Appendix O.

Salt and Nutrient Report (e-only)

Appendix O-1

Salt and Nutrient Management Planning Priorities Tech Memo

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS
UTILITIES DIVISION

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MEMORANDUM

June 24, 2014

TO: San Luis Obispo County IRWM Region Interested Stakeholders

FROM: Cherie Du, E.I.T., Water Resources Student Intern

VIA: Courtney Howard, P.E., Senior Water Resources Engineer
Carolyn Berg, P.E., Water Resources Staff Engineer

SUBJECT: **Identification & Prioritization of Groundwater Basins Requiring a Salt and Nutrient Management Plan (SNMP) and SNMP Development Resources**

Purpose

The Department of Water Resources (DWR) awarded Proposition 84 Integrated Regional Water Management (IRWM) Round 2 Planning Grant funding towards a series of focused planning studies developed to improve the IRWM Plan. A portion of this funding was awarded to the San Luis Obispo County Flood Control and Water Conservation District (District) to identify and prioritize groundwater basins within San Luis Obispo County (county or region) which require Salt and Nutrient Management Plans (SNMP).

There is a general lack of awareness of the Regional Water Quality Control Board's (RWQCB) Recycled Water Policy (RWP) which requires the creation and implementation of an SNMP. The degree of organized basin management in the region varies widely. Because of a lack of resources, smaller, unorganized basins may be at a disadvantage for complying with the RWP.

The purpose of this memorandum is to identify the basin study areas where SNMPs are needed, relevant stakeholders who may be appropriate to lead the development of each, and regional priorities. The memo consolidates information to assist stakeholders with developing and implementing the SNMPs. Finally, the memo offers an opportunity to raise awareness of SNMP requirements and to gain feedback from stakeholders.

Grant-Funded Study Scope

The following three grant funded tasks guide development of this study:

Task 5.1.1 Identify Study Areas for Salt and Nutrient Management Planning

Meet with the RWQCB and local stakeholders to identify appropriate study areas for SNMPs and the relevant stakeholders who may be appropriate to lead the development of each SNMP. Relevant Stakeholders are those whose activities and operations may impact salt and nutrient management in the study area, such as agricultural interests, wastewater dischargers, recycled water producers, private well owners, environmental groups, regulatory staff, and the general public.

Task 5.1.2 Develop and Distribute Salt and Nutrient Management Planning Information Packages

Compile example SNMP and related scopes of work, regulatory information or other information to inform stakeholders in each study area about SNMP requirements and how to develop one.

Task 5.1.3 Prioritize the Development of Salt and Nutrient Management Plan per Study Area

Develop criteria for prioritizing the development of SNMPs and prioritizing the study areas.

Task 5.1.1 Identify Study Areas for Salt and Nutrient Management Planning

In February 2009, the State Water Resources Control Board (SWRCB) adopted the RWP. Its intent is to promote sustainable water supplies (e.g. recycled water, conservation, stormwater recharge/use), establish basin goals, streamline recycled water permitting, and develop SNMPs. The SWRCB has a stated requirement to implement an SNMP for every DWR Bulletin 118 basin by 2014 to monitor and protect groundwater resources. However, in practice, the RWQCBs are *focusing on high priority basins* for SNMP development, rather than on *every* DWR Bulletin 118 basin.

Per Bulletin 118, there are 63 DWR-defined groundwater basins and sub-basins in the Central Coast Hydrologic Region. There are 22 basins and sub-basins within the county that require SNMPs. Because there are many basins, most of which do not have an actively engaged stakeholder group, resources may be better focused after establishing and prioritizing study areas (i.e. groups of basins).

Study areas offer an opportunity to bring stakeholders together and initiate collaboration on basin monitoring and management plans. Study areas were created based on DWR Bulletin 118 boundaries, geographic proximity, land use, hydrology, and existing management efforts underway. Further described in Task 5.1.3, Priority 1 basins and basins shared by neighboring counties have their own study areas. The following study areas are proposed for stakeholder consideration (**Table 1, Figure 1**).

Table 1. Groundwater Basins and Proposed Study Areas

Study Area	DWR Bulletin 118 Basin #	Basin Name
Paso Robles	3.4.06	Paso Robles
Los Osos Valley	3.8	Los Osos Valley
Santa Maria Valley	3.12	Santa Maria Valley
San Luis Obispo Valley	3.9	San Luis Obispo Valley
Area 1[1]	3.33 3.34	San Carpoforo Valley Arroyo De La Cruz Valley

[1] Pico Creek is not a listed Bulletin 118 Basin, therefore is not listed in Area 1.

Area 2	3.35	San Simeon Valley
	3.36	Santa Rosa Valley
Area 3	3.37	Villa Valley
	3.38	Cayucos Valley
	3.39	Old Valley
	3.40	Toro Valley
	3.41	Morro Valley
	3.42	Chorro Valley
Area 4	3.43	Rinconada Valley
	3.44	Pozo Valley
Area 5	3.45	Huasna Valley
Area 6	3.19	Carrizo Plain
	3.46	Rafael Valley
	3.47	Big Spring Area
Area 7	3.13	Cuyama Valley
Area 8	3.5	Cholame Valley

Exhibit A provides an initial list of stakeholders in each study area. Stakeholders are those whose activities and operations may impact salt and nutrient management in the study area, such as agricultural interests, wastewater dischargers, recycled water producers, private well owners, environmental groups, regulatory staff, and the general public.

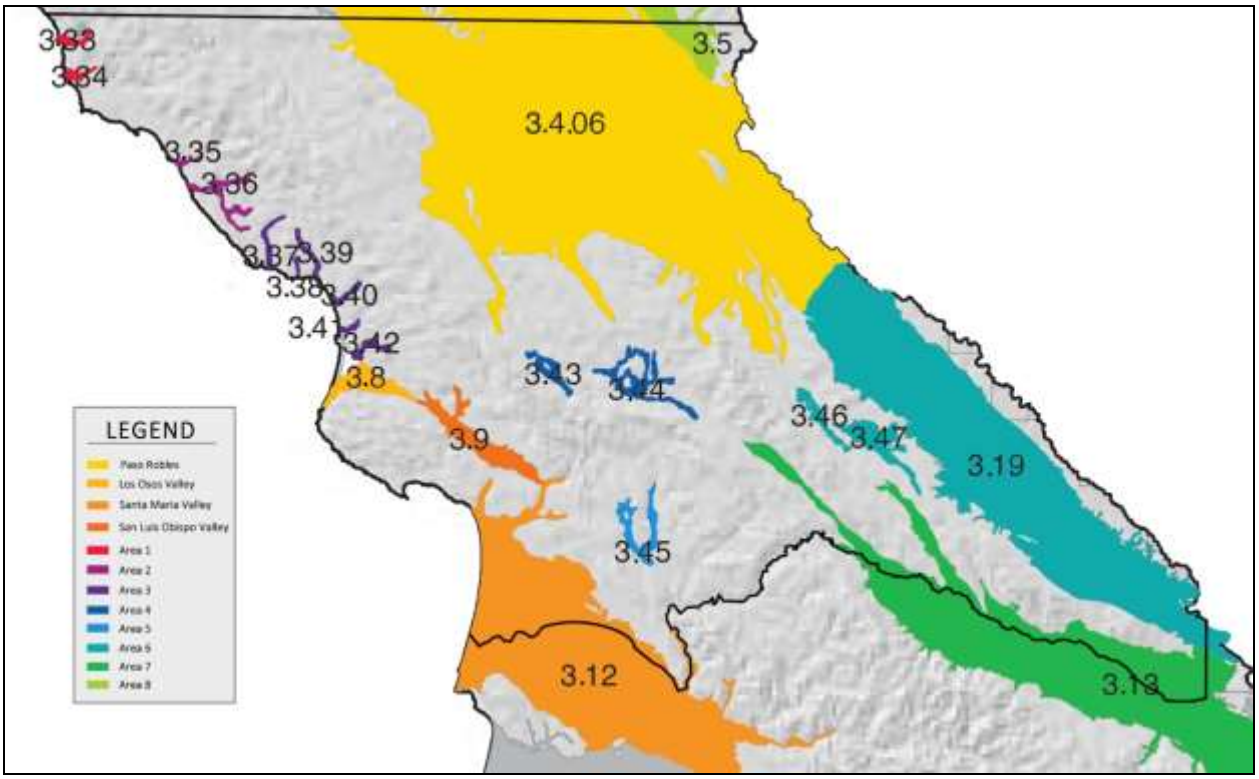

Figure 1. Map of Bulletin 118-Groundwater Basins within Proposed SNMP Study Areas

Task 5.1.2 Develop and Distribute Salt and Nutrient Management Planning Information Packages

This task will be completed upon completion of stakeholder outreach process and consensus on study areas. The RWP requires SNMPs to contain the following main components:

- Salt and nutrient source identification, assimilative capacity and loading estimate
- Fate and transport analysis of salt and nutrients
- Basin-wide monitoring plan (including an appropriate network of monitoring locations)
- Annual monitoring of Constituents of Emerging Concern (CEC)
- Water recycling and stormwater recharge/use goals and objectives
- Implementation measures to manage salt and nutrient loading on sustainable basis
- Anti-degradation analysis demonstrating projects collectively satisfy RWP

The Central Coast RWQCB published an SNMP Elements paper (**Exhibit B**), which provides additional detail on each of the components listed above.

