPETED AS GRASSLANDS IN VICINITY OF CSU, POLY USING SOIL CONSERVATION SERVICE SOIL MAPS WITH 1976-77 ORTHOPHOTO BASE.  
 Ecological: NASSELLA PULCHRA, VULPIA MYUROS VAR. HIRSUTA, MELICA CALIFORNICA, POA SP, ARISTIDA SP.  
 Threat: RANCH PARCEL GRAZED, PART OF GARDEN BEING CONVERTED TO SUCCULENT GARDEN.  
 General: THIS WAS OCC #014 OF CTT42130CA.  
 Owner/Manager: CAL POLY-SAN LUIS OBISPO

*Sidalcea hickmanii* ssp. *anomala*

Cuesta Pass checkerbloom

Element Code: PDMAL110A1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G3T1	CNPS List: 1B.2
State: Rare	State: S1.2	

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** ROCKY SERPENTINE SOIL; ASSOCIATED WITH SARGENT CYPRESS FOREST. 600-800M.

<b>Occurrence No. 1</b>	<b>Map Index:</b> 12754	<b>EO Index:</b> 14130	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Excellent			<b>Element:</b> 2003-08-04
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-08-04
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-10

**Quad Summary:** San Luis Obispo (3512036/246C), Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36971° / -120.67829°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3916518 E710921	<b>Range:</b> 12E
<b>Area:</b> 140.0 acres	<b>Section:</b> 27
<b>Elevation:</b> 2,500 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> S
<b>Symbol Type:</b> POLYGON	

**Location:** CUESTA RIDGE, ALONG RIDGE TOP ROAD, ABOUT 0.65 AIR MILES NORTHEAST LA TRINIDAD MINE, SANTA LUCIA RANGE.  
**Location Detail:** ALONG BOTH SIDES OF ROAD IN CUESTA RIDGE BOTANICAL AREA. PLANTS ON CAMP ROBERTS MILITARY RESERVATION ALSO, SEPARATED FROM BOTANICAL AREA BY BOUNDARY FENCE.  
**Ecological:** IN DRY ROCKY OPEN PLACES IN AND AT THE EDGE OF SARGENT CYPRESS FOREST. ON SERPENTINE TOP OF RIDGE. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS.  
**Threat:** VEHICLES, TARGET PRACTICE, FUEL-BREAK CONSTRUCTION, GRAZING, THREAT OF PROPOSED PARKING AREA.  
**General:** THIS IS THE TYPE LOCALITY. MORE THAN 1000 PLANTS SEEN IN 1998 BY ANDREASEN; FIRE SEEMED TO HAVE SIGNIFICANTLY INCREASED THE NUMBER OF PLANTS. MORE THAN 100 PLANTS IN 2003. INCLUDES FORMER OCCURRENCE #4.

**Owner/Manager:** USFS-LOS PADRES NF, DOD

<b>Occurrence No. 2</b>	<b>Map Index:</b> 12834	<b>EO Index:</b> 14126	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 1998-06-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1998-06-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2004-05-24

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35495° / -120.65370°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3914933 E713194	<b>Range:</b> 12E
<b>Area:</b> 50.9 acres	<b>Section:</b> 35
<b>Elevation:</b> 2,200 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> SE
<b>Symbol Type:</b> POLYGON	

**Location:** RIDGE NORTHWEST OF CUESTA PASS, SANTA LUCIA MOUNTAINS.  
**Location Detail:** NORTH SLOPE OF CUESTA RIDGE, NORTH OF TV TOWER. MAPPED WITHIN THE NE 1/4 OF THE SE 1/4 OF SECTION 35.  
**Ecological:** CHAPARRAL, WITH ARCTOSTAPHYLOS OBISPOENSIS, CEANOTHUS FOLIOSUS, ROSA SPITHAMEA, PICKERINGIA MONTANA, CALYSTEGIA MACROSTEGIA, PHACELIA GRISEA.  
**Threat:** EROSION ALONG PHONE CABLE R-O-W. ATANDT CABLE UPGRADE WILL DISTURB R-O-W BUT PLANS TO AVOID POPULATION.  
**General:** UNKNOWN NUMBER OF PLANTS SEEN IN 1993. 50-100 PLANTS SEEN IN 1998.

**Owner/Manager:** USFS-LOS PADRES NF

*Sidalcea hickmanii* ssp. *anomala*

Cuesta Pass checkerbloom

Element Code: PDMAL110A1

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: Rare	Global: G3T1 State: S1.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CLOSED-CONE CONIFEROUS FOREST.  
**Micro:** ROCKY SERPENTINE SOIL; ASSOCIATED WITH SARGENT CYPRESS FOREST. 600-800M.

<b>Occurrence No.</b> 5	<b>Map Index:</b> 40784	<b>EO Index:</b> 40784	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1910-04-17
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1910-04-17
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1999-01-29

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36031° / -120.66728°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915499 E711946	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 34
<b>Elevation:</b> 1,800 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** CHORRO CREEK ALONG SOUTH SIDE OF CUESTA RIDGE, SANTA LUCIA RANGE.  
**Location Detail:** EXACT LOCATION ALONG CREEK NOT KNOWN; MAPPED ALONG MAIN BRANCH OF CREEK BETWEEN 1000' AND 2000' ELEVATION.  
**Ecological:** COMMON UP TO 2000' ELEVATION.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1910 COLLECTION BY CONDIT. NEEDS FIELDWORK.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 6	<b>Map Index:</b> 61220	<b>EO Index:</b> 61256	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Good			<b>Element:</b> 2003-05-15
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2003-05-15
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-05-04

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.35907° / -120.68846°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915316 E710024	<b>Range:</b> 12E
<b>Area:</b> 8.2 acres	<b>Section:</b> 33
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> E
<b>Symbol Type:</b> POLYGON	

**Location:** PRIMERA MINE VICINITY, FROM DUGHY SPRING SSE ABOUT 0.8 MILE, CAMP ROBERTS, NORTH OF SAN LUIS OBISPO.  
**Location Detail:** SCATTERED COLONIES MAPPED AS 7 POLYGONS BY CNDDB. MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY WETHERWAX AND PAINTER.  
**Ecological:** MARGIN OF CHAPARRAL. WITH ARCTOSTAPHYLOS OBISPOENSIS, CEANOTHUS CUNEATUS VAR. RAMULOSUS, CEANOTHUS FOLIOSUS VAR. MEDIUS, CUPRESSUS SARGENTII, CAREX OBISPOENSIS, RANUNCULUS CALIFORNICUS, SISYRINCHIUM BELLUM.  
**Threat:** CATTLE, FERAL PIGS, NON-NATIVE PLANTS, IMPROPER BURNING REGIME, MILITARY TRAINING ACTIVITIES, MINING, ROAD MAINTENANCE.  
**General:** LESS THAN 77 PLANTS SEEN IN 2001, LESS THAN 5 PLANTS SEEN IN 2002, AND LESS THAN 10 PLANTS SEEN IN 2003. NOT ALL COLONIES SURVEYED EACH YEAR.  
**Owner/Manager:** DOD-CAMP ROBERTS MR

**Spea hammondii**

western spadefoot

Element Code: AAABF02020

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3 CDFG Status: SC  
 State: None State: S3

Habitat Associations

General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.  
 Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.

Occurrence No. 11 Map Index: 20906 EO Index: 9392 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1991-XX-XX  
 Origin: Natural/Native occurrence Site: 1991-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-11-14

Quad Summary: Creston (3512055/269D), Wilson Corner (3512044/245B), Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.48559° / -120.50856° Township: 28S  
 UTM: Zone-10 N3929749 E726020 Range: 14E  
 Area: Mapping PrecisionNON-SPECIFIC Section: 18 Qtr: XX  
 Elevation: 1,175 ft Symbol Type:POLYGON Meridian: M

Location: ALONG O'DONOVAN ROAD, FROM 0.3 MILE SOUTH OF CRESTON TO 5.5 MILES SOUTH, 7 MILES NE OF SANTA MARGARITA.  
 Ecological: HABITAT IS FARMED FIELDS, OAK SAVANNAH, AND CHAPARRAL.  
 Threat: POTENTIAL THREATS ARE GRAZING AND AGRICULTURAL PRACTICES.  
 General: 12 ADULTS FOUND DEAD ON ROAD.  
 Owner/Manager: UNKNOWN

Occurrence No. 112 Map Index: 32870 EO Index: 504 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 1995-05-17  
 Origin: Natural/Native occurrence Site: 1995-05-17  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-03-18

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.47335° / -120.51168° Township: 28S  
 UTM: Zone-10 N3928384 E725771 Range: 14E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 19 Qtr: XX  
 Elevation: 1,250 ft Symbol Type:POINT Meridian: M

Location: APPROX. 5 KM SSE OF CRESTON; NE OF SANTA MARGARITA.  
 Ecological: ANNUAL GRASSLANDS, OAK SAVANNAH, SMALL SEASONAL POOLS IN DRAINAGE TO LARGE POND. CA DEPT WATER RESOURCES PIPELINE ACCESS ROAD HAS REPLACED SEEP AND UPPER DRAINAGE.  
 Threat: POSSIBLE THREATS: CATTLE GRAZING/TRAMPLING, CONSTRUCTION OF WATER PIPELINE.  
 General: 5/3/1995-20 JUVENILES (SOME METAMORPHOSING LARVAE) OBSERVED FORAGING; 5/17/1995-20 JUVENILES, FEWER LARVAE SEEN AS ON LAST EXCURSION-WATER HOT; LARVAE THIN, SICKLY AND SMALL.  
 Owner/Manager: UNKNOWN

Occurrence No. 113 Map Index: 32872 EO Index: 503 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Fair Element: 1995-05-04  
 Origin: Natural/Native occurrence Site: 1995-05-04  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-02-07

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.45696° / -120.53656° Township: 28S  
 UTM: Zone-10 N3926509 E723558 Range: 13E  
 Radius: 80 meters Mapping PrecisionSPECIFIC Section: 26 Qtr: SE  
 Elevation: 1,360 ft Symbol Type:POINT Meridian: M

Location: APPROX. 4 KM NNE OF HIGHWAY 58 X HIGHWAY 229; APPROX. 3 KM EAST OF GRANITE RIDGE.  
 Ecological: SMALL ARTIFICIAL POND (3M X 4M X 1-2M DEEP) IN ANNUAL GRASSLANDS, PRIVATE PASTURE. SURROUNDING HILLS ARE CHAPARRAL.  
 Threat: POSSIBLE THREAT: RESIDENTIAL, PASTURELAND, MINOR DAMAGE FROM HORSES, CA DEPT WATER RESOURCES PIPELINE CROSSES NEARBY.  
 General: 10 LARGE (30-70 MM TOTAL LENGTH) LARVAE FOUND IN LATE STAGES OF DEVELOPMENT BASKING.  
 Owner/Manager: PVT, UNKNOWN

**Spea hammondii**

western spadefoot

Element Code: AAABF02020

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G3 CDFG Status: SC  
 State: None State: S3

Habitat Associations

General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.  
 Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.