Task 5.1.3 Prioritize the Development of Salt and Nutrient Management Plan (SNMP) per Study Area

Consistent with the SWRCB's Discussion Draft Groundwater Work Plan Concept Paper, the objective of this study is to provide information to assist stakeholders with addressing the groundwater challenges that have the greatest potential to impact beneficial uses, focus limited resources on the current critical groundwater basins, and facilitate more efficient local and regional groundwater management. Prioritizing basins may be valuable in helping to evaluate, focus, and align limited resources for effective groundwater management. This will help the region to move towards reliable and sustainable groundwater resources in an efficient and strategic way.

To guide local basin/study area prioritization for SNMP development, District Staff considered existing program and management priority lists and processes including:

Statewide:

1. Groundwater Ambient Monitoring and Assessment Program (GAMA)
2. California Statewide Groundwater Elevation Monitoring (CASGEM)

Local/ Regional:

3. County of San Luis Obispo Resource Management System Level of Severity (LOS) III designations
4. Groundwater Basin Adjudications
5. Groundwater Management Plans

Each of these are briefly described below as "Priority Factors".

Priority Factor 1 - Groundwater Ambient Monitoring and Assessment Program (GAMA) Prioritization

This factor relates to basins deemed priority for water quality monitoring by the SWRCB. The GAMA priority basin project monitors groundwater in high use basins for a dozen chemicals, including contaminants of emerging concern, at very low detection limits. There are three GAMA priority basins in the county:

- Salinas Valley (Paso Robles Area)
- Santa Maria Valley
- Cuyama Valley

Priority Factor 2 - California Statewide Groundwater Elevation Monitoring (CASGEM) Prioritization

This factor relates to basins deemed priority for groundwater level monitoring by the State Department of Water Resources.

The DWR website offers the following description of CASGEM: On November 4, 2009 the State Legislature amended the Water Code with SBx7-6, which mandates a statewide groundwater elevation monitoring program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. To achieve that goal, the amendment requires collaboration between local monitoring entities and DWR to collect groundwater elevation data. Collection and evaluation of such data on a statewide scale is an important fundamental step toward improving management of California's groundwater resources.

In accordance with this amendment to the Water Code, DWR developed the CASGEM program. The intent of the CASGEM program is to establish a permanent, locally-managed program of regular and systematic monitoring in all of California's alluvial groundwater basins. The CASGEM program will rely and build on the many, established local long-term groundwater monitoring and management programs. DWR's role is to coordinate the CASGEM program, to work cooperatively with local entities, and to maintain the collected elevation data in a readily and widely available public database. DWR will also continue its current network of groundwater monitoring as funding allows.

Senate Bill 7x6 requires, as part of the CASGEM program, DWR to prioritize groundwater basins to help identify, evaluate, and determine the need for additional groundwater level monitoring by considering available data listed below:

1. The population overlying the basin
2. The rate of current and projected growth of the population overlying the basin
3. The number of public supply wells that draw from the basin
4. The irrigated acreage overlying the basin
5. The degree to which persons overlying the basin rely on groundwater as primary source of water
6. Any documented impacts on the groundwater within the basin, including overdraft, subsidence, saline intrusion, and other water quality degradation
7. Any other information determined to be relevant by DWR

The CASGEM Basin prioritization has not been finalized yet; however, draft results[2] have been published. The following are the proposed priority basins within San Luis Obispo County:

- High Priority: Los Osos Valley and Salinas Valley (Paso Robles Area)
- Medium Priority: San Luis Obispo Valley

The remaining groundwater basins within the county are proposed to be low or very low priority.

Priority Factor 3 - Level of Severity (LOS) III Designation

This factor relates to groundwater resources supplies deemed to be deficient compared to demand.

[2] Dan McManus, DWR Supervising Engineering Geologist, reminds regional stakeholders CASGEM Basin Prioritization will begin with a series of five workshops throughout the state starting in January, 2014. During the workshops DWR will be presenting the statewide and regional prioritization information and discussing the process used to develop the prioritization. These workshops may require changes to the prioritization.

Per the County of San Luis Obispo's Land Use and Circulation Element, the Resource Management System (RMS), assists county decision-makers in anticipating increasing needs for resources created by growth. The RMS assesses capacities of existing critical resources, and the timing for providing or upgrading resource delivery facilities. The RMS is intended to support timely addition to a resource, or growth rate adjustment where a resource shortage would require longer to correct than remaining capacity allows.

The RMS uses three levels of alert (called levels of severity, LOS) to identify potential and progressively more immediate resource deficiencies. LOS I applies to a less severe/ less immediate resource deficiency, while LOS III applies to the most severe/ immediate resource deficiency. LOS III is designated when projected water demand equals or exceeds the estimated dependable supply. A basin is recommended LOS III by County Planning and Building Department Staff based on information provided by various water agencies. Typically upon direction from the Board of Supervisors, a Resource Capacity Study (RCS) will be developed and reviewed at public hearings by the Planning Commission and the Board of Supervisors. A basin can be certified LOS III by the Board of Supervisors upon completion of a RCS.

The following groundwater basins' water supply were either **certified** (C) or recommended (R) as a LOS III designation in the 2010 – 2012 RMS Biennial Summary Report.

- **Los Osos** (C)
- **Paso Robles** (C)
- **Nipomo Mesa (NMWCA)** (C)
- Cuyama Valley (R)
- Morro-Chorro (R)
- North Coast (R)

Priority Factor 4 - Adjudication

This factor relates to basins that have undergone legal proceedings and are under the jurisdiction of the court system.

Another form of groundwater management in California is through a court-led adjudication. In basins where a lawsuit is brought to adjudicate the basin, the groundwater rights of all the overliers and appropriators are determined by the court. This study considers basins that have been or are currently being adjudicated as an additional factor in the final basin prioritization. The following basins are adjudicated basins:

- Santa Maria Valley
- Los Osos Valley

Basins that have that have legal proceedings underway or completed already have a high level of focus on them. And inherent to the process, they have highly engaged decision makers and stakeholders.

Priority Factor 5 – Groundwater Management Plan

This factor relates to stakeholder-led groundwater management planning and implementation.

In 1992, the State Legislature provided an opportunity for more formal groundwater management with the passage of AB 3030 (Water Code § 10750 et seq.), which can include development of groundwater management plans. Typically groundwater management plans include components such as:

- Basin management objectives
- Monitoring and management of groundwater levels, quality, etc.
- Monitoring protocols, especially those relating to the basin management objectives
- Collaborative and cooperative stakeholder approach
- Basin mapping as defined by Bulletin 118

This management activity aligns well with SNMP development and implementation. Basins which have a groundwater management plan under development or adopted likely have engaged stakeholders and a foundation of data and basin objectives developed.

Priority Factor 6 – Basins with known Seawater Intrusion and/or Nitrate Contamination

This factor relates to the target constituents an SNMP seeks to address – salt and nitrates.

The following basins are known to have seawater intrusion and/or nitrate issues:

- Morro and Chorro Valley
- Los Osos Valley
- North Coast (Santa Rosa and San Simeon Valley)

Prioritization of Basins/ Study Areas for SNMP Implementation

The Priority Factors were used for the SLO County regional SNMP prioritization methodology to result in a prioritization that considers basins already deemed critical or priority under other local or state processes. Basins considered priorities under these various Priority Factors already have:

- Groundwater basin analysis underway
- Identified and engaged stakeholders
- The focus of decision-makers, whether locally or at a state level
- Better potential for funding assistance through grant programs for basin management efforts

The proposed regional prioritization approach raises a basin's priority for SNMP development in direct proportion to the number of existing priorities already set on that basin. Using check marks, **Table 2** shows basins within the county where Priority Factors apply. The proposed local prioritization is then based on number of check marks:

- Priority 1 (3-6 check marks) – Priority 1 basins have a good foundation for beginning the process of developing an SNMP and/or are considered a critical basin for beginning basin management. These basins are considered the highest priority for developing and implementing an SNMP.
- Priority 2 (1-2 check marks) – Priority 2 basins meet fewer of the criteria for prioritization, and moving forward on an SNMP would depend on changing conditions over time, stakeholder engagement and RWQCB input.
- Priority 3 (0 check marks) – Priority 3 basins did not meet any prioritization criteria and include all other Bulletin 118 basins. A basic groundwater or watershed monitoring program for these basins would facilitate the development of an SNMP in the future should doing so become a priority.

Table 2. Groundwater Basins with Existing Priorities and Management Activities

Basin Name	GAMA Priority Basin	CASGEM Priority Basin	LOS III		Adjudication	Groundwater Management Plan	Nitrate and/or Seawater
			Certified	Recommended			
Cuyama Valley	✔			✔			
Los Osos Valley		✔ (high)	✔		✔	✔	✔
Morro and Chorro Valley				✔			✔
North Coast (Santa Rosa and San Simeon Valley)				✔			✔
Salinas Valley (Paso Robles Area)	✔	✔ (high)	✔		(Lawsuits filed)	✔	
San Luis Obispo Valley		✔ (med.)					
Santa Maria Valley (Nipomo-Mesa)	✔		✔		✔		

A list and map of the different basins and their priorities are shown below (**Table 3 and Figure 2**).

Table 3. Basin Prioritization for SNMP Implementation

Priority	DWR Basin #	Basin Name
1	3.4.06	Salinas Valley (Paso Robles Area)
	3.8	Los Osos Valley
	3.12	Santa Maria Valley
2	3.9	San Luis Obispo Valley
	3.13	Cuyama Valley
	3.35 & 3.36	North Coast (San Simeon Valley and Santa Rosa)
	3.41 & 3.42	Morro-Chorro (Morro and Chorro Valley)
3	3.5	Cholame Valley
	3.19	Carrizo Plain
	3.33	San Carpoforo Valley
	3.34	Arroyo De La Cruz
	3.37	Villa Valley
	3.38	Cayucos Valley
	3.39	Old Valley
	3.40	Toro Valley
	3.43	Rinconada Valley
	3.44	Pozo Valley
	3.45	Huasna Valley
	3.46	Rafael Valley
	3.47	Big Spring

The prioritized basins relate to the Study Areas proposed and named in Task 5.1.3 as follows:

- Priority 1 (high) for SNMP Development – Study Areas: Salinas Valley (Paso Robles Area), Los Osos Valley, Santa Maria Valley
- Priority 2 (medium) for SNMP Development - Study Areas: San Luis Obispo Valley, 2, 3, 7
- Priority 3 (low) for SNMP Development - Study Areas 1, 4, 5, 6, 8

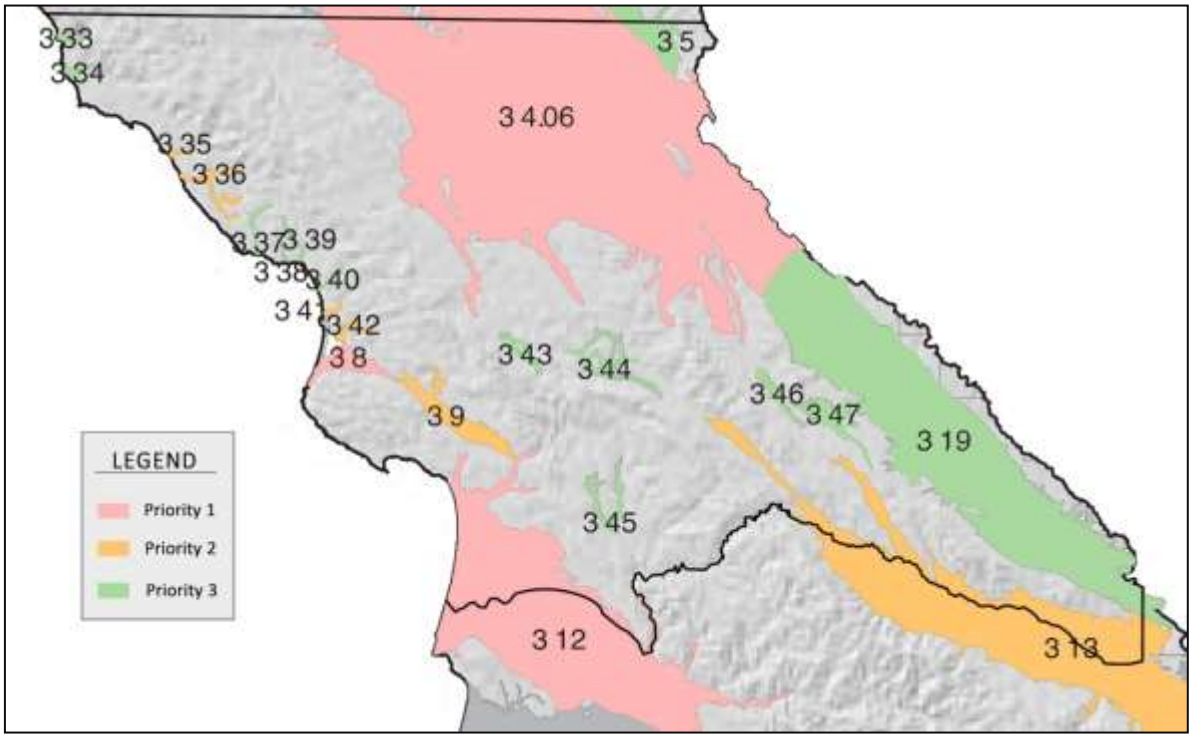

Figure 2. Map of Prioritized Basins

Next Steps

SNMP development and implementation offers local benefits and opportunities such as:

- Local control of proposed strategies, objectives and goals
- Relative source identification
- Leveraging other programs and projects
- Streamlined permitting (e.g. landscape irrigation general permit)
- Access to future funding (e.g. implementation of projects identified within adopted SNMPs)

However, the RWQCB noted challenges to SNMP development such as stakeholder engagement, lack of data or resources to develop data and/or an assimilative capacity analysis or reluctance and uncertainty on conducting CEQA. Despite these challenges, stakeholders in the Salinas Valley (Paso Robles Area), Los Osos Valley and Santa Maria Valley basins have initiated SNMP development. The resulting SNMPs can serve as templates for other basins and local study areas.

As resources become available or a motivated stakeholder base emerges, SNMPs or similar management planning can be pursued in the medium to low priority basins. Many of the low priority

basins lack an urban driver to initiate the SNMP process. However there are initial steps stakeholders can take to implement collaborative groundwater management. These could include:

- Forming a watershed or groundwater basin stakeholder group
- Initiating or expanding a cooperative monitoring network
- Collecting and reporting additional well level information and data
- Collecting and reporting water quality information and data

This could come about in the form of a stakeholder-driven groundwater management or watershed management planning structure. Such structures could help to find watershed based approaches and solutions to other requirements such as the Agricultural Order.

Overall, SNMPs will facilitate a collaborative and cooperative approach to local groundwater management. Local SNMPs will in-turn inform amendments to the Central Coast RWQCB Basin Plan.