Occurrence No. 260 Map Index: 51857 EO Index: 51857 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2003-04-26  
 Origin: Natural/Native occurrence Site: 2003-04-26  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2007-03-28

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.40944° / -120.60027° Township: 29S  
 UTM: Zone-10 N3921095 E717903 Range: 13E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 17 Qtr: XX  
 Elevation: 1,029 ft Symbol Type: POINT Meridian: M

Location: 0.3 MILE SOUTHEAST OF THE INTERSECTION OF OAK ROAD AND EL CAMINO REAL, 6 MILES SSE OF ATASCADERO  
 Location Detail: DESIGNATED SMR POND 31. POOL IS LOCATED IMMEDIATELY ADJACENT TO AN OIL STORAGE FACILITY ALONG THE EAST SIDE OF EL CAMINO REAL.  
 Ecological: HABITAT CONSISTS OF A DRYING WETLAND POOL, FORMED FROM RAIN RUNOFF AND RETURN FLOW, WITH A MAXIMUM SIZE OF ~300 SQUARE FEET; SURROUNDED BY OAK SAVANNAH AND NON-NATIVE GRASSLAND.  
 Threat: THREATENED BY FUTURE DEVELOPMENT.  
 General: 60-80 TADPOLES OBSERVED (1 COLLECTED - HE 2270) IN A DRYING WETLAND POOL ON 12 APR 2003. 25 TADPOLES OBSERVED IN POOL AND WERE HALF METAMORPHOSED ON 26 APR 2003.  
 Owner/Manager: PVT-SANTA MARGARITA RANCH

Occurrence No. 301 Map Index: 57290 EO Index: 57306 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2004-03-18  
 Origin: Natural/Native occurrence Site: 2004-03-18  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2004-10-07

Quad Summary: Santa Margarita (3512045/246A)  
 County Summary: San Luis Obispo

Lat/Long: 35.47393° / -120.59218° Township: 28S  
 UTM: Zone-10 N3928267 E718463 Range: 13E  
 Area: 2.7 acres Mapping Precision: SPECIFIC Section: 20 Qtr: SE  
 Elevation: 1,550 ft Symbol Type: POLYGON Meridian: M

Location: ALONG ROCKY CANYON ROAD, CRESTON, 4 MILES EAST OF ATASCADERO  
 Location Detail: SITE IS LOCATED ON A 176-ACRE PARCEL, WHICH IS UNDER APPLICATION FOR SUBDIVISION INTO FOUR PARCELS.  
 Ecological: HABITAT CONSISTS OF SEASONAL AGRICULTURAL PONDS; SURROUNDING SUBSTRATE CONSISTS OF DECOMPOSED GRANITE WITH CHAMISE CHAPARRAL AND OPEN GRASSLAND HABITATS.  
 Threat: POSSIBLE THREAT FROM POND MAINTENANCE AND INTRODUCTION OF NON-NATIVE FISH TO THE PONDS.  
 General: ESTIMATED 1000 TADPOLES OBSERVED ON 18 MAR 2004 IN 4 OF THE 5 PONDS SURVEYED.  
 Owner/Manager: PVT

**Streptanthus albidus ssp. peramoenus**

most beautiful jewel-flower

Element Code: PDBRA2G012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

<b>Occurrence No.</b> 45	<b>Map Index:</b> 44509	<b>EO Index:</b> 44509	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1936-03-25
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1936-03-25
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2000-12-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.27255° / -120.81660°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3905454 E698592	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 32
<b>Elevation:</b> 1,300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** 3.6 MILES ENE OF VALENCIA PEAK, IRISH HILLS, SOUTH OF MORRO BAY.  
**Location Detail:** SITE MAPPED BASED UPON THE FOLLOWING T-R-S PROVIDED BY BELSHAW: T30S R11E SECTION 32.  
**Ecological:** GRASSLAND.

**General:** ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1936 COLLECTION BY BELSHAW. NEEDS FIELDWORK. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 46	<b>Map Index:</b> 44531	<b>EO Index:</b> 44531	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1909-05-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1909-05-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32640° / -120.67655°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911717 E711192	<b>Range:</b> 12E
<b>Radius:</b> 1/5 mile	<b>Section:</b> 10
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** CHORRO, NEAR SAN LUIS OBISPO, SAN LUIS OBISPO COUNTY.  
**Location Detail:** MAPPED BY CNDDDB AT CHORRO, NORTH OF SAN LUIS OBISPO.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1909 COLLECTION BY BRANDEGEE. NEEDS FIELDWORK. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 47	<b>Map Index:</b> 44532	<b>EO Index:</b> 44532	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2002-05-08
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-05-08
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-03-08

**Quad Summary:** Morro Bay South (3512037/247D), San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.31742° / -120.74895°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3910570 E704633	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 13
<b>Elevation:</b> 600 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> NW
<b>Symbol Type:</b> POLYGON	

**Location:** 1 MILE WEST OF CERRO ROMAULDO, WNW OF SAN LUIS OBISPO.  
**Location Detail:** MAPPED ACCORDING TO COORDINATES PROVIDED BY WETHERWAX AND PAINTER.  
**Ecological:** GRASSLAND.  
**General:** SITE BASED ON 1936 COLLECTION BY BOLT; NEEDS FIELDWORK. UNKNOWN NUMBER OF PLANTS SEEN IN 2002 DURING SURVEY FOR LAYIA JONESII. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN



**Streptanthus albidus ssp. peramoenus**

most beautiful jewel-flower

Element Code: PDBRA2G012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G2T2 State: S2.2	CNPS List: 1B.2

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

<b>Occurrence No.</b> 48	<b>Map Index:</b> 44533	<b>EO Index:</b> 44533	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1967-04-14
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1967-04-14
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.30338° / -120.65862°	<b>UTM:</b> Zone-10 N3909202 E712882	<b>Radius:</b> 2/5 mile	<b>Elevation:</b>	<b>Mapping Precision</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 12E	<b>Section:</b> 23	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** MOUTH OF "POLY CANYON" (BRIZZIOLARI CANYON), SAN LUIS OBISPO.  
**Location Detail:** COLLECTIONS ATTRIBUTED HERE WITH SITE DESCRIPTIONS OF "MOUTH OF POLY CANYON", "SCHOOL HILL, S.L.O." AND "W OF POLY CANYON." MAPPED AS BEST GUESS BY CNDDDB TO INCLUDE MOUTH OF POLY CANYON AND CAL POLY S.L.O. UNIVERSITY.  
**General:** PRE-1900 COLLECTIONS FROM SAN LUIS OBISPO ALSO ATTRIBUTED HERE. INCLUDES FORMER OCCURRENCE #49. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION. THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 50	<b>Map Index:</b> 44535	<b>EO Index:</b> 44535	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1906-05-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1906-05-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-09

**Quad Summary:** San Luis Obispo (3512036/246C), Lopez Mtn. (3512035/246D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.29003° / -120.62756°	<b>UTM:</b> Zone-10 N3907788 E715742	<b>Radius:</b> 1/5 mile	<b>Elevation:</b>	<b>Mapping Precision</b> NON-SPECIFIC	<b>Symbol Type:</b> POINT	<b>Township:</b> 30S	<b>Range:</b> 13E	<b>Section:</b> 30	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** RESERVOIR, SAN LUIS OBISPO.  
**Location Detail:** MAPPED AS BEST GUESS BY CNDDDB AT RESERVOIR IN RESERVOIR CANYON, JUST EAST OF SAN LUIS OBISPO.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1906 COLLECTION BY UNANGST. NEEDS FIELDWORK. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 51	<b>Map Index:</b> 44536	<b>EO Index:</b> 44536	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2000-04-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2000-04-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-11-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26401° / -120.71674°	<b>UTM:</b> Zone-10 N3904712 E707698	<b>Area:</b>	<b>Elevation:</b> 600 ft	<b>Mapping Precision</b> NON-SPECIFIC	<b>Symbol Type:</b> POLYGON	<b>Township:</b> 31S	<b>Range:</b> 12E	<b>Section:</b> 05	<b>Qtr:</b> XX	<b>Meridian:</b> M
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**Location:** PERFUMO CANYON, 1.2 MILES SOUTH OF LOS OSOS VALLEY ROAD.  
**Ecological:** RIPARIAN AREA.  
**General:** 1936 COLLECTION BY JOHANNSEN FROM 1.75 MILES SW OF SAN LUIS OBISPO IN SECTION 31 ATTRIBUTED TO THIS LOCATION. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

**Streptanthus albidus ssp. peramoenus**

most beautiful jewel-flower

Element Code: PDBRA2G012

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None	Global: G2T2	CNPS List: 1B.2
State: None	State: S2.2	

**Habitat Associations**

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.  
**Micro:** SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

<b>Occurrence No.</b> 59	<b>Map Index:</b> 60301	<b>EO Index:</b> 60337	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2001-03-21
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-03-21
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2008-02-01

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33944° / -120.68922°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913137 E710006	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 04 <b>Qtr:</b> SE
<b>Elevation:</b> 700 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** WEST OF CHORRO RESERVOIR, CHORRO CREEK, CAMP SAN LUIS OBISPO.  
**Location Detail:** TRAINING AREA T. ON LARGE SERPENTINE ROCK OUTCROP WEST OF CHORRO RESERVOIR.  
**Ecological:** ON LOAMY CLAY OVER SERPENTINE BEDROCK. ASSOCIATES INCLUDE RANUNCULUS CALIFORNICA, COREOTHROGYNE, ALLIUM HAEMATOCCHITON, PLANTAGO ERECTA, SISYRINCHIUM BELLUM, DUDLEYA ABRAMSII SSP. MURINA, AND CHORIZANTHE BREWERI.  
**Threat:** CATTLE, NON-NATIVE PLANTS, MILITARY TRAINING, IMPROPER BURNING REGIME.  
**General:** LESS THAN 20 PLANTS OBSERVED IN 2000. UNKNOWN NUMBER OBSERVED IN 2001 SURVEY FOR CALOCHORTUS OBISPOENSIS. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** DOD-CALIFORNIA NATIONAL GUARD

<b>Occurrence No.</b> 62	<b>Map Index:</b> 63149	<b>EO Index:</b> 63241	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2001-04-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2001-04-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-14

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.26088° / -120.73639°	<b>Township:</b> 31S
<b>UTM:</b> Zone-10 N3904324 E705918	<b>Range:</b> 12E
<b>Area:</b>	<b>Section:</b> 06 <b>Qtr:</b> NW
<b>Elevation:</b> 300 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** PERFUMO CANYON ROAD, 2.8 MILES WEST OF LOS OSOS VALLEY ROAD, SW OF SAN LUIS OBISPO.  
**Ecological:** CHAPARRAL WITH RIPARIAN AREA. BESIDE A STEEP, ROCKY BANK.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2001 COLLECTION BY HELMKAMP. PRESENCE LISTED AS "UNCOMMON AND VERY LOCAL" IN 2001. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** PVT, SCL COUNTY

<b>Occurrence No.</b> 70	<b>Map Index:</b> 68141	<b>EO Index:</b> 68285	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1956-04-28
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1956-04-28
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-02-15

**Quad Summary:** Atascadero (3512046/246B)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.48009° / -120.72012°	<b>Township:</b> 28S
<b>UTM:</b> Zone-10 N3928675 E706838	<b>Range:</b> 12E
<b>Radius:</b> 1 mile	<b>Section:</b> 19 <b>Qtr:</b> XX
<b>Elevation:</b>	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POINT	

**Location:** GRAVES STREAM, PARADISE VALLEY.  
**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS.  
**General:** ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1956 COLLECTION BY HARDHAM. NEEDS FIELDWORK. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.  
**Owner/Manager:** UNKNOWN

Streptanthus albidus ssp. peramoenus

most beautiful jewel-flower

\_\_\_\_\_ **Status** \_\_\_\_\_

**Federal:** None

**State:** None

\_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_

**Global:** G2T2

**State:** S2.2

\_\_\_\_\_ **Element Code:** PDBRA2G012 \_\_\_\_\_

\_\_\_\_\_ **Other Lists** \_\_\_\_\_

**CNPS List:** 1B.2

\_\_\_\_\_ **Habitat Associations** \_\_\_\_\_

**General:** CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.

**Micro:** SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

**Occurrence No.:** 71

**Map Index:** 58259

**EO Index:** 68286

\_\_\_\_\_ **Dates Last Seen** \_\_\_\_\_

**Occ Rank:** Unknown

**Origin:** Natural/Native occurrence

**Presence:** Presumed Extant

**Trend:** Unknown

**Element:** 1958-05-13

**Site:** 1958-05-13

**Record Last Updated:** 2007-02-15

**Quad Summary:** Atascadero (3512046/246B), Morro Bay North (3512047/247A)

**County Summary:** San Luis Obispo

**Lat/Long:** 35.41578° / -120.73559°

**UTM:** Zone-10 N3921508 E705597

**Radius:** 1 mile

**Elevation:** 1,500 ft

**Township:** 29S

**Range:** 12E

**Section:** 07

**Meridian:** M

**Qtr:** XX

**Mapping Precision:**NON-SPECIFIC

**Symbol Type:**POINT

**Location:** CERRO ALTO.

**Location Detail:** EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS AROUND CERRO ALTO.

**General:** ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1958 COLLECTION BY HARDHAM. NEEDS FIELDWORK. COLLECTIONS IN THIS AREA ARE IN TAXONOMIC QUESTION; THEY MAY BE S. GLANDULOSUS SSP. GLANDULOSUS.

**Owner/Manager:** USFS-LOS PADRES NF

**Suaeda californica**

California seablite

Element Code: PDCHE0P020

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

General: MARSHES AND SWAMPS.  
 Micro: MARGINS OF COASTAL SALT MARSHES. 0-5M.