Works Cited

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Attachments

Exhibit A – Initial List of Stakeholders by Study Area
Exhibit B – Information Packet including:

- RWQCB SNMP Plan Elements
- RWQCB Presentation
- Santa Maria Phase I SNMP
- Paso Robles SNMP
- Additional Information

Exhibit A - SNMP Study Areas and Initial List of Corresponding Stakeholders

Study Area	Stakeholders
NORTH COAST SUBREGION	
Area 1 *San Carpoforo Valley, Arroyo De La Cruz Valley*	District & County of San Luis Obispo San Simeon CSD Hearst Ranch State Parks U.S. Forest Service Overlying agriculture & overlying residential/ businesses on septic systems
Area 2 *San Simeon Valley, Santa Rosa Valley*	District & County of San Luis Obispo Cambria CSD Community of Harmony State Parks Overlying agriculture & overlying residential/ businesses on septic systems
Area 3 *Villa Valley, Cayucos Valley, Old Valley, Toro Valley, Morro Valley, Chorro Valley*	District & County of San Luis Obispo U.S. Forest Service County Service Area No. 10A California Men's Colony Cuesta College Camp San Luis Obispo County Operations Center/ Office of Education City of Morro Bay Overlying agriculture & overlying residential/ businesses on septic systems
Los Osos Valley	District & County of San Luis Obispo Los Osos CSD Overlying agriculture & overlying residential/ businesses on septic systems
SOUTH COUNTY SUBREGION	
Area 5 *Huasna Valley*	District & County of San Luis Obispo Twitchell Reservoir users Santa Maria Valley Water Conservation District Twitchell Management Authority Overlying agriculture & overlying residential/ businesses on septic systems
Area 7 *Cuyama Valley*	District & County of San Luis Obispo U.S. Forest Services Cuyama CSD Kern County Water Agency Santa Barbara County Water Agency Ventura County Department of Water Resources Overlying agriculture & overlying residential/ businesses on septic systems
San Luis Obispo Valley *(includes Edna Valley)*	District & County of San Luis Obispo City of San Luis Obispo Diablo Canyon Power Plant (PG&E) Port San Luis Harbor District Overlying agriculture & overlying residential/ businesses on septic systems
Santa Maria Valley	District & County of San Luis Obispo County of San Luis Obispo – CSA 1, Lopez Lake Park City of Arroyo Grande City of Guadalupe City of Pismo Beach

Study Area	Stakeholders
	Oceano CSD Nipomo CSD ConocoPhillips City of Santa Maria Santa Barbara County Water Agency U.S. Forest Services South San Luis Obispo County Sanitation District State Parks Casmalia CSD Overlying agriculture & overlying residential/ businesses on septic systems
NORTH COUNTY SUBREGION	
Area 4 *Riconada Valley, Pozo Valley*	District & County of San Luis Obispo U.S. Army Corps of Engineers U.S. Forest Service Bureau of Land Management U.S. Forest Services Overlying agriculture & overlying residential/ businesses on septic systems
Area 6 *Carrizo Plain, Rafael Valley, Big Spring Area*	District & County of San Luis Obispo Bureau of Land Management (Painted Rock) California Department of Fish and Wildlife California Valley Solar Ranch Project Community of California Valley Topaz Farms SunPower Overlying agriculture & overlying residential/ businesses on septic systems
Area 8 *Cholame Valley*	District & County of San Luis Obispo U.S. Geological Survey Central Coast Water Authority Small public water systems Overlying agriculture & overlying residential/ businesses on septic systems
Paso Robles	District & County of San Luis Obispo U.S. Forest Service City of Atascadero City of Paso Robles Templeton CSD San Miguel CSD Whitley Gardens U.S. Army - Camp Roberts Monterey County Parks Department Monterey County Water Resources Agency Heritage Ranch Oak Shores Overlying agriculture & overlying residential/ businesses on septic systems

EXHIBIT B – RWQCB Salt and Nutrient Management Plan Elements

Central Coast Regional Water Quality Control Board

Salt and Nutrient Management Plan Elements:

Paragraph 6.b.(3) of the Recycled Water Policy[1] states the following:

(3) Each salt and nutrient management plan shall include the following components:

(a) A basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations. The scale of the basin/sub-basin monitoring plan is dependent upon the site-specific conditions and shall be adequate to provide a reasonable, cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the salt and nutrient plans are consistent with applicable water quality objectives. Salts, nutrients, and the constituents identified in paragraph 6(b)(1)(f) shall be monitored. The frequency of monitoring shall be determined in the salt/nutrient management plan and approved by the Regional Water Board pursuant to paragraph 6(b)(2).

(i) The monitoring plan must be designed to determine water quality in the basin. The plan must focus on basin water quality near water supply wells and areas proximate to large water recycling projects, particularly groundwater recharge projects. Also, monitoring locations shall, where appropriate, target groundwater and surface waters where groundwater has connectivity with adjacent surface waters.

(ii) The preferred approach to monitoring plan development is to collect samples from existing wells if feasible as long as the existing wells are located appropriately to determine water quality throughout the most critical areas of the basin.

(iii) The monitoring plan shall identify those stakeholders responsible for conducting, compiling, and reporting the monitoring data. The data shall be reported to the Regional Water Board at least every three years.

(b) A provision for annual monitoring of Emerging Constituents/ Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products or pharmaceuticals) (CECs) consistent with recommendations by CDPH and consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy.

[1] http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/recycledwaterpolicy_approved.pdf

(c) Water recycling and stormwater recharge/use goals and objectives.

(d) Salt and nutrient source identification, basin/sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.

(e) Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.

(f) An antidegradation analysis demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.

The following is an expanded list of Central Coast Regional Water Quality Control Board recommended elements:

(Note: clarification/definitions provided at end of document for elements marked with an asterisk.)

- **Background**
  - Recycled water policy overview
  - Existing related plans and projects (IRWMs, GMPs – AB3030, etc.)
  - Regulatory setting (303(d) listings, TMDLs, WDRs, local controls/ordinances, etc.)
  - Stakeholder list, roles and responsibilities

- **Groundwater Basin Description/Environmental Setting**
  - Climate (existing and forecast, i.e. climate change)
  - Geology
  - Hydrogeology/hydrology
  - Landcover and landuse evaluation/mapping
  - Existing/background groundwater and surface water quality conditions (inclusive of all groundwater/aquifers; i.e. shallow groundwater and domestic well water quality)
  - Beneficial uses
  - Recharge area identification/mapping/ranking

- **Source Analysis**
  - *Conceptual model
  - Water Balance (existing and forecast)
  - Salt and nutrient balance (source identification and loading/concentration analysis; existing and forecast based on future growth)

- Fate and transport analysis (integrated surface water/groundwater modeling)
- Assimilative capacity analysis

- **Regional (basin/sub-basin) Monitoring Plan**
  - (see Recycled Water Policy paragraph 6.b.(3) for specifics)
  - *Quality Assurance Project Plan (QAPP)
  - Data management and reporting (GAMA GeoTracker)
  - Water balance monitoring (in addition to water quality monitoring)
  - Monitoring parameters/constituents
  - Salt and nutrient balance and source loading monitoring (documentation of loading [reduction] by source)
  - Constituents of Emerging Concern (CEC) monitoring
  - Trend analysis
  - Monitoring plan implementation schedule

- **Goals and Objectives**
  - Recommended Water Quality Objectives (WQO) and goals
  - Beneficial use protection
  - Institutional controls, general plan amendments, local ordinances, etc.
  - Landuse planning
  - Management Practices (MPs); to reduce salt and nutrient loading
  - Sustainable water balance plan
  - Load allocations
  - Load reduction goals
  - Water conservation goals
  - Water recycling goals
  - Storm water retention/recharge goals
  - Recharge area protection/restoration
  - Wellhead protection

- **Implementation**
  - *Performance measures
  - Implementation plan and schedule
  - *Adaptive Management Plan; tied to regional monitoring
  - Public outreach and education
  - Cost analysis
  - Funding opportunities
  - *Antidegradation Analysis
  - CEQA
  - Institutional agreements (between stakeholders for plan implementation)
  - Organizational structure or groups (technical advisory committees etc.)

Clarification/Definitions

Conceptual model: a simple two dimensional drawing of the groundwater basin identifying all groundwater zones/aquifers and showing salt/nutrient and water quantity inputs and outputs from known sources such as adjacent groundwater basins, recharge, point and non-point sources, water purveyors, etc.

Quality Assurance Project Plan (QAPP): A Quality Assurance Project Plan documents the planning, implementation, and assessment procedures for a particular project, as well as any specific quality assurance and quality control activities. See following EPA website for more information:

http://www.epa.gov/QUALITY/qapps.html

Performance measures: Indicators of results or measures of effectiveness that provide qualitative and/or quantitative information needed to measure the extent to which a project is achieving its intended outcomes, objectives or goals.

Performance Measures are metrics used to provide an analytical basis for decision making and to focus attention on what matters most. Performance Measures answer the question, 'How is an organization or project doing at the job of meeting its objectives or goals?' Examples could include number of facilities implementing salt/nutrient management plans or the reduction of salt/nutrient loading from individual facilities/entities.

Adaptive Management Plan: Adaptive Management (AM), also known as Adaptive Resource Management (ARM), is a decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals; increases scientific knowledge; and reduces tensions among stakeholders

Alternatively, adaptive management is a structured, iterative process of optimal decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously maximizes one or more resource objectives and, either passively or actively, accrues information needed to improve future management. Adaptive management is often characterized as "learning by doing."

Typical steps in the process of Adaptive Management could include:

START: Clarify organization or project mission
STEP A: Design a conceptual model based on known conditions
STEP B: Develop a management plan: goals, objectives, and activities
STEP C: Develop a monitoring plan
STEP D: Implement management and monitoring plans
STEP E: Analyze data and communicate results
ITERATE: Use results to adapt and learn

Antidegradation Analysis: The State Water Board adopted Resolution No. 68-16 as a policy statement to implement the Legislature's intent that waters of the state shall be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. An antidegradation analysis needs to be conducted demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.

EXHIBIT B – RWQCB Presentation

Recycled Water Policy

Salt and Nutrient Management Plans

Central Coast Water Board

April 18, 2013 SLO ASCE Branch Luncheon Meeting

Matthew Keeling, P.E.

“Unprecedented Water Crisis”

- Bay-Delta ecosystem collapse
- Aging/failing levees
- Climate change
- Drought
- Groundwater overdraft
- Population growth

20x2020 Water Conservation Plan

In February 2008, Governor Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta.

As part of this effort, the Governor directed state agencies to develop a plan to reduce statewide per capita urban water use by 20 percent by the year 2020.

Recycled Water Policy Intent

- Promote sustainable water supplies via:
  - Recycled water projects
  - Conservation
  - Stormwater recharge and reuse
- Establish goals
- Permit streamlining & consistency
- Salt & Nutrient Management Plans

Recycled Water Policy Goals

- Increase the use of recycled water over 2002 levels by at least one million acre-feet per year (afy) by 2020 and by at least two million afy by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030.
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

Salt & Nutrient Mgt. Plans

- Comprehensive regional approach
- Consistent and site-specific plans for every groundwater basin/sub-basin
- Collaborative stakeholder driven and funded process
- Protect beneficial uses

SNMP Required Components

- Salt and nutrient source identification and loading estimates
- Fate and transport analysis
- Assimilative capacity analysis
- Water recycling and stormwater recharge/reuse goals and objectives
- Implementation measures
- Anti-degradation analysis (Resolution 68-16)
- Basin/sub-basin monitoring plan
  - Constituents of emerging concern monitoring

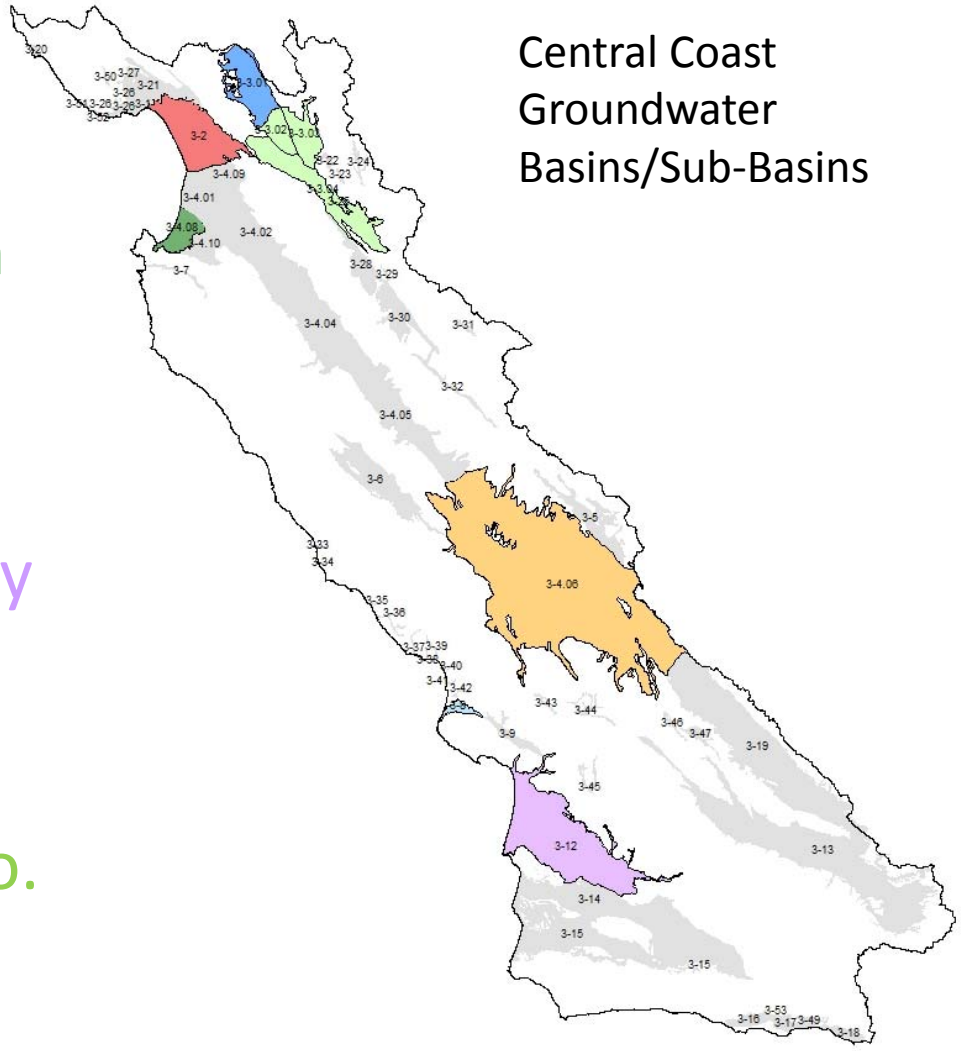
SNMP Schedule

- Policy adopted May 14, 2009
- Complete plans by May 14, 2014
- Substantial progress finding by Water Board:
  - Allows additional two years to complete plan
- Consider for adoption as implementation plans (Basin Plan Amendment) within one year of receiving proposed plans

R3 SNMP Projects/Areas

Active SNMP Efforts:

- Los Osos Valley (ISJ)
- Seaside Area Sub-Basin
- Pajaro Valley
- Paso Robles Area
- Santa Maria River Valley
  - San Luis Obispo County
  - Santa Barbara County
- Northern San Benito Co.
- Llagas Areas Sub-Basin



Central Coast Groundwater Basins/Sub-Basins

R3 Groundwater Basins/Sub-Basins

3-1 Soquel Valley
3-2 Pajaro Valley
3-3 Gilroy-Hollister Valley
- **3-3.01 Llagas Area**
- **3-3.02 Bolsa Area**
- **3-3.03 Hollister Area**
- 3-3.04 San Juan Bautista Area

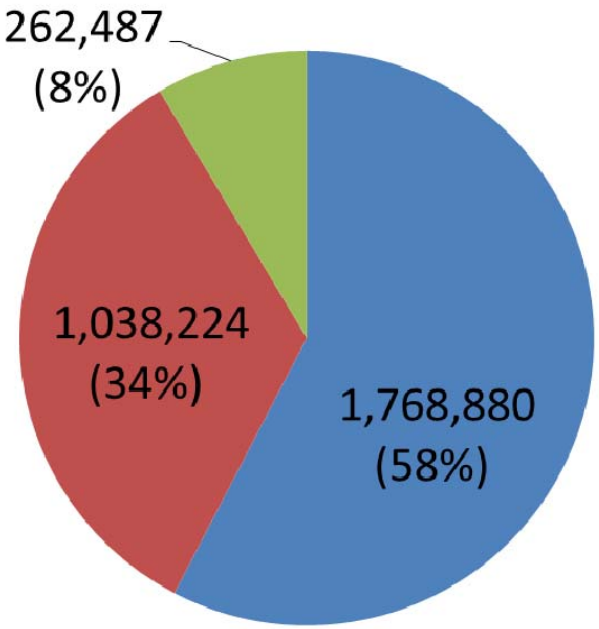
3-4 Salinas Valley
- **3-4.01 180/400 Foot Aquifer**
- **3-4.02 East Side Aquifer**
- **3-4.04 Forebay Aquifer**
- **3-4.05 Upper Valley Aquifer**
- **3-4.06 Paso Robles Area**
- **3-4.08 Seaside Area**
- **3-4.09 Langley Area**
- **3-4.10 Corral de Tierra Area**