<b>Occurrence No.</b> 1	<b>Map Index:</b> 22704	<b>EO Index:</b> 6747	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 2005-05-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2005-05-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-09-13

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.34811° / -120.84369°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3913782 E695945	<b>Range:</b> 10E
<b>Area:</b> 75.6 acres	<b>Section:</b> 06 <b>Qtr:</b> NW
<b>Elevation:</b> 10 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC  
**Symbol Type:**POLYGON

**Location:** MORRO BAY STATE PARK; FROM FAIRBANK POINT SOUTH TO WHITE POINT AND EAST BEYOND THE CAMPGROUND.  
**Location Detail:** PLANTS FOUND GROWING BETWEEN THE MEAN HIGHER HIGH WATER LINE AND THE EXTREME HIGH WATER LINE. THE EASTERNMOST PORTION OF THE COLONY IS GROWING ALONG THE NORTHERN CHANNEL OF THE ESTUARY.  
**Ecological:** COASTAL SALT MARSH, UPPER LITTORAL ZONE. ASSOCIATED WITH DISTICHLIS SPICATA, ATRIPLEX PATULA, FRANKENIA SALINA, AND CAKILE MARITIMA.  
**Threat:** INCREASED EROSION IS A POTENTIAL THREAT.  
**General:** LARGE COLONY SIZES IN FAIRBANK POINT REGION MAY BE DUE TO SHADING FROM EUCALYPTUS TREES, ADDITIONAL GUANO DEPOSITION (BIRD SANCTUARY IS NEARBY), OR NUTRIENT RICH RUNOFF FROM LOCAL GOLF COURSE. PORTION OF OCCURRENCE HAS BEEN PLANTED.  
**Owner/Manager:** DPR-MORRO BAY SP

<b>Occurrence No.</b> 2	<b>Map Index:</b> 24842	<b>EO Index:</b> 6129	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Fair			<b>Element:</b> 2004-08-20
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2004-08-20
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2007-09-27

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33449° / -120.85932°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912240 E694557	<b>Range:</b> 10E
<b>Area:</b> 333.4 acres	<b>Section:</b> 13 <b>Qtr:</b> N
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M

**Mapping Precision:**SPECIFIC  
**Symbol Type:**POLYGON

**Location:** SOUTH AND WEST SHORES OF MORRO BAY, FROM CUESTA-BY-THE-SEA NORTH ALONG THE SPIT TO "HILL" TRIANGULATION POINT.  
**Location Detail:** LONG POLYGON MAPPED W OF BAYWOOD PARK.  
**Ecological:** IN SALT MARSH WITH JAUMEA CARNOSEA, FRANKENIA GRANDIFOLIA, DISTICHLIS SPICATA, LIMONIUM CALIFORNICUM, SALICORNIA VIRGINICA, ATRIPLEX PATULA, AND CUSCUTA SALINA.  
**Threat:** ROAD THROUGH AREA FROM END OF MITCHELL RD, CUESTA-BY-THE-SEA. VEHICLES HAVE ACCESS DIRECTLY TO THE BEACH.  
**General:** UNKNOWN HOW MANY PLANTS SEEN IN 1987 AND 1992. CO-OCCURS WITH CORDYLANTHUS MARITIMUS MARITIMUS AT THE NORTH END OF MITCHELL ROAD (PECHO RD) IN CUESTA-BY-THE-SEA. UNKNOWN NUMBER OF PLANTS SEEN IN 2004 SURVEY FOR C. MARITIMUS MARITIMUS.  
**Owner/Manager:** DPR-MORRO BAY SP, PVT

Suaeda californica

California seablite

Element Code: PDCHE0P020

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**  
 General: MARSHES AND SWAMPS.  
 Micro: MARGINS OF COASTAL SALT MARSHES. 0-5M.

<b>Occurrence No.</b> 3	<b>Map Index:</b> 24841	<b>EO Index:</b> 6751	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1993-12-08

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.37097° / -120.86312°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3916279 E694124	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 26
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** NORTH SHORE OF THE MOUTH OF MORRO BAY, JUST EAST OF MORRO ROCK.  
**Location Detail:** GROWING BETWEEN THE MEAN HIGHER HIGH WATER LINE AND THE EXTREME HIGH WATER LINE.  
**Ecological:** UPPER LITTORAL ZONE OF NORTHERN COASTAL SALT MARSH. GROWING ALONG A ROCKY SHORELINE.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 4	<b>Map Index:</b> 24840	<b>EO Index:</b> 6750	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1994-01-03

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36934° / -120.85503°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3916114 E694864	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 25
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** NORTHEAST SHORE OF THE MOUTH OF MORRO BAY, NEAR THE WEST END OF EIGHTH STREET IN THE CITY OF MORRO BAY.  
**Location Detail:** GROWING BETWEEN THE MEAN HIGH HIGHER WATER LINE AND THE EXTERME HIGH WATER LINE.  
**Ecological:** UPPER LITTORAL ZONE OF NORTHERN COASTAL SALT MARSH. GROWING ALONG ROCKY SHORELINE.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 5	<b>Map Index:</b> 24839	<b>EO Index:</b> 6749	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1994-01-03

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36536° / -120.85721°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915669 E694675	<b>Range:</b> 10E
<b>Radius:</b> 80 meters	<b>Section:</b> 35
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POINT	

**Location:** WEST SHORE OF MORRO BAY, ON SMALL PENINSULA JUTTING FROM THE NORTHEAST END OF THE SPIT.  
**Location Detail:** GROWING BETWEEN THE MEAN HIGH HIGHER WATER LINE AND THE EXTREME HIGH WATER LINE.  
**Ecological:** UPPER LITTORAL ZONE OF NORTHERN COASTAL SALT MARSH. NOT PRESENT IN UNSTABLE DUNE COMMUNITY WHICH IS DOMINANT ALONG THE SPIT.  
**Owner/Manager:** DPR-MORRO BAY SP

**Suaeda californica**

California seablite

Element Code: PDCHE0P020

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: Endangered State: None	Global: G1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**  
 General: MARSHES AND SWAMPS.  
 Micro: MARGINS OF COASTAL SALT MARSHES. 0-5M.

<b>Occurrence No.</b> 6	<b>Map Index:</b> 24838	<b>EO Index:</b> 6748	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1993-12-08

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.36019° / -120.85143°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3915107 E695212	<b>Range:</b> 10E
<b>Area:</b> 29.5 acres	<b>Section:</b> 36
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** EAST SHORE OF MORRO BAY, FROM SECOND STREET SOUTH TO BOAT RAMP IN CITY OF MORRO BAY.  
**Location Detail:** GROWING BETWEEN THE MEAN HIGH HIGHER WATER LINE AND THE EXTREME HIGH WATER LINE.  
**Ecological:** UPPER LITTORAL ZONE OF NORTHERN COASTAL SALT MARSH. GROWING ALONG ROCKY SHORELINE IN ASSOCIATION WITH SALICORNIA VIRGINICA AND CARPOBROTUS EDULUS.  
**General:** EARLIEST FRUITING (FEB 8) OF THE MORRO BAY COLONIES IN 1992.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 7	<b>Map Index:</b> 24836	<b>EO Index:</b> 6746	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1992-XX-XX
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1992-XX-XX
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 1993-12-08

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.32976° / -120.84426°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3911745 E695937	<b>Range:</b> 11E
<b>Area:</b> 52.2 acres	<b>Section:</b> XX
<b>Elevation:</b> 5 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> SPECIFIC	<b>Qtr:</b> XX
<b>Symbol Type:</b> POLYGON	

**Location:** SOUTHEAST SHORE OF MORRO BAY, ALONG THE PENINSULA OF BAYWOOD PARK.  
**Location Detail:** GROWING BETWEEN THE MEAN HIGHER HIGH WATER LINE AND THE EXTREME HIGH WATER LINE.  
**Ecological:** UPPER LITTORAL ZONE OF NORTHERN COASTAL SALT MARSH. ASSOCIATED WITH DISTICHLIS SPICATA AND SALICORNIA VIRGINICA.  
**Owner/Manager:** UNKNOWN

<b>Occurrence No.</b> 15	<b>Map Index:</b> 59297	<b>EO Index:</b> 59333	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Poor			<b>Element:</b> 2002-10-29
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 2002-10-29
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Unknown			<b>Record Last Updated:</b> 2005-01-12

**Quad Summary:** Morro Bay North (3512047/247A)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.40420° / -120.86923°	<b>Township:</b> 29S
<b>UTM:</b> Zone-10 N3919954 E693489	<b>Range:</b> 10E
<b>Radius:</b> 1/10 mile	<b>Section:</b> 14
<b>Elevation:</b> 0 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	<b>Qtr:</b> /
<b>Symbol Type:</b> POINT	

**Location:** NORTH END OF MORRO STRAND AND MORRO BAY TOWN, JUST NORTH OF PIPELINE, WEST OF HIGHWAY 1.  
**Location Detail:** AT MOUTH OF UNNAMED AND UNMAPPED CREEK.  
**Ecological:** MOUTH OF UNNAMED CREEK, DOMINATED BY SEDGES IN SAND.  
**Threat:** STORM MAY ELIMINATE PLANT.  
**General:** 1 PLANT SEEN IN 2002. THE RARE CALIFORNIA RED LEGGED FROG AND THE MORRO SHOULDERBAND SNAIL ALSO OCCUR IN THIS VICINITY.  
**Owner/Manager:** DPR

**Sulcaria isidiifera**

splitting yarn lichen

Element Code: NLTEST0020

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G1 CNPS List:  
 State: None State: S1.1

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: ON BRANCHES OF OAKS AND SHRUBS. 20-30M.

Occurrence No. 1 Map Index: 21500 EO Index: 8953 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 1984-01-08  
 Origin: Natural/Native occurrence Site: 1984-01-08  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1995-09-19

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.30138° / -120.84560° Township: 30S  
 UTM: Zone-10 N3908594 E695884 Range: 10E  
 Radius: 4/5 mile Mapping PrecisionNON-SPECIFIC Section: 24 Qtr: XX  
 Elevation: 100 ft Symbol Type:POINT Meridian: M

Location: LOS OSOS OAKS STATE RESERVE.

Ecological: ON BRANCHES OF QUERCUS AGRIFOLIA, ADENOSTOMA FASCICULATUM, AND CEANOTHUS RAMULOSUS IN SANDY AREAS. THIS AREA IS ALSO THE TYPE LOCALITY FOR HYPOGYMNIA MOLLIS (A RECENTLY DESCRIBED LICHEN TAXON).

Threat: THREATENED BY OVERCOLLECTING. AT THIS SITE, POSSIBLY BEING THREATENED BY BEING OVERGROWN BY POISON OAK, ETC.

General: THIS IS THE TYPE LOCALITY (COLLECTED IN 1984 NEAR LOS OSOS VALLEY ROAD). VERY SMALL POPULATION, NO MAPS GIVEN; BETTER LOCATION INFO. NEEDED.

Owner/Manager: DPR-LOS OSOS OAKS SR

Occurrence No. 2 Map Index: 21501 EO Index: 8954 \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown Element: XXXX-XX-XX  
 Origin: Natural/Native occurrence Site: XXXX-XX-XX  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 1996-04-11

Quad Summary: Morro Bay South (3512037/247D)

County Summary: San Luis Obispo

Lat/Long: 35.32604° / -120.82610° Township: 30S  
 UTM: Zone-10 N3911368 E697597 Range: 11E  
 Radius: 3/5 mile Mapping PrecisionNON-SPECIFIC Section: 7 Qtr: XX  
 Elevation: 80 ft Symbol Type:POINT Meridian: M

Location: N OF TOWN OF BAYWOOD, S OF MORRO BAY STATE PARK.

Ecological: OAK PYGMY FOREST.

Threat: DEVELOPMENT AND OVERCOLLECTING ARE POSSIBLE THREATS.

General: SWAP, A LOCAL CALIFORNIA PROTECTION ORGANIZATION IS TRYING TO SECURE THIS SITE BY PURCHASING AND TURNING OVER TO THE ADJACENT STATE PARK. NO MAP GIVEN; BETTER LOCATION INFO NEEDED.

Owner/Manager: PVT

**Taricha torosa torosa**

Coast Range newt

Element Code: AAAAF02032

Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5T4 CDFG Status: SC  
 State: None State: S4

Habitat Associations

General: COASTAL DRAINAGES FROM MENDOCINO COUNTY TO SAN DIEGO COUNTY.  
 Micro: LIVES IN TERRESTRIAL HABITATS & WILL MIGRATE OVER 1 KM TO BREED IN PONDS, RESERVOIRS & SLOW MOVING STREAMS.

Occurrence No. 9 Map Index: 52434 EO Index: 52434 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2003-03-27  
 Origin: Natural/Native occurrence Site: 2003-03-27  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2003-09-11

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.35500° / -120.63083° Township: 29S  
 UTM: Zone-10 N3914988 E715273 Range: 12E  
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 36 Qtr: SE  
 Elevation: 1,515 ft Symbol Type: POINT Meridian: M

Location: UNNAMED TRIBUTARY TO SANTA MARGARITA CREEK, 5 MILES NNE OF SAN LUIS OBISPO  
 Location Detail: TRIBUTARY DRAINS WEST TO SANTA MARGARITA CREEK, AT HIGHWAY 1, ON THE NORTH SIDE OF CUESTA GRADE.  
 Ecological: HABITAT SURROUNDING BLUE-LINE STREAM IS DOMINATED BY SALIX LASIOLEPIS AND POPULUS BALSAMIFERA SSP TRICHOCARPA; MIXED EVERGREEN WOODLAND, DOMINATED BY QUERCUS AGRIFOLIA, UMBELLULARIA CALIFORNICA, ACER MACROPHYLLUM, ETC., FOUND UPSLOPE.  
 General: 47+ ADULTS FOUND BREEDING AND LAYING EGG MASSES 27 MAR 2003.  
 Owner/Manager: PVT-SANTA MARGARITA CO

Occurrence No. 12 Map Index: 52469 EO Index: 52469 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2002-06-05  
 Origin: Natural/Native occurrence Site: 2002-06-05  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2003-09-15

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.34489° / -120.58419° Township: 30S  
 UTM: Zone-10 N3913970 E719539 Range: 13E  
 Area: 15.8 acres Mapping Precision: SPECIFIC Section: 04 Qtr: SE  
 Elevation: 1,237 ft Symbol Type: POLYGON Meridian: M

Location: UPPER TROUT CREEK, TRIBUTARY TO WATER CANYON CREEK, 2.5 MILES EAST OF CUESTA PASS, NE OF SAN LUIS OBISPO  
 Location Detail: 0.5 MILE STRETCH OF CREEK WAS SURVEYED IN 2002.  
 Ecological: HABITAT CONSISTS OF A LOW-GRADIENT, MEANDERING STREAM CHANNEL AND A SMALL TO MEDIUM COBBLE SUBSTRATE, WITH AREAS OF FINER DEPOSITION. STREAM SURROUNDED BY COAST LIVE OAK WOODLAND, VALLEY OAK SAVANNAH, AND GRAZED ANNUAL GRASSLAND.  
 Threat: POSSIBLE THREAT FROM VEHICLES AND CATTLE GRAZING.  
 General: 75+ ADULTS OBSERVED BREEDING AND LAYING EGG MASSES ON 18 MAY 2002; 41 ADULTS AND 1 METAMORPH OBSERVED ON 5 JUN 2002.  
 Owner/Manager: PVT-SANTA MARGARITA CO

Occurrence No. 14 Map Index: 52476 EO Index: 52476 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2002-06-14  
 Origin: Natural/Native occurrence Site: 2002-06-14  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2003-09-15

Quad Summary: Lopez Mtn. (3512035/246D)  
 County Summary: San Luis Obispo

Lat/Long: 35.35676° / -120.59159° Township: 29S  
 UTM: Zone-10 N3915270 E718834 Range: 13E  
 Area: 14.6 acres Mapping Precision: SPECIFIC Section: 33 Qtr: SW  
 Elevation: 1,292 ft Symbol Type: POLYGON Meridian: M

Location: UPPER END OF YERBA BUENA CREEK, IN SYCAMORE CANYON, 5.25 MILES NE OF SAN LUIS OBISPO  
 Ecological: HABITAT CONSISTS OF A STEEP-GRADIENT, MEANDERING STREAM WITH BOULDERS AND NUMEROUS SMALL SCOUR POOLS. DOMINANT PLANTS INCLUDE SALIX SPP, QUERCUS AGRIFOLIA, PINUS SABINIANA, AND PLATANUS RACEMOSA.  
 Threat: THREATENED BY PRESENCE OF NON-NATIVE PREDATORY FISH, INTRODUCED FROM A BASS POND UPSTREAM.  
 General: 4 ADULTS OBSERVED ON 14 JUN 2002.  
 Owner/Manager: PVT-SANTA MARGARITA CO



**Taricha torosa torosa**

Coast Range newt

Element Code: AAAAF02032

\_\_\_\_\_ Status \_\_\_\_\_ NDDB Element Ranks \_\_\_\_\_ Other Lists \_\_\_\_\_  
 Federal: None Global: G5T4 CDFG Status: SC  
 State: None State: S4

Habitat Associations

General: COASTAL DRAINAGES FROM MENDOCINO COUNTY TO SAN DIEGO COUNTY.  
 Micro: LIVES IN TERRESTRIAL HABITATS & WILL MIGRATE OVER 1 KM TO BREED IN PONDS, RESERVOIRS & SLOW MOVING STREAMS.

Occurrence No. 54 Map Index: 72402 EO Index: 73368 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Excellent Element: 2008-06-11  
 Origin: Natural/Native occurrence Site: 2008-06-11  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-09-26

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.47461° / -120.70742° Township: 28S  
 UTM: Zone-10 N3928094 E708003 Range: 12E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 20 Qtr: SW  
 Elevation: 965 ft Symbol Type: POINT Meridian: M

Location: GRAVES CREEK, JUST SOUTH OF SANTA LUCIA RD BRIDGE, PARADISE VALLEY, 2.3 MILES WSW OF ATASCADERO P.O.  
 Location Detail: MAPPED TO PROVIDED COORDINATES AND MAP.  
 Ecological: HABITAT DESCRIBED AS HIGH QUALITY RIPARIAN W/ PATCHY RESIDENTIAL DEVELOPMENT IN ADJACENT UPLANDS. ALSO PRESENT WERE BUFO BOREAS HALOPHILUS & PSEUDACRIS REGILLA TADPOLES.  
 Threat: POSSIBLE THREATS INCLUDE PREDATION BY PETS, COLLECTING, URBAN RUN-OFF, ROAD CAUSED MORTALITY.  
 General: 4 VERY SMALL NEWT LARVAE OBSERVED IN A DRYING POOL WITH NO FLOW ON 11 MAY 2008.  
 Owner/Manager: UNKNOWN

Occurrence No. 55 Map Index: 72404 EO Index: 73369 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Poor Element: 2005-07-20  
 Origin: Natural/Native occurrence Site: 2005-07-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-09-26

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.47151° / -120.72301° Township: 28S  
 UTM: Zone-10 N3927717 E706597 Range: 12E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 19 Qtr: SW  
 Elevation: 1,261 ft Symbol Type: POINT Meridian: M

Location: UN-NAMED TRIBUTARY TO GRAVES CREEK, PARADISE VALLEY, 3.3 MILES WSW OF ATASCADERO P.O.  
 Location Detail: 1,110 METERS UPSTREAM FROM GRAVES CREEK, & 1.2 MILES EAST OF WILLOW SPRING. MAPPED TO PROVIDED COORDINATES AND MAP.  
 Ecological: HABITAT IN THE DRAINAGE IS DOMINATED BY COAST LIVE OAK, ARROYO WILLOW, POISON OAK, & NON-NATIVE ANNUAL GRASSLANDS. NO SURFACE FLOW PRESENT AT TIME OF SURVEY, BUT FEW POOLS OF WATER LOCATED IN BEDROCK. CATTLE GRAZING. 2 BULLFROGS OBSERVED.  
 Threat: CATTLE GRAZING, FUTURE DEVELOPMENT, WETLAND FILLING, ROAD CROSSING IN CREEK, & NON-NATIVE PREDATORS/COMPETITORS.  
 General: 1 BREEDING ADULT AND 20 JUVENILES OBSERVED ON 20 JULY 2005.  
 Owner/Manager: PVT-CASTLEROCK DEVELOPMENT

Occurrence No. 56 Map Index: 72405 EO Index: 73372 Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good Element: 2005-07-20  
 Origin: Natural/Native occurrence Site: 2005-07-20  
 Presence: Presumed Extant  
 Trend: Unknown Record Last Updated: 2008-09-26

Quad Summary: Atascadero (3512046/246B)  
 County Summary: San Luis Obispo

Lat/Long: 35.47270° / -120.73320° Township: 28S  
 UTM: Zone-10 N3927827 E705669 Range: 11E  
 Radius: 80 meters Mapping Precision SPECIFIC Section: 24 Qtr: XX  
 Elevation: 1,700 ft Symbol Type: POINT Meridian: M

Location: UN-NAMED TRIBUTARY TO GRAVES CREEK, PARADISE VALLEY, 3.7 MILES WSW OF ATASCADERO P.O.  
 Location Detail: 0.8 MILES UPSTREAM FROM GRAVES CREEK, & 0.6 MILES EAST OF WILLOW SPRING. MAPPED TO PROVIDED COORDINATES AND MAP.  
 Ecological: HABITAT IN THE DRAINAGE IS DOMINATED BY COAST LIVE OAK, ARROYO WILLOW, POISON OAK, & TANOAK. CATTLE GRAZING.  
 Threat: THREATENED BY CATTLE GRAZING, FUTURE DEVELOPMENT, & WETLAND FILLING.  
 General: 1 BREEDING ADULT AND >100 JUVENILES OBSERVED ON 20 JULY 2005.  
 Owner/Manager: PVT-CASTLEROCK DEVELOPMENT

Taxidea taxus

American badger

Element Code: AMAJF04010

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G5 **CDFG Status:** SC  
**State:** None **State:** S4

**Habitat Associations**

**General:** MOST ABUNDANT IN DRIER OPEN STAGES OF MOST SHRUB, FOREST, AND HERBACEOUS HABITATS, WITH FRIABLE SOILS.  
**Micro:** NEED SUFFICIENT FOOD, FRIABLE SOILS & OPEN, UNCULTIVATED GROUND. PREY ON BURROWING RODENTS. DIG BURROWS.

**Occurrence No.** 29 **Map Index:** 56541 **EO Index:** 56557 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2003-04-16  
**Origin:** Natural/Native occurrence **Site:** 2003-04-16  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-08-30

**Quad Summary:** Santa Margarita (3512045/246A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.38389° / -120.62083° **Township:** 29S  
**UTM:** Zone-10 N3918215 E716104 **Range:** 13E  
**Radius:** 80 meters **Mapping Precision:** SPECIFIC **Section:** 19 **Qtr:** XX  
**Elevation:** 1,055 ft **Symbol Type:** POINT **Meridian:** M

**Location:** SOUTH SIDE OF HIGHWAY 58, JUST WEST OF SANTA MARIA, ON THE SANTA MARGARITA RANCH  
**Ecological:** HABITAT CONSISTS OF OPEN OAK SAVANNAH.  
**Threat:** THREATENED BY FUTURE DEVELOPMENT.  
**General:** 1 SUBADULT OBSERVED ON 16 APR 2003; FRESH DIGGING OF GROUND SQUIRREL HOLES OBSERVED IN THE VICINITY, BUT NO BADGER DEN WAS LOCATED.  
**Owner/Manager:** PVT-SANTA MARGARITA RANCH

**Occurrence No.** 198 **Map Index:** 57229 **EO Index:** 57245 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Fair **Element:** 2002-07-08  
**Origin:** Natural/Native occurrence **Site:** 2002-07-08  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-10-05

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.17664° / -120.62167° **Township:** 31S  
**UTM:** Zone-10 N3895223 E716579 **Range:** 13E  
**Radius:** 1/10 mile **Mapping Precision:** NON-SPECIFIC **Section:** 31 **Qtr:** XX  
**Elevation:** 130 ft **Symbol Type:** POINT **Meridian:** M

**Location:** PRICE CANYON ROAD, 3 MILES NORTH OF PISMO BEACH  
**Ecological:** HABITAT CONSISTS OF OPEN, NON-NATIVE GRASSLAND WITH SCATTERED COAST LIVE OAK (QUERCUS AGRIFOLIA) WOODLANDS IN THE RAVINES. PRICE CANYON ROAD PARALLELS PISMO CREEK, A RIPARIAN CORRIDOR WITH A MATURE VEGETATION STRUCTURE.  
**Threat:** THREATENED BY ROADWAY TRAFFIC.  
**General:** 1 JUVENILE BADGER KILLED ON PRICE CANYON ROAD ON 8 JUL 2002.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 199 **Map Index:** 58099 **EO Index:** 58135 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 1991-04-05  
**Origin:** Natural/Native occurrence **Site:** 1991-04-05  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-11-17

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.17676° / -120.59442° **Township:** 31S  
**UTM:** Zone-10 N3895296 E719061 **Range:** 13E  
**Radius:** 1/5 mile **Mapping Precision:** NON-SPECIFIC **Section:** 33 **Qtr:** XX  
**Elevation:** 220 ft **Symbol Type:** POINT **Meridian:** M

**Location:** WEST OF HIGHWAY 227, JUST SW OF THE JUNCTION OF HIGHWAY 227 AND THE EAST FORK OF PISMO CREEK, NNE OF GROVER CITY  
**Ecological:** HABITAT CONSISTS OF GRAZED GRASSLAND BORDERED BY OAK WOODLAND AND CHAPARRAL.  
**Threat:** POSSIBLE THREAT OF DEVELOPMENT INTO A GOLF COURSE.  
**General:** RECENT DIGGINGS AND BURROWS PRESENT ON 5 APR 1991.  
**Owner/Manager:** PVT

Taxidea taxus

American badger

Element Code: AMAJF04010

**Status** \_\_\_\_\_ **NDDB Element Ranks** \_\_\_\_\_ **Other Lists** \_\_\_\_\_  
**Federal:** None **Global:** G5 **CDFG Status:** SC  
**State:** None **State:** S4

**Habitat Associations**

**General:** MOST ABUNDANT IN DRIER OPEN STAGES OF MOST SHRUB, FOREST, AND HERBACEOUS HABITATS, WITH FRIABLE SOILS.  
**Micro:** NEED SUFFICIENT FOOD, FRIABLE SOILS & OPEN, UNCULTIVATED GROUND. PREY ON BURROWING RODENTS. DIG BURROWS.