3-5 Cholame Valley
3-6 Lockwood Valley
3-7 Carmel Valley
3-8 Los Osos Valley
3-9 San Luis Obispo Valley
3-12 Santa Maria River Valley
3-13 Cuyama Valley
3-14 San Antonio Creek Valley
3-15 Santa Ynez River Valley
3-16 Goleta
3-17 Santa Barbara
3-18 Carpinteria
3-19 Carrizo Plain*
3-20 Ano Nuevo Area*
3-21 Santa Cruz Purisima Formation
3-22 Santa Ana Valley*
3-23 Upper Santa Ana Valley*
3-24 Quien Sabe Valley*
3-25 Tres Pinos Valley
3-26 West Santa Cruz Terrace
3-27 Scotts Valley
3-28 San Benito River Valley
3-29 Dry Lake Valley*
3-30 Bitter Water Valley*
3-31 Hernandez Valley*
3-32 Peach Tree Valley*
3-33 San Carpoforo Valley*
3-34 Arroyo de la Cruz Valley*
3-35 San Simeon Valley
3-36 Santa Rosa Valley
3-37 Villa Valley*
3-38 Cayucos Valley*
3-39 Old Valley*
3-40 Toro Valley*
3-41 Morro Valley
3-42 Chorro Valley
3-43 Rinconada Valley*
3-44 Pozo Valley*
3-45 Huasna Valley*
3-46 Rafael Valley*
3-47 Big Spring Area*
3-49 Montecito
3-50 Felton Area
3-51 Majors Creek*
3-52 Needle Rock Point*
3-53 Foothill*

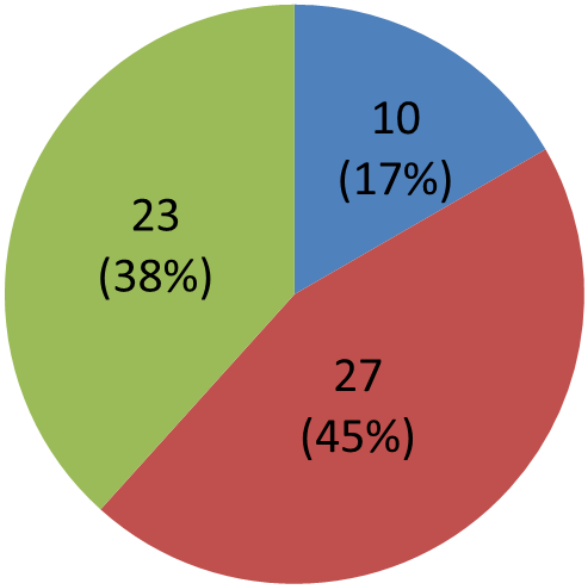
- GAMA Priority Basins/Sub-Basins in **bold/underline**
- Color (grouping) denotes SNMP currently underway
- Asterisk (*) denotes low risk/priority basins/sub-basins

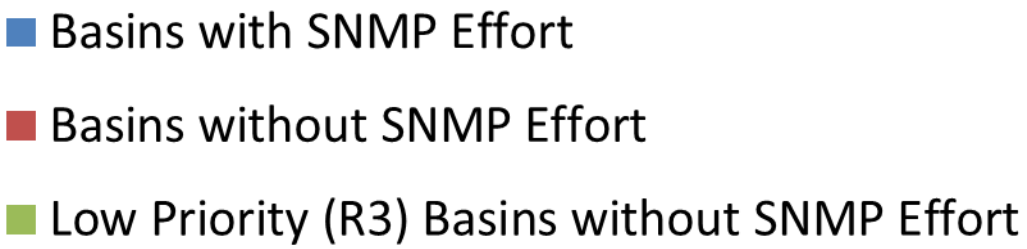
R3 Regional SNMP Coverage

By Acreage



By Number of Basins

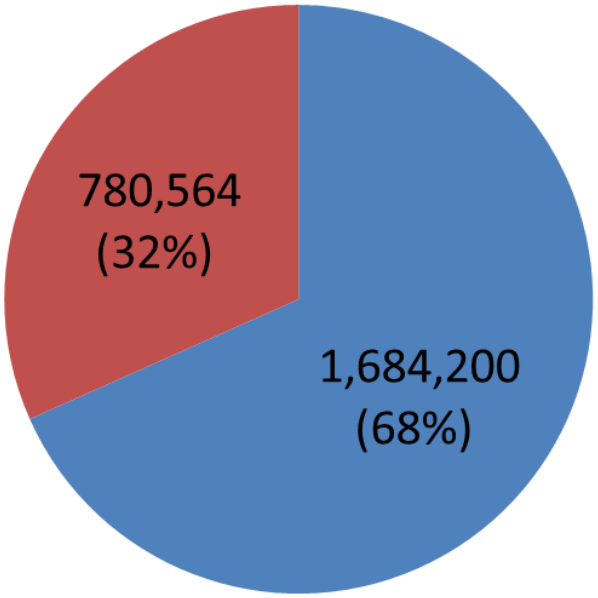




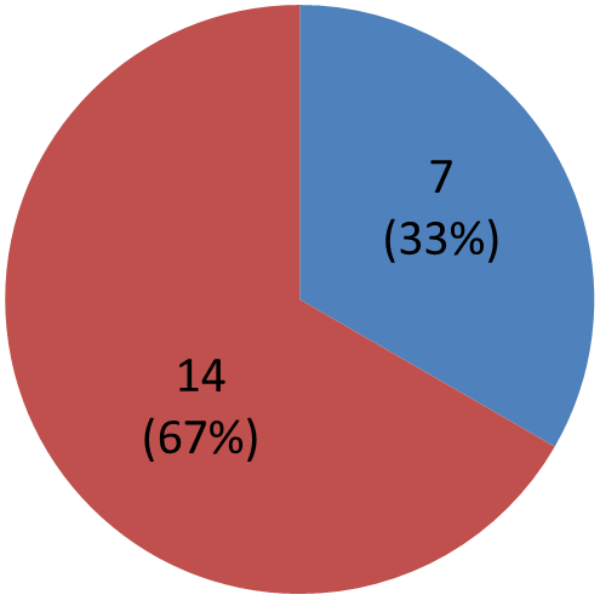
60 basins/sub-basins
3,069,591 acres

R3 GAMA Priority Basin SNMP Coverage

By Acreage



By Number of Basins

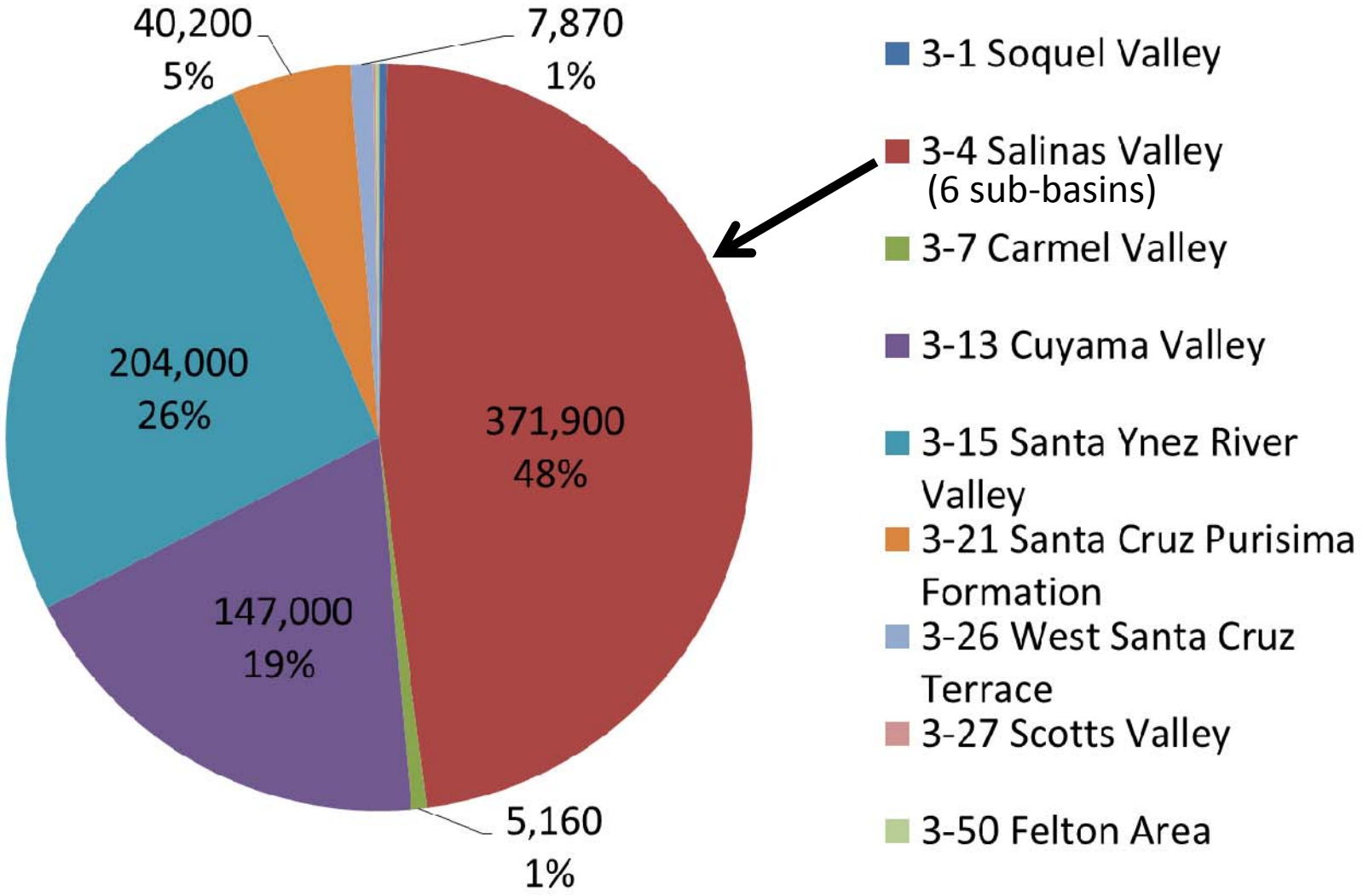


Priority Basins with SNMP Effort

Priority Basins without SNMP Effort

R3 GAMA **Priority** Basins w/o SNMP Effort

(by acre and percentage)