**Occurrence No.** 200 **Map Index:** 58100 **EO Index:** 58136 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Excellent **Element:** 1991-06-28  
**Origin:** Natural/Native occurrence **Site:** 1991-06-28  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2004-11-17

**Quad Summary:** Arroyo Grande NE (3512025/221A)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.13808° / -120.59170° **Township:** 32S  
**UTM:** Zone-10 N3891011 E719412 **Range:** 13E  
**Radius:** 1/5 mile **Mapping Precision:**NON-SPECIFIC **Section:** 16 **Qtr:** XX  
**Elevation:** 140 ft **Symbol Type:**POINT **Meridian:** M

**Location:** VICINITY OF LA CANADA ROAD AND JAMES WAY, ARROYO GRANDE  
**Ecological:** HABITAT CONSISTS OF A GRASSY HILLSIDE WITH BRUSHY RIPARIAN AND OAK WOODLANDS INTERSPERSED.  
**Threat:** THREATENED BY PLANNED HOUSING DEVELOPMENTS.  
**General:** FAIRLY NUMEROUS FRESH DIGGINGS AND BURROWS PRESENT ON 15 MAR AND 28 JUN 1991.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 346 **Map Index:** 64648 **EO Index:** 64727 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Good **Element:** 2006-04-17  
**Origin:** Natural/Native occurrence **Site:** 2006-04-17  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2006-05-09

**Quad Summary:** San Luis Obispo (3512036/246C)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.27581° / -120.71072° **Township:** 30S  
**UTM:** Zone-10 N3906033 E708215 **Range:** 12E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 32 **Qtr:** XX  
**Elevation:** 150 ft **Symbol Type:**POINT **Meridian:** M

**Location:** LOS OSOS VALLEY ROAD, JUST SE OF THE INTERSECTION WITH FOOTHILL ROAD, ~2 MILES WEST OF SAN LUIS OBISPO  
**Ecological:** SURROUNDING HABITAT CONSISTS OF OAK WOODLAND SAVANNAH AND NON-NATIVE GRASSLAND.  
**Threat:** THREATENED BY ENCROACHING DEVELOPMENT AND INCREASING TRAFFIC.  
**General:** 1 ADULT FOUND DOR ON 17 APR 2006.  
**Owner/Manager:** UNKNOWN

**Occurrence No.** 412 **Map Index:** 71685 **EO Index:** 72585 **Dates Last Seen** \_\_\_\_\_  
**Occ Rank:** Unknown **Element:** 2008-07-01  
**Origin:** Natural/Native occurrence **Site:** 2008-07-01  
**Presence:** Presumed Extant  
**Trend:** Unknown **Record Last Updated:** 2008-07-11

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

**Lat/Long:** 35.31710° / -120.79696° **Township:** 30S  
**UTM:** Zone-10 N3910436 E700268 **Range:** 11E  
**Radius:** 80 meters **Mapping Precision:**SPECIFIC **Section:** 16 **Qtr:** NE  
**Elevation:** 150 ft **Symbol Type:**POINT **Meridian:** M

**Location:** HILLSIDE EAST OF WARDEN LAKE. ABOUT 1.75 MILES EAST OF LOS OSOS.  
**Ecological:** GRAZED GRASSLAND, COASTAL SAGE SCRUB, DUNE SCRUB & OAK WOODLANDS. SOILS PRIMARILY BAYWOOD SAND FINES.  
**General:** AT LEAST 4 FRESH BADGER BURROWS OBSERVED ON 1 JULY 2008.  
**Owner/Manager:** PVT

Trifolium depauperatum var. hydrophilum

saline clover

Element Code: PDFAB400R5

_____ Status _____	NDDB Element Ranks _____	Other Lists _____
Federal: None	Global: G5T2?	CNPS List: 1B.2
State: None	State: S2.2?	

\_\_\_\_\_ Habitat Associations \_\_\_\_\_

General: MARSHES AND SWAMPS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.  
 Micro: MESIC, ALKALINE SITES. 0-300M.

Occurrence No. 1	Map Index: 49386	EO Index: 49386	_____ Dates Last Seen _____
Occ Rank: Excellent			Element: 1996-XX-XX
Origin: Natural/Native occurrence			Site: 1996-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2002-11-14

Quad Summary: San Luis Obispo (3512036/246C)  
 County Summary: San Luis Obispo

Lat/Long: 35.26704° / -120.68405°	Township: 30S
UTM: Zone-10 N3905116 E710664	Range: 12E
Radius: 80 meters	Section: 34
Elevation: 150 ft	Meridian: M
	Qtr: SW
Mapping Precision: SPECIFIC	
Symbol Type: POINT	

Location: LAGUNA LAKE PARK.  
 Location Detail: IN SW1/4 OF SW1/4 OF ESTIMATED SEC. 34.  
 Ecological: GROWING IN MOIST SOIL ON A GENTLY SLOPING, SPRING-FED SWALE.  
 General: SEVERAL HUNDRED PLANTS ESTIMATED IN 1996. SITE MAY HOST LARGEST EXTANT POPULATION.  
 Owner/Manager: CITY OF SAN LUIS OBISPO

**Tropidocarpum capparideum**

caper-fruited tropidocarpum

Element Code: PDBRA2R010

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
Federal: None State: None	Global: G1 State: S1.1	CNPS List: 1B.1

**Habitat Associations**

General: VALLEY AND FOOTHILL GRASSLAND.  
 Micro: ALKALINE CLAY. 0-455M.

<b>Occurrence No.</b> : 21	<b>Map Index</b> : 61590	<b>EO Index</b> : 61626	<b>Dates Last Seen</b>
<b>Occ Rank</b> : Excellent			<b>Element</b> : 2005-03-16
<b>Origin</b> : Natural/Native occurrence			<b>Site</b> : 2005-03-16
<b>Presence</b> : Presumed Extant			
<b>Trend</b> : Unknown			<b>Record Last Updated</b> : 2005-06-14

**Quad Summary**: Lopez Mtn. (3512035/246D)  
**County Summary**: San Luis Obispo

<b>Lat/Long</b> : 35.35522° / -120.54292°	<b>Township</b> : 29S
<b>UTM</b> : Zone-10 N3915208 E723261	<b>Range</b> : 13E
<b>Area</b> : 3.5 acres	<b>Section</b> : 35 <b>Qtr</b> : SE
<b>Elevation</b> : 1,140 ft	<b>Meridian</b> : M
<b>Mapping Precision</b> : SPECIFIC	
<b>Symbol Type</b> : POLYGON	

**Location**: 5 MILES SE OF SANTA MARGARITA ON POZO RD.  
**Location Detail**: NEAR FIVEMILE BRIDGE OVER RINCONADA CREEK. BETWEEN POZO RD AND STAGECOACH POND. NEAR A LARGE QUERCUS LOBATA.  
**Ecological**: ANNUAL GRASSLAND ADJACENT TO EPHEMERAL POND. ASSOC WITH AVENA BARBATA, BROMUS HORDEACEUS, B. DIANDRUS, HORDEUM MURINUM, ERODIUM BOTRYS, PLAGIOBOTHRYUS NOTHOFULVUS, AMSINKIA INTERMEDIA, LOTUS HUMISTRATUS, LUPINUS NANUS, & CASTILLEJA EXSERTA.  
**Threat**: GRAZING NEARBY.  
**General**: 1000 PLANTS OBSERVED IN 2005.  
**Owner/Manager**: PVT

**Tryonia imitator**

mimic tryonia (=California brackishwater snail)

**Element Code:** IMGASJ7040

<b>Status</b>	<b>NDDB Element Ranks</b>	<b>Other Lists</b>
<b>Federal:</b> None	<b>Global:</b> G2G3	<b>CDFG Status:</b>
<b>State:</b> None	<b>State:</b> S2S3	

**Habitat Associations**

**General:** INHABITS COASTAL LAGOONS, ESTUARIES AND SALT MARSHES, FROM SONOMA COUNTY SOUTH TO SAN DIEGO COUNTY.  
**Micro:** FOUND ONLY IN PERMANENTLY SUBMERGED AREAS IN A VARIETY OF SEDIMENT TYPES; ABLE TO WITHSTAND A WIDE RANGE OF SALINITIES.

<b>Occurrence No.:</b> 4	<b>Map Index:</b> 52108	<b>EO Index:</b> 23219	<b>Dates Last Seen</b>
<b>Occ Rank:</b> Unknown			<b>Element:</b> 1996-11-03
<b>Origin:</b> Natural/Native occurrence			<b>Site:</b> 1996-11-03
<b>Presence:</b> Presumed Extant			
<b>Trend:</b> Increasing			<b>Record Last Updated:</b> 2004-12-06

**Quad Summary:** Morro Bay South (3512037/247D)  
**County Summary:** San Luis Obispo

<b>Lat/Long:</b> 35.33571° / -120.82294°	<b>Township:</b> 30S
<b>UTM:</b> Zone-10 N3912448 E697860	<b>Range:</b> 11E
<b>Area:</b>	<b>Section:</b> 08 <b>Qtr:</b> XX
<b>Elevation:</b> 17 ft	<b>Meridian:</b> M
<b>Mapping Precision:</b> NON-SPECIFIC	
<b>Symbol Type:</b> POLYGON	

**Location:** LOS OSOS CREEK MARSH, ON E SIDE OF MORRO BAY, NEAR SOUTH BAY BLVD AND TURRI RD INTERSECTION  
**Location Detail:** 1979: SNAILS OCCUR IN A MEANDER THROUGH THE MARSH; IN SEDIMENTS RANGING FROM FINE, SILTY MUD TO COARSE SAND & GRAVELLY MUD. 1996: FOUND 150 M WEST OF SOUTH BAY BLVD & 300 M NORTH OF LOS OSOS CREEK.

**General:** 3-4 NOV 1979: CORE SAMPLES INDICATE ABUNDANT, BUT PATCHILY-DISTRIBUTED, POPULATION. ASSOCIATED MOLLUSCS INCLUDE CERTHIDEA CALIFORNICA, ACTEOCINA INCULTA, TRANSENNELLA SP, & LYONSIA CALIFORNICA. 150 SNAILS COLLECTED 3 NOV 1996 USNM #892057.

**Owner/Manager:** DPR-MORRO BAY SP

Valley Needlegrass Grassland

Element Code: CTT42110CA

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G1	
State: None	State: S3.1	
_____ Habitat Associations _____		
General:		
Micro:		

Occurrence No. 23      Map Index: 12360      EO Index: 19753      \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown      Element: 1977-02-XX  
 Origin: Natural/Native occurrence      Site: 1977-02-XX  
 Presence: Presumed Extant  
 Trend: Unknown      Record Last Updated: 1998-07-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.26136° / -120.86074°      Township: 31S  
 UTM: Zone-10 N3904125 E694603      Range: 10E  
 Radius: 1/5 mile      Mapping PrecisionNON-SPECIFIC      Section: 2      Qtr: XX  
 Elevation: 1,320 ft      Symbol Type:POINT      Meridian: M

Location: MONTANA DE ORO STATE PARK (UPPER TERRACES BETW ISLAY & COON CRS).  
 Location Detail: MOSAIC W/ COASTAL SCRUB, COASTAL SAGE SCRUB AND INTRODUCED GRASSLAND. ELEV RISE 0-1560 FT.  
 Ecological: NASSELLA PULCHRA GRASSLAND.  
 General: PARK UNDER MGMT PLAN ATTEMPTING TO RESTORE AREAS W/INTRODUCED SPP TO PRAIRIES. THIS WAS OCC #023 OF CTT42110CA.  
 Owner/Manager: DPR-MONTANA DE ORO SP, PVT

Occurrence No. 35      Map Index: 12441      EO Index: 17788      \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Unknown      Element: 1985-03-19  
 Origin: Natural/Native occurrence      Site: 1985-03-19  
 Presence: Presumed Extant  
 Trend: Unknown      Record Last Updated: 1998-07-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28163° / -120.83574°      Township: 30S  
 UTM: Zone-10 N3906423 E696829      Range: 11E  
 Radius: 1/5 mile      Mapping PrecisionNON-SPECIFIC      Section: 30      Qtr: XX  
 Elevation: 1,080 ft      Symbol Type:POINT      Meridian: M

Location: RIDGE BETW ISLAY CR & LOS OSOS CR DRAINAGES, FAR NE CORNER OF MONTANA DE ORO SP.  
 Ecological: GRASSLAND W/ 15-25% COVER OF NASSELLA PULCHRA W/ESCHSCHOLZIA CALIFORNICA, VIOLA, LOMATIUM & OTHER NATIVE HERBS.  
 General: THIS WAS OCC #035 OF CTT42110CA.  
 Owner/Manager: DPR-MONTANA DE ORO SP

Occurrence No. 36      Map Index: 12349      EO Index: 17787      \_\_\_\_\_ Dates Last Seen \_\_\_\_\_  
 Occ Rank: Good      Element: 1985-03-19  
 Origin: Natural/Native occurrence      Site: 1985-05-19  
 Presence: Presumed Extant  
 Trend: Unknown      Record Last Updated: 1998-07-15

Quad Summary: Morro Bay South (3512037/247D)  
 County Summary: San Luis Obispo

Lat/Long: 35.28080° / -120.86518°      Township: 30S  
 UTM: Zone-10 N3906273 E694153      Range: 10E  
 Radius: 1/5 mile      Mapping PrecisionNON-SPECIFIC      Section: 26      Qtr: XX  
 Elevation: 920 ft      Symbol Type:POINT      Meridian: M

Location: ABOUT 1.25 MI NNE OF VALENCIA PEAK, BETW HAZARD CYN & ISLAY CR, MONTANA DE ORO SP.  
 Ecological: LOW GRASSLAND W/ABUNDANT NASSELLA PULCHRA, VIOLA PEDUNCULATA, LUPINUS SUCCULENTUS. IN SHALLOW SOIL OVER WHITE SANDSTONE.  
 General: THIS WAS OCC #036 OF CTT42110CA.  
 Owner/Manager: DPR-MONTANA DE ORO SP, UNKNOWN





## **G-4: California Native Plant Society Inventory of Rare and Endangered Plants**



SCINAME	COM_NAME	CNPS_LIST	STATE_STAT	FED_STAT	NATCOMS	blooming_orig	ELEV_LOW	ELEV_HIGH
Agrostis hooveri	Hoover's bent grass	List 1B.2			Cismontane woodland, Valley and foothill grassland/usually sandy	Apr-Jul	6	610
Arctostaphylos cruzensis	Arroyo de la Cruz manzanita	List 1B.2			Closed-cone coniferous forest, Chaparral, Coastal scrub, Valley and foothill	Dec-Mar	60	310
Arctostaphylos luciana	Santa Lucia manzanita	List 1B.2			Chaparral, Cismontane woodland/shale	Dec-Mar	350	850
Arctostaphylos morroensis	Morro manzanita	List 1B.1		Threatened	Coastal dunes(pre-Flandrian), Coastal scrub/sandy loam	Dec-Mar	5	205
Arctostaphylos osoensis	Oso manzanita	List 1B.2			porphyry buttes	Feb-Mar	300	500
Arctostaphylos pechoensis	Pecho manzanita	List 1B.2			Coastal scrub/siliceous shale	Nov-Mar	125	850
Arctostaphylos pilosula	Santa Margarita manzanita	List 1B.2			Cismontane woodland	Dec-Mar	170	1100
Arctostaphylos tomentosa ssp. daciticola	dacite manzanita	List 1B.1			porphyry buttes	Mar	100	300
Arctostaphylos wellsii	Wells' manzanita	List 1B.1			coniferous forest, Chaparral/sandstone	Dec-May	30	400
Arenaria paludicola	marsh sandwort	List 1B.1	Endangered	Endangered	brackish)/sandy, openings	May-Aug	3	170
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	List 1B.2			Coastal scrub(clay)	Mar-Jun	20	90
Atriplex joaquiniana	San Joaquin spearscale	List 1B.2			Playas, Valley and foothill grassland/alkaline	Apr-Oct	1	835
California macrophylla	round-leaved filaree	List 1B.1			grassland/clay	Mar-May	15	1200
Calochortus obispoensis	San Luis mariposa lily	List 1B.2			grassland/often serpentinite	May-Jul	75	730
Calochortus simulans	La Panza mariposa lily	List 1B.3			montane coniferous forest, Valley and foothill grassland/sandy, often granitic, sometimes and seeps, Valley and foothill grassland/rocky, fine soils	Apr-May	395	1100
Calycadenia villosa	dwarf calycadenia	List 1B.1				May-Oct	240	1350
Calystegia subacaulis ssp. episcopalis	Cambria morning-glory	List 1B.2			prairie	(Mar)Apr-Jun(Jul)	60	500
Camissonia hardhamiae	Hardham's evening-primrose	List 1B.2			decomposed carbonate, disturbed or burned	Mar-May	140	945
Carex obispoensis	San Luis Obispo sedge	List 1B.2			Coastal prairie, Coastal scrub, Valley and foothill grassland/often serpentinite seeps,	Apr-Jun	10	790
Castilleja densiflora ssp. obispoensis	San Luis Obispo owl's-clover	List 1B.2			grassland/sometimes serpentinite	Mar-May	10	400
Centromadia parryi ssp. congdonii	Congdon's tarplant	List 1B.2			Valley and foothill grassland(alkaline)	May-Oct(Nov)	1	230
Chlorogalum pomeridianum var. minus	dwarf soaproot	List 1B.2			Chaparral(serpentinite)	May-Aug	305	1000
Chorizanthe breweri	Brewer's spineflower	List 1B.3			Cismontane woodland, Coastal scrub/serpentinite, rocky or gravelly	Apr-Aug	45	800
Chorizanthe rectispina	straight-awned spineflower	List 1B.3			scrub	Apr-Jul	85	1035
Cirsium fontinale var. obispoense	San Luis Obispo fountain thistle	List 1B.2	Endangered	Endangered	scrub, Valley and foothill grassland/serpentinite seeps, drainages	Feb-Jul(Aug-Sep)	35	380
Cirsium loncholepis	La Graciosa thistle	List 1B.1	Threatened	Endangered	scrub, Marshes and swamps(brackish), Valley and foothill grassland/mesic, sandy	May-Aug	4	220
Cirsium rathophilum	Surf thistle	List 1B.2	Threatened		Coastal bluff scrub, Coastal dunes	Apr-Jun	3	60
Clarkia speciosa ssp. immaculata	Pismo clarkia	List 1B.1	Rare	Endangered	woodland, Valley and foothill grassland/sandy	May-Jul	25	185
Cordylanthus maritimus ssp. maritimus	salt marsh bird's-beak	List 1B.2	Endangered	Endangered	salt)	May-Oct	0	30
Deinandra increscens ssp. foliosa	leafy tarplant	List 1B.2			Valley and foothill grassland/sandy	Jun-Sep	300	500
Delphinium parryi ssp. blochmaniae	dune larkspur	List 1B.2			Chaparral(maritime), Coastal dunes	Apr-May	0	200
Dithyrea maritima	beach spectaclepod	List 1B.1	Threatened		Coastal dunes, Coastal scrub(sandy)	Mar-May	3	50
Dudleya abramsii ssp. bettinae	Betty's dudleya	List 1B.2			grassland/serpentinite, rocky	May-Jul	20	180
Dudleya abramsii ssp. murina	mouse-gray dudleya	List 1B.3			foothill grassland/serpentinite	May-Jun	90	440
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	List 1B.1			Valley and foothill grassland/rocky, often clay or serpentinite	Apr-Jun	5	450
Eriastrum luteum	yellow-flowered eriastrum	List 1B.2			Cismontane woodland/sandy or gravelly	May-Jun	290	1000
Erigeron blochmaniae	Blochman's leafy daisy	List 1B.2			Coastal dunes, Coastal scrub	Jun-Aug	3	45
Eriodictyon altissimum	Indian Knob mountainbalm	List 1B.1	Endangered	Endangered	Coastal scrub/sandstone	Mar-Jun	80	270
Eryngium aristulatum var. hooveri	Hoover's button-celery	List 1B.1			Vernal pools	Jul	3	45
Fritillaria ojaiensis	Ojai fritillary	List 1B.2			Lower montane coniferous forest/rocky	Feb-May	300	998
Fritillaria viridea	San Benito fritillary	List 1B.2			Chaparral(serpentinite)	Mar-May	200	1525
Grindelia hirsutula var. maritima	San Francisco gumplant	List 1B.2			foothill grassland/sandy or serpentinite	Jun-Sep	15	400
Horkelia cuneata ssp. puberula	mesa horkelia	List 1B.1			Coastal scrub/sandy or gravelly	Feb-Jul(Sep)	70	810

Horkelia cuneata ssp. sericea	Kellogg's horkelia	List 1B.1	Chaparral(maritime), Coastal dunes, Coastal scrub/sandy or gravelly, openings	Apr-Sep	10	200
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	List 1B.1	Vernal pools	Feb-Jun	1	1220
Lathyrus japonicus	seaside pea	List 2.1	Coastal dunes	May-Aug	1	30
Layia heterotricha	pale-yellow layia	List 1B.1	and juniper woodland, Valley and foothill grassland/alkaline or clay	Mar-Jun	300	1705
Layia jonesii	Jones' layia	List 1B.2	serpentinite	Mar-May	5	400
Lupinus ludovicianus	San Luis Obispo County lupine	List 1B.2	sandy	Apr-Jul	50	525
Malacothamnus palmeri var. involucratus	Carmel Valley bush-mallow	List 1B.2	scrub	May-Aug(Oct)	30	1100

## Morro manzanita (*Arctostaphylos morroensis*)

**CNPS**  
California Native Plant Society

Inventory of Rare and Endangered Plants  
v7.08d 10-05-08

Status: record arctostaphylos\_morroensis - Thu, Nov. 6, 2008, 15:22 b

**Arctostaphylos morroensis**

**common name** Morro manzanita

**family** Ericaceae

**life form** evergreen shrub

**CNPS List** List 1B.1  
CA-Endemic

**state rank** S2.2

**global rank** G2

**CA state listing** None

**federal listing** Threatened 12/15/94

**where found** **Topographic quads (2):**  
San Luis Obispo (245C) 3812038, Morro Bay South (247D) 3812037

**Counties, states, regions:**  
San Luis Obispo (SLO)  
counties map


**habitats** •Chaparral (Chprl)(maritime)  
•Cismontane woodland (CmWld)  
•Coastal dunes (CoDns)(pre-Flandrian)  
•Coastal scrub (CoScrj)(sandy loam)

**blooming period** Dec-Mar

**elevation range** 5 - 205 meters

**notes** Known from fewer than 10 occurrences in the Morro Bay area; estimated to cover less than 350 acres as of 1996. Threatened by urbanization and alteration of fire regimes. Possibly threatened by non-native plants.


**CalPhotos Image**



Lyde Edge © 1978 CNPS. Follow image link for photo data.

**CHDDB Quick Viewer**  
Web application for exploring the CHDDB elements reported at the quad level.  
(Broadband recommended)

**Quad Mark Identifier**



**A reminder:** Species not recorded for a given area may nonetheless be present, especially where favorable conditions occur.

Source: CNPS 2008 (<http://cnps.web.aplus.net/>)



## **G-5: Consortium of California Herbaria Data**





# Consortium of California Herbaria Records Search Results

## Morro manzanita (*Arctostaphylos morroensis*)

Consortium of California Herbaria  
CAS-DS · CDA · CHSC · DAV · HSC · IRVC · ORI · PGM · RSA-POM · SBBG · SD · SDSU · SJSU · UC-JEPS · UCR · UCSB · UCSC  
Participants   News   Search   About

The Consortium of California Herbaria is a gateway to information from California vascular plant specimens that are housed in herbaria throughout the state. Please cite data retrieved from this page: Data provided by the participants of the Consortium of California Herbaria (ucjeps.berkeley.edu/consortium/).