R3 Regional Challenges

- Funding
- Action lacking in high priority areas/basins
  - e.g. Salinas Valley, Cuyama Valley, Santa Ynez River Valley, etc.
- Agricultural landuse
  - Primary loading source in some areas
  - Stakeholder participation
- Assimilative Capacity Analysis
  - Water Quality Objectives
- CEQA – stakeholder uncertainty & reluctance
- Regional Groundwater Monitoring Database

Opportunities

- Local control of proposed strategies, objectives and goals
- Relative source identification
- Leveraging other programs & projects
- Streamlined permitting
- Future funding – implementation of projects identified within adopted plans

Streamlined Permitting

- Landscape Irrigation General Permit
  - Receiving water monitoring not required
  - Anti-degradation analysis not required
- Criteria
  - No unusual circumstances (i.e., low risk)
  - Compliance with applicable requirements
  - Agronomic rates – including fertilizer
  - Operations and Management Plan

Questions

Information Links

- Recycled Water Policy
  - http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/index.shtml
- Statewide General Permit (Landscape Irrigation)
  - http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/landscape_irrigation_general_permit.shtml
- Integrated Regional Water Management Plans
  - http://www.water.ca.gov/irwm/
- 20x2020 Water Conservation Plan
  - http://www.waterboards.ca.gov/water_issues/hot_topics/20x2020/index.shtml

Antidegradation Policy

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

EXHIBIT B – Santa Maria Phase I SNMP

This is an example of approaching/starting an SNMP for the Santa Maria groundwater basin.

Task 5.4 Groundwater Basin Characterization for the Santa Maria Groundwater Basin

The purpose of this task is to support critical groundwater basin characterization activities in the Northern Cities and Nipomo Mesa Management Areas (NCMA and NMMA, respectively) of the Santa Maria Groundwater Basin (SMGB). The proposed groundwater basin characterization activities are intended to support development of a groundwater flow model and SNMP for the two management areas. The following tasks are necessary to characterize the geologic and hydrogeologic features of the NCMA and NMMA portions of the SMGB to provide a foundation for developing a groundwater model and a SNMP for the SMGB. Additional detailed study will be required to complete the SNMP and will be conducted in the latter phases of the project.

Task 5.4.1 Project Administration

Develop a steering committee, which will include representatives from each of the participating agencies. The steering committee will provide input to the District for the SMGB Characterization project management activities (RFP development, consultant selection, deliverable review, etc.). Prepare monthly progress reports and invoices and other administrative tasks necessary to comply with the quarterly reporting requirements of the IRWM Planning Grant agreement. This task includes project related project management activities and at least three meetings.

Task 5.4.2 Data Analysis

Review previous completed geologic and hydrogeologic studies and develop a database of available resources. Database should include previously completed: technical reports; monitoring plans; monitoring reports; response plans; legal documents; well data; topographic data; aerial imagery; etc. Quality assurance/quality control (QA/QC) of the data will be conducted for any duplicate records and general checking of the data from various sources for uniform formats, parameters, and spatial information. Review the compiled data and information and identify any significant data gaps related to the development of a groundwater model and SNMP. Prioritize the data gaps to assist in developing the specific scope of work for the subsequent tasks. A technical memorandum discussing the data compilation/ data gaps will be prepared.

Task 5.4.3 Groundwater Basin Characterization

- Evaluate the existing network of monitoring wells within the NCMA and NMMA and identify wells for the installation of water level and/or temperature and electro conductivity transducers. Budget is based on installing pressure/temperature/conductivity probes in four monitoring wells.
- Evaluate available hydrogeologic information and select 8 locations to develop geologic cross-sections. Develop geologic cross-sections using bore hole lithologic logs and other available information.
- Coordinate with the steering committee to select locations that will be most beneficial to the development of the groundwater model and the SNMP.
- Evaluate the existing network of pumping and monitoring wells and select 8-10 representative locations to perform well testing.
- Utilize well testing results to determine aquifer and transmissivity characteristics. Investigate and quantify infiltration into the groundwater basin from surface water bodies within the NCMA and NMMA. Specific areas of interest include, but are not limited to: Arroyo Grande Creek; Los Berros Creek; Meadow Creek; Nipomo Creek.
- Efforts will include compilation, evaluation, and tabulation of all previous field investigations and reports related to quantifying surface water infiltration, compilation and review soils data, surficial geology, streamflow data, and groundwater levels along each stream to qualitatively evaluate surface water infiltration potential. Investigate areas within the basin that would be suitable for supplemental groundwater recharge.
- Evaluate different recharge mechanisms including: stormwater detention ponds; percolation ponds; injection wells; etc.
- Review existing technical reports and analyze aquifer characteristics for offshore aquifers and evaluate the potential for seawater intrusion.
- A technical memorandum discussing the groundwater basin characteristics will be prepared.

Task 5.4.4 Climate Change

Complete the DWR Vulnerability Assessment Checklist related to climate change. Coordinate with agencies and stakeholders in Santa Barbara County portion SMGB to address consistency, as well as information on climate change conditions provided in existing local climate change reports.

Task 5.4.5 Goals and Objectives

- Develop materials for a public workshop and hold public workshop to review the results of the Groundwater Basin Characterization
- Identify preferred goals and objectives for the groundwater model and SNMP for the SMGB. Incorporate comments received during workshop and the public comment period into the final Groundwater Basin Characterization Technical Memoranda.

Task 5.4.6 IRWM Plan Coordination/ Final Report

Integrate results of Groundwater Basin Characterization report into the IRWM Plan. A final report will be prepared that compiles the information and major findings of the technical memos and information from Tasks 5.4.1 – 5.4.5. A Draft of the report will be presented for review to the District, Steering Committee, and basin stakeholders. Comments provided will be addressed in written responses and/or included as appropriate modifications to the final report. Final report will be provided to the District as well as the computer files for the groundwater basin characterization database.

Task 5.4 Deliverables:

- **Steering Committee meeting minutes from each meeting**
- **Data Compilation/ Data Gaps Technical Memorandum**
- **Groundwater Basin Characterization Technical Memorandum**
- **Completed DWR Vulnerability Assessment Checklist**
- **Summary notes from goals and objectives workshop**
- **Final Report and computer files for groundwater basin characterization database**

EXHIBIT B – Paso Robles SNMP

This is an example of an SNMP in progress for the Paso Robles groundwater basin.

Task 5.2 SNMP for the Paso Robles Groundwater Basin

This focused planning study will be led by the City of Paso Robles to develop a complete SNMP for the Paso Robles Groundwater Basin to serve as model for the SLO Region and develop salt and nutrient management planning recommendations based on lessons learned and feedback from the RWQCB.

The following "Agencies" have agreed to collaborate on the development of a Salt and Nutrient Management Plan for the Paso Robles Groundwater Basin that meets all Policy requirements: County of San Luis Obispo, City of Atascadero, Templeton Community Services District, City of Paso Robles, San Miguel Community Services District, Camp Roberts (California National Guard); and Heritage Ranch Community Services District.

Task 5.2.1 Facilitate a Collaborative Process

As many as four (4) face-to-face primary stakeholder meetings (in coordination with the established Paso Robles Groundwater Blue Ribbon Steering Committee meetings) will be held to collect data and coordinate review of deliverables, and will coincide with key data collection and review of major deliverables. Establish a stakeholder contact list and invite RWQCB staff and public to all coordination meetings. If applicable, online webinar format may be used to engage additional stakeholders.