### Accession Results – 78 records retrieved.

Results for search: County=SAN LUIS OBISPO; Scientific name=Arctostaphylos morroensis; Source=All; [More information: Jepson Online Interchange](#)  
[Map the results using BerkeleyMapper \(23 records with coordinates \[those with a light green checkbox\]\)](#)

Select all records

Select records with coordinates

Retrieve selected records as tab-separated list

Click on accession number to display detailed record; click on column header to sort data; click in leftmost checkbox to select record.

Accession ID	Determination	Collector	Collection Date	Collection Number	County	Locality	Elevation in meters	Feedback
<input type="checkbox"/> SBBG114647	Arctostaphylos morroensis	D. H. Wilken	Apr 24 2002	15888	San Luis Obispo	dunes below Pecho Valley Rd, ca. 2.2 map km NE of mouth of Hazard Cyn	80	<a href="#">Comment</a>
<input type="checkbox"/> SBBG118361	Arctostaphylos morroensis	D. H. Wilken, E. L. Painter, K. Knight	Apr 4 2005	16182	San Luis Obispo	ridge between Ilay Cyn and Hazard Cyn, ca. 0.4 km NW of benchmark "Hazard", Montana de Oro State Park.	173	<a href="#">Comment</a> <a href="#">Read comments</a>
<input type="checkbox"/> SBBG16042	Arctostaphylos morroensis	M. A. Piehl	Apr 21 1963	6388	San Luis Obispo	ca. 3 mi SW of Los Osos	18	<a href="#">Comment</a>
<input type="checkbox"/> SBBG25397	Arctostaphylos morroensis	R. Gankin	Feb 5 1958	271	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG44621	Arctostaphylos morroensis	L. W. Edge	Apr 3 1972	100	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG44622	Arctostaphylos morroensis	L. W. Edge	Apr 3 1972	99	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG44756	Arctostaphylos morroensis	L. W. Edge	Apr 3 1972	95	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG49300	Arctostaphylos morroensis	L. W. Edge	May 8 1972	153	San Luis Obispo	Los Osos, above Cabrillo Estates		<a href="#">Comment</a>
<input type="checkbox"/> SBBG83912	Arctostaphylos morroensis	R. Gankin, L. Srivastara, C. Lamoreux	Feb 5 1958	271	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG83913	Arctostaphylos morroensis	R. Gankin, L. Srivastara, C. Lamoreux	Feb 5 1958	273	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> SBBG83944	Arctostaphylos morroensis	R. Gankin	Jun 22 1958	305	San Luis Obispo	S end of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> UC1121454	Arctostaphylos morroensis	Beryl Schreiber	Oct 7 1938	2554	San Luis Obispo	0.5 mi n Hazard Canyon - Cayucos Quad. - Cayucos, San Luis Obispo Co.	76	<a href="#">Comment</a>
<input type="checkbox"/> UC1309676	Arctostaphylos morroensis	B. Bolt	Jan 31 1936	560	San Luis Obispo	3/4 mi se mouth of Osos Creek - Cayucos Quadrangle	30	<a href="#">Comment</a>
<input type="checkbox"/> UC1309711	Arctostaphylos morroensis	Beryl Schreiber	Oct 7 1938	2555	San Luis Obispo	1/2 mi n Hazard Canyon - Cayucos Quadrangle	76	<a href="#">Comment</a>
<input type="checkbox"/> UC1334944	Arctostaphylos morroensis	Beryl Schreiber	Sep 7 1938	2554	San Luis Obispo	1/2 mi n Hazard Canyon (s of Morro Bay) - Cayucos Quadrangle - N of Hazard Canyon, S of Morro Bay, San Luis Obispo Co.	76	<a href="#">Comment</a>
<input type="checkbox"/> UC1334945	Arctostaphylos morroensis	Ben Bolt	Jan 31 1936	561	San Luis Obispo	1/4 mi n Hazard Canyon - Cayucos Quadrangle - N of Hazard Canyon, San Luis Obispo Co.	60	<a href="#">Comment</a>
<input type="checkbox"/> UC1334946	Arctostaphylos morroensis	A. E. Wieslander	May 12 1936	639	San Luis Obispo	s Morro Bay - Cayucos Quadrangle - S of Morro Bay, San Luis Obispo Co.	76	<a href="#">Comment</a>
<input type="checkbox"/> UC1334947	Arctostaphylos morroensis	B. Bolt	Jan 14 1936	541	San Luis Obispo	3/4 mi se Osos Creek - Cayucos Quadrangle	30	<a href="#">Comment</a>
<input type="checkbox"/> UC1334948	Arctostaphylos morroensis	A. E. Wieslander	Feb 25 1936	601	San Luis Obispo	w Los Osos Creek - Cayucos Quadrangle	30	<a href="#">Comment</a>
<input type="checkbox"/> UC1334949	Arctostaphylos morroensis	A. E. Wieslander	Feb 25 1936	604	San Luis Obispo	near Hazard Canyon (s of Morro Bay) - Cayucos Quadrangle	152	<a href="#">Comment</a>
<input type="checkbox"/> UC1334950	Arctostaphylos morroensis	A. E. Wieslander	May 12 1936	640	San Luis Obispo	s Morro Bay - Cayucos Quadrangle	76	<a href="#">Comment</a>
<input type="checkbox"/> UC1334951	Arctostaphylos morroensis	Ben Bolt	Mar 23 1936	644	San Luis Obispo	one mi ene Valencia Peak - Cayucos Quadrangle	121	<a href="#">Comment</a>
<input type="checkbox"/> UCR41019	Arctostaphylos morroensis	R. J. Rodin	Apr 07 1969	8344	San Luis Obispo	Central Coast 0.5 mi from ocean at south end of Morro Bay	6	<a href="#">Comment</a>
<input type="checkbox"/> COA17591	Arctostaphylos morroensis	Austin Griffiths	November 7 1981	s.n.	San Luis Obispo	Montana de Oro State Park Massive colonies along S slope of crest of ridge and down draws on S ridge of Hazard Canyon, ca. 2 mi. E of Pecho Road. Lvs grayish green, twigs sparsely long-spreading, hairy, - pubescent, mostly below, fleshy, soft, semi-erect, twisted convex.	182	<a href="#">Comment</a>
<input type="checkbox"/> JEPS34362	Arctostaphylos morroensis	Rimo Bacigalupi and L. R. Heckard	Apr 21 1963	8837	San Luis Obispo	s southern end of Morro Bay (mouth of canyon) - Hazard Canyon	106	<a href="#">Comment</a>
<input type="checkbox"/> JEPS38855	Arctostaphylos morroensis	A. E. Wieslander	Feb 1 1936		San Luis Obispo	Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> POM367511	Arctostaphylos morroensis	L. W. Edge	04 3 1972	95	San Luis Obispo	Central Western; Outer South Coastal Ranges region hills south of Morro Bay		<a href="#">Comment</a>
<input type="checkbox"/> RSA121214	Arctostaphylos morroensis	A. E. Wieslander	06 26 1936	648	San Luis Obispo	Central Western; Outer South Coastal Ranges region Near Mouth of Hazard Canyon, Cayucos Quad. Sec 23, T30S, R10E, elev. 300 ft.	91	<a href="#">Comment</a>
<input type="checkbox"/> RSA121215	Arctostaphylos morroensis	A. E. Wieslander	06 26 1936	647	San Luis Obispo	Central Western; Outer South Coastal Ranges region Near Mouth of Hazard Canyon, Cayucos Quad. Sec 23, T30S, R10E, elev. 300 ft.	91	<a href="#">Comment</a>

<input type="checkbox"/>	RSA121216	Arctostaphylos morroensis	A. E. Wieslander	05 12 1936	640	San Luis Obispo	Central Western; Outer South Coast Ranges region South of Morro Bay; Cayucos Quad., T30S, R10E, elevation 250 ft.	76	Comment
<input type="checkbox"/>	RSA122406	Arctostaphylos morroensis	B. Bolt	01 31 1936	560	San Luis Obispo	Central Western; Outer South Coastal Ranges region 3/4 mile SE of mouth of Osos Creek, Cayucos Quad., Sec. 8, T30S, R11E, elevation 100 ft.	30	Comment
<input type="checkbox"/>	RSA166689	Arctostaphylos morroensis	Robert F. Hoover	03 1964	11865	San Luis Obispo	Central Western; Outer South Coastal Ranges Region Los Osos Highlands,		Comment
<input type="checkbox"/>	RSA202096	Arctostaphylos morroensis	A. E. Wieslander	02 25 1936	606	San Luis Obispo	Central Western; Outer South Coastal Ranges region north of Hazard Canyon, alt-500 ft.	152	Comment
<input type="checkbox"/>	RSA216743	Arctostaphylos morroensis	Robert F. Hoover	02 2 1969	11186	San Luis Obispo	Central Western; Outer South Coastal Ranges region above Los Osos,		Comment
<input type="checkbox"/>	RSA252152	Arctostaphylos morroensis	G. D. Wallace	11 23 1974	1320	San Luis Obispo	Central Western; Outer South Coastal Ranges region along the road from Los Osos to Montana de Oro State Park. Elev. 220 ft.	67	Comment
<input type="checkbox"/>	RSA252173	Arctostaphylos morroensis	G. D. Wallace	11 23 1974	1321	San Luis Obispo	Central Western; Outer South Coastal Ranges region Along the coast at Montana de Oro State Park,		Comment
<input type="checkbox"/>	RSA381104	Arctostaphylos morroensis	Roman Gankin	06 22 1958	305	San Luis Obispo	Central Western; Outer South Coastal Ranges region From south end of Morro Bay		Comment
<input type="checkbox"/>	RSA386699	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	02 5 1958	272	San Luis Obispo	Central Western; Outer South Coastal Ranges region south end of Morro Bay		Comment
<input type="checkbox"/>	RSA306700	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	02 5 1950	274	San Luis Obispo	Central Western; Outer South Coastal Ranges region south end of Morro Bay		Comment
<input type="checkbox"/>	RSA43157	Arctostaphylos morroensis	Robert F. Hoover	01 26 1947	6599	San Luis Obispo	Central Western; Outer South Coastal Ranges region Osos Valley		Comment
<input type="checkbox"/>	RSA43174	Arctostaphylos morroensis	Robert F. Hoover	01 6 1947	6593	San Luis Obispo	Central Western; Outer South Coastal Ranges Region Baywood Park,		Comment
<input type="checkbox"/>	RSA661845	Arctostaphylos morroensis	Austin P. Griffiths	11 7 1981	s.n.	San Luis Obispo	Central Western; Outer South Coastal Ranges region Massive colonies along S slope of crest of ridge and down draws on S ridge of Hazard Canyon, ca. 2 mi. E of Pecho Road.	183	Comment
<input type="checkbox"/>	SBBG108977	Arctostaphylos morroensis	M. R. Benedict	Mar 2 1969		San Luis Obispo	just N of Montana de Oro St Park		Comment
<input type="checkbox"/>	SD103954	Arctostaphylos morroensis	J. L. S. Simpson	Nov 06, 1965	None	San Luis Obispo	San Luis Range hillside, Morro Bay		Comment
<input type="checkbox"/>	SD56799	Arctostaphylos morroensis	Darley F. Howe	May 19, 1963	3495	San Luis Obispo	Hillside S of Morro Bay		Comment
<input type="checkbox"/>	SD72079	Arctostaphylos morroensis	R. F. Hoover	Mar 16, 1964	8653	San Luis Obispo	Los Osos Highlands		Comment
<input type="checkbox"/>	SDSU02810	Arctostaphylos morroensis	D. F. Howe	May 19, 1963	3495	San Luis Obispo	South of Morro Bay.	122	Comment
<input type="checkbox"/>	UC1281411	Arctostaphylos morroensis	H. E. McMinn	Mar 5 1936	4365	San Luis Obispo	Hazard Canyon San Luis		Comment
<input type="checkbox"/>	UC1281483	Arctostaphylos morroensis	H. E. McMinn	Mar 5 1936	4366	San Luis Obispo	Hazard Canyon		Comment
<input type="checkbox"/>	UC1302405	Arctostaphylos morroensis	Robert F. Thorne and Percy C. Everett	Apr 22 1963		San Luis Obispo	stabilized dunes on s side Morro Bay	6	Comment
<input type="checkbox"/>	UC1315000	Arctostaphylos morroensis	R. F. Hoover	Feb 8 1967	10202	San Luis Obispo	hill s Los Osos		Comment
<input type="checkbox"/>	UC1392910	Arctostaphylos morroensis	R. F. Hoover	Feb 2 1969	11186	San Luis Obispo	above Los Osos		Comment
<input type="checkbox"/>	UC1424913	Arctostaphylos morroensis	Gary D. Wallace	Nov 23 1974	1321	San Luis Obispo	along the coast Montana de Oro State Park;		Comment
<input type="checkbox"/>	UC1488824	Arctostaphylos morroensis	Lyda W. Edge	May 8 1972	153	San Luis Obispo	above Cabrillo Estates - Los Osos		Comment
<input type="checkbox"/>	UC410444	Arctostaphylos morroensis	Gertrude Sinzheimer	Feb. 1929		San Luis Obispo	on road to Pecho Morro Bay		Comment
<input type="checkbox"/>	UC456159	Arctostaphylos morroensis	unknown		97a	San Luis Obispo	Morro sand hills		Comment
<input type="checkbox"/>	UC456160	Arctostaphylos morroensis	La Rue Watson			San Luis Obispo	Morro Sand Hills San Luis Obispo		Comment
<input type="checkbox"/>	UCDS2466	Arctostaphylos morroensis	R. F. Hoover	Feb 8 1967	10-202	San Luis Obispo	Hill south of Los Osos		Comment
<input type="checkbox"/>	UCDS2467	Arctostaphylos morroensis	Roman Gankin	Feb 5 1958	273	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2468	Arctostaphylos morroensis	Roman Gankin	Feb 5 1958	272	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2470	Arctostaphylos morroensis	B. Bolt	Jan 14 1936	541	San Luis Obispo	3/4 mile SE of mouth of Osos Creek	30	Comment
<input type="checkbox"/>	UCDS2472	Arctostaphylos morroensis	A. E. Wieslander	Feb 25 1936	604	San Luis Obispo	Near Hazard Canyon	152	Comment
<input type="checkbox"/>	UCDS2476	Arctostaphylos morroensis	Beryl Schreiber	Oct 7 1938	2555	San Luis Obispo	1/2 mile N. of Hazard Program	76	Comment
<input type="checkbox"/>	UCDS2477	Arctostaphylos morroensis	A. E. Wieslander	Feb 25 1936	606	San Luis Obispo	N. of Hazard Canyon	152	Comment
<input type="checkbox"/>	UCDS2478	Arctostaphylos morroensis	B. Bolt	Jan 31 1936	559	San Luis Obispo	2 miles SSE of mouth of Osos Creek	45	Comment
<input type="checkbox"/>	UCDS2479	Arctostaphylos morroensis	Roman Gankin	Feb 5 1958	274	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2480	Arctostaphylos morroensis	Roman Gankin	Feb 5 1958	271	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2481	Arctostaphylos morroensis	Roman Gankin	Jun 22 1958	305	San Luis Obispo	South end of Morro Bay		Comment