Task 5.2.2 Establish Basin Characteristics

This work is to establish basin characteristics that will guide the Plan's length and specificity. The basin characteristics will be derived from the existing studies and data, especially the *Paso Robles Groundwater Basin Management Plan*. The basin description will consist of the collection and organization of data to quantitatively characterize the Basin hydrology, hydrogeology, climate, land use, water quality, and water use and identify the water quality objectives for the Basin from the Central Coast Basin Plan. It will also include the development of an associated Geographic Information Systems (GIS) database in which the collected data will be organized in a variety of layers. This information will be used to develop Section 2 of the SNMP.

Task 5.2.3 Identify Existing and Foreseeable Salt and Nutrient Sources

Identify recommended salinity and nutrient parameters to be addressed within the SNMP, focusing on identifying constituents of concern relative to attainment of groundwater basin objectives and surface water quality standards. Identify known point sources, non-point sources and locations, and estimate constituent mass loading from these sources, quantify in terms of volume, concentration and/or mass loads based on available information. Identify other future water sources and places of use. Where such information is not already available in existing studies, information will be gathered from agencies and organizations with property interests in the Paso Robles Groundwater Basin and associated sub-basins to determine salt, nutrient, irrigation practice, and chemical loading characteristics of maintenance or management activities. Utilize salinity and nutrient source load assessment tool to perform loading analyses. A technical memorandum summarizing this assessment and loading estimates will be prepared.

Task 5.2.4 Salt and Nutrient Evaluation

This task will include:

- Description of the hydrologic and hydrogeologic conceptual model of the basin.
- Preparation of a written conceptual model of the groundwater basin, describing the physical, hydraulic and water quality conditions of the groundwater basin (and its sub-areas) and summarizing water supplies and demands for the basin, including projections of future use.
- Summary and analysis of the fate and transport studies prepared for Templeton Community Services District, City of Paso Robles, and City of Atascadero.
- A mass balance model of TDS, and possibly other water quality parameters, would account for basin storage volumes and ambient concentrations, along with volumetric rates of groundwater inflow and outflow in conjunction with source and sink concentrations.
- Estimates of future concentrations of salts and nutrients, with/without future recycled water use, either for the entire basin or groundwater sub-areas.
- Estimate of the water balance of the basin, using the existing numeric groundwater model of the basin.
- Estimate of salt and nutrient balances for existing and planned land and water use, using sources of salt and nutrient loading and the water balance from the previous sub-tasks.
- Assimilative Capacity: Compare water quality at representative locations within the basin to the limits set in the Basin Plan.
- Create a GIS-based salt and nutrient loading model to account for these factors and will develop a loading estimate for an average year.
- Anti-degradation Analysis: If the previous subtasks indicate the potential to degrade the water quality of the Paso Robles Groundwater Basin, an antidegradation analysis to satisfy the requirements of State Water Resources Control Board's Resolution 68-16 may be required. This sub-task is not part of this scope of work, but may be recommended as a follow-up task after the SNMP is completed.

Task 5.2.5 Implementation Measures, Goals and Objectives

- Identify the preferred goals and objectives of the Primary and Secondary Stakeholders that the SNMP will aim to achieve. This process will identify specific goals and objectives for water recycling, and for recharge of stormwater and imported sources of water into the groundwater basin, and will correlate with the basin management objectives for the groundwater basin.
- Identify available salinity and nutrient management strategies for the groundwater basin (such as, wastewater salinity & nutrient source control, public education, source load reduction, etc.).
- Screen the preliminary list of alternative management strategies, and assess the load reduction and/or water quality improvement potential for the more viable strategies using the assessment modeling tools developed. Identify scenarios recommended for use in assessing alternate management strategies, and identify load conditions to be assessed in each scenario.
- Evaluate and compare the most feasible basin management strategies on the basis of factors such as: anticipated water quality improvements; local water supply development potential. Select a preferred strategy for implementation using stakeholder feedback.
- Coordinate with Primary Stakeholders to identify recommended Basin Plan modifications that are consistent with implementing the preferred salinity and nutrient management strategies. Assess how the recommended strategy conforms to California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. Specifically, this assessment will identify if implementation of the recommended strategy will be subject to review under CEQA or NEPA and what level of environmental documentation will be required. If the recommended strategy would be subject to review, work will be completed to identify the appropriate governing body (lead agency) and conduct an initial, high-level environmental assessment to define the scope and strategy for any necessary CEQA/NEPA compliance.
- A technical memorandum will be prepared to summarize the implementation of measures, goals and objectives for SNMP

Task 5.2.6 Monitoring Program and Database

Evaluate existing water quality monitoring programs in the Basin to assess whether they collectively achieve the objectives of the Plan. If necessary, modifications to those existing monitoring programs or augmentation of the overall network of programs will be recommended to achieve the SNMP's objectives. Additionally, depending on the availability of wells for the monitoring program, additional monitoring locations may be recommended. The goal of this analysis will be identify an optimal groundwater monitoring network and program that will meet all basin monitoring needs, including those of the new SNMP, CASGEM, and other regional and local monitoring requirements.

Evaluation of monitoring programs will include

- Identification of the specific water quality constituents monitored, the schedule/frequency of monitoring, staff positions responsible for monitoring, database management methods used, a description of data dissemination and reporting procedures, and whether they also provide water quality data at sufficient spatial and temporal scales to facilitate future assessments of salt and nutrient source loading and future trends analyses.
- Evaluation of existing state and federal water quality databases (e.g., Geotracker GAMA).
- Adoption of an appropriate database management method in the SNMP to ensure that the organization and storage of future monitoring data is compatible with State databases.
- Identification of the stakeholders responsible for conducting the groundwater sampling, submitting the samples to qualified analytical laboratories for testing, organizing the subsequent laboratory test results into the groundwater quality database, and reporting the water quality results to Water Board staff at least once every three years.
- A technical memorandum summarizing the evaluation of the monitoring programs will be prepared and will include a cost estimate to implement the recommended monitoring program.

Task 5.2.7 Prepare Salt and Nutrient Management Plan

Prepare the Paso Robles Groundwater Basin SNMP, writing a document that summarizes the analyses and conclusions of the work conducted under Task 5.2. The document will be an executive summary style, with references to the appendices which will consist of the memoranda developed in Tasks 5.2.1 through 5.2.6. This task may include a SNMP audit to establish the framework and schedule for periodically updating the Plan and identifying the responsible agencies for implementing periodic effectiveness assessments using the performance measures. Submit the draft document to the stakeholders for review and comment, revise the draft document as needed and finalize the SNMP.

Task 5.2.8 Quality Assurance and Quality Control

The QA/QC program will address two key components of the program: Technical Quality and Stakeholder Satisfaction. This task includes an independent technical review by the members of the consultant's firm that are experienced in groundwater

management but are not directly involved in the development of this SNMP. This internal review will ensure the SNMP meets the expectations of the stakeholders and meets the requirements of the Recycled Water Policy.

Task 5.2.9 Project Management

This task includes general project management and coordination during the initial project start up, procurement of any necessary sub-contractors, kickoff meeting, and preparation of the SNMP. Project management activities will continue throughout the duration of the project. Consultant procurement and selection, associated stakeholder coordination meetings and the development and execution of the Reimbursement Agreement.

Task 5.2 Deliverables:

- **Stakeholder list; Meeting agendas**
- **Technical Memorandum summarizing results of analyses and providing content for Section 2 of SNMP.**
- **Salt and nutrient source location and load maps**
- **Technical Memorandum summarizing assessment and loading estimates**
- **Technical Memorandum summarizing the Implementation of Measures, Goals and Objectives for SNMP**
- **Final SNMP**

EXHIBIT B – Additional Information

Department of Water Resources on Salt and Nutrient Management Plans
http://www.waterboards.ca.gov/losangeles/water_issues/programs/salt_and_nutrient_management/index.shtml

How to Develop an SNMP
http://www.waterboards.ca.gov/losangeles/water_issues/programs/salt_and_nutrient_management/Stakeholder_Outreach/Regional%20Water%20Board%20SNMP%20Assistance%20Document.PDF

Implementing an SNMP
http://www.waterboards.ca.gov/centralcoast/water_issues/programs/nutrient_mgmt/docs/sn_plan_do_the_work.pdf

Recycled Water Policy
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf

Policy Intent
http://www.waterboards.ca.gov/rwqcb3/water_issues/programs/nutrient_mgmt/docs/policy_intent.pdf

Example of a Completed SNMP – Santa Rosa
http://ci.santa-rosa