<input type="checkbox"/>	UCDS2482	Arctostaphylos morroensis	Roman Gankin	Jun 22 1958	305	San Luis Obispo	From south end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2483	Arctostaphylos morroensis	Roman Gankin, W. R. Hildreth	Oct 11 1967	1119	San Luis Obispo	North end of 11th Street; Baywood Park		Comment
<input type="checkbox"/>	UCDS2486	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	Feb 5 1958	274	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2488	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	Feb 5 1958	273	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2491	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	Feb 5 1958	272	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCDS2493	Arctostaphylos morroensis	Roman Gankin, Lalit Srivastara, Chas. Lamoureux	Feb 5 1958	271	San Luis Obispo	South end of Morro Bay		Comment
<input type="checkbox"/>	UCR115298	Arctostaphylos morroensis	Austin P. Griffiths	Nov 07 1981	s.n.	San Luis Obispo	Along S slope of crest of ridge and down draws on S ridge of Hazard Canyon, c. 2 mi east of Pecho Road.		Comment
<input type="checkbox"/>	UCR18563	Arctostaphylos morroensis	G. K. Helmkamp	Feb 22 1975	s.n.	San Luis Obispo	End of 11th St. near bay, Baywood park.		Comment
<input type="checkbox"/>	UCR26059	Arctostaphylos morroensis	Michael J. Kelly	Apr 26 1975	68	San Luis Obispo	E-W canyon. First canyon south of Hazard Canyon, 4 mi from Morro Bay.	122	Comment
<input type="checkbox"/>	UCR67886	Arctostaphylos morroensis	Mark Meredith	Jan 21 1984	21	San Luis Obispo	central coast 0.1 mi south of intersection of S Bay Blvd. and Turri Rd.	61	Comment

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0.20 processing seconds

Source: Participants of the Consortium of California Herbaria  
(<http://ucjeps.berkeley.edu/consortium/>)



## **G-6: Calflora Observation Library and Mapviewer Data**



# Calflora Observation Library and Mapviewer Results

## Morro manzanita (*Arctostaphylos morroensis*)

You are using Calflora as a GUEST - [Logout](#) to your own account [Register for a new Calflora account](#)

Observation Query Results [About Calflora](#)

28 matching records.

Based on [name status](#) information from ICPN, XWALK, and CNPS, your query for **Arctostaphylos morroensis** searched for observations under the following 1 name(s):  
[Arctostaphylos morroensis](#) (Click on a name to see its status.)

### Map of Observations, San Luis Obispo County



The map shows 7 out of 15 available georeferenced point(s).

- Point color indicates Documentation Type:
- Specimen
  - Documented (vouchered or confirmed)
  - Other Reports

[Click here to view results with the Calflora Map Viewer](#)

### Observation Summary

To see observation details, click on the **RECORD NUMBER**

Documentation Type	Observation Type	RECORD NUMBER	Contributor	Name in Current Use <small>Name as reported, if different</small>	County	Date	Location <small>* georeferenced</small>	Observer
literature	directed search	1607133	CA Dept. Fish and Game-Natural Diversity Database	Arctostaphylos morroensis	San Luis Obispo		Location information may be obtained from <a href="#">CNCOR</a>	
literature	directed search	1607132	CA Dept. Fish and Game-Natural Diversity Database	Arctostaphylos morroensis	San Luis Obispo		Location information may be obtained from <a href="#">CNCOR</a>	
literature	directed search	1607131	CA Dept. Fish and Game-Natural Diversity Database	Arctostaphylos morroensis	San Luis Obispo		Location information may be obtained from <a href="#">CNCOR</a>	
literature	directed search	1607130	CA Dept. Fish and Game-Natural Diversity Database	Arctostaphylos morroensis	San Luis Obispo		Location information may be obtained from <a href="#">CNCOR</a>	
literature	directed search	1607129	CA Dept. Fish and Game-Natural Diversity Database	Arctostaphylos morroensis	San Luis Obispo		Location information may be obtained from <a href="#">CNCOR</a>	
literature	secondary source	1892003	CNPS Inventory Database 2008	Arctostaphylos morroensis	San Luis Obispo			
literature	secondary source	1892002	CNPS Inventory Database 2008	Arctostaphylos morroensis	San Luis Obispo			
specimen	incidental observation	1762933	Consortium of Calif. Herbaria	Arctostaphylos morroensis	San Luis Obispo		Data provided by the participants of the Consortium of Calif. Herbaria ( <a href="http://ucjeps.berkeley.edu/consortium/">ucjeps.berkeley.edu/consortium/</a> ). Summary as of 2008-06-22	
reported	incidental observation	1468890	Jeff Greenhouse	Arctostaphylos morroensis	San Luis Obispo	Mar 21, 2001	Monta-a de Oro SP, Hazard Canyon	Jeff Greenhouse
reported	incidental observation	1468879	Jeff Greenhouse	Arctostaphylos morroensis	San Luis Obispo	Apr 1, 2006	Monta-a de Oro SP, at Sand Spot Access Rd.	Jeff Greenhouse
reported	incidental observation	1468878	Jeff Greenhouse	Arctostaphylos morroensis	San Luis Obispo	Apr 7, 2000	* Morro Bay, Los Osos Baywood Park, Elfin Forest	Jeff Greenhouse
reported	incidental observation	1468877	Jeff Greenhouse	Arctostaphylos morroensis	San Luis Obispo	Aug 24, 1997	Monta-a de Oro SP	Jeff Greenhouse
specimen	incidental observation	7731	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Apr 3, 1972	* Morro Bay (s of)	L.W.Edge 99.
specimen	incidental observation	7730	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Apr 3, 1972	-	L.W.Edge 100.
specimen	incidental observation	11844	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Feb 5, 1959	* Morro Bay (s end of)	R.Gankin 271, L.Srivastara, C.Lamoureux
specimen	incidental observation	10950	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Jun 22, 1958	-	R.Gankin 305.
specimen	incidental observation	20002	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Feb 6, 1958	-	R.Gankin 273, L.Srivastara, C.Lamoureux
specimen	incidental observation	24124	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Feb 6, 1958	-	R.Gankin 271.
specimen	incidental observation	124020	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Apr 3, 1972	* Morro Bay (s of)	L.W.Edge 95.
specimen	incidental observation	281377	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Mar 2, 1989	Montana de Oro State Park (just n of)	M.R.Benedict sn.
specimen	incidental observation	390929	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	Apr 21, 1993	Los Osos (ca. 3 mi sw of)	M.A.Pehl 6306.
specimen	incidental observation	600972	Santa Barbara Botanic Garden Herbarium	Arctostaphylos morroensis	San Luis Obispo	May 8, 1972	Los Osos, above Cabrillo Estates	L.W.Edge 153.
specimen	incidental observation	681815	UC Riverside Herbarium	Arctostaphylos morroensis	San Luis Obispo	1981-11-07	Along S slope of crest of ridge and down draws on S ridge of Hazard Canyon, ca. 2 mi E of Pecho Road.	Austin P. Griffiths
specimen	incidental observation	681496	UC Riverside Herbarium	Arctostaphylos morroensis	San Luis Obispo	1984-01-21	central coast, 0.1 mi S of intersection of S Bay Blvd. and Turri Rd.	Mark Meredith
specimen	incidental observation	681498	UC Riverside Herbarium	Arctostaphylos morroensis	San Luis Obispo	1989-04-07	1/2 mi from ocean at S end of Morro Bay.	R.J. Rodin
specimen	incidental observation	691227	UC Riverside Herbarium	Arctostaphylos morroensis	San Luis Obispo	1975-02-02	End of 11th St. near bay. Baywood park.	G.K. Heinkamp
specimen	incidental observation	691228	UC Riverside Herbarium	Arctostaphylos morroensis	San Luis Obispo	1975-04-26	E-W canyon. First canyon S of Hazard Canyon, 4 mi from Morro Bay.	Michael J. Kelly
documented	secondary source	104569	USDA-NRCS-National Plant Data Center Botanical Literature	Arctostaphylos morroensis	San Luis Obispo	1970		Hoover, R.F.

Notice: Calflora presents observation data from diverse sources. Some records may be multiple observations of the same plant populations or duplicate reports from different sources. Some records may be of plants growing in cultivation. Please carefully and critically review data for your particular application.

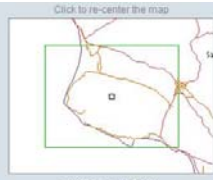
Your query took: 0 seconds

#### Citation:

Calflora: Information on California plants for education, research and conservation. [web application] 2008. Berkeley, California: The Calflora Database [a non-profit organization]. Available: <http://www.calflora.org/> (Accessed Nov 06, 2009). Please acknowledge Contributors (source institutions and individuals) mentioned in the table above.

7 points and polygons indicate observations of *Arctostaphylos morroensis*  
 Mouse over a point or polygon for details - Click to view the record(s)

KEY: REPORTED SPECIMEN LITERATURE



35.26325, -120.80025

Roads

Grid

Relief intensity

Names:  none  Observation Polygons

Shaded Areas:  none  Watersheds  GAP Plant Communities

Towns  Streams  Lakes  Mt Peaks

Table of observations within the map area  
[Link to this page](#)  
 View location on [Google Maps](#) or [Topo Zone](#)  
 What Grows Here?

Points visible on the map

Key Location Description - click for species list

Key	Location	Description	Species
1	Quad	Morro Bay South	<i>Arctostaphylos morroensis</i> et al.
2	Quad	San Luis Obispo	<i>Arctostaphylos morroensis</i> et al.
3	Quad	Port San Luis	<i>Arctostaphylos morroensis</i>
4	Quad	Pismo Beach	<i>Arctostaphylos morroensis</i>
5	Point	35.31186, -120.83372	<i>Arctostaphylos morroensis</i>
6	Point	35.2999992, -120.8499905	<i>Arctostaphylos morroensis</i> et al.
7	Point	35.3100014, -120.8600006	<i>Arctostaphylos morroensis</i> et al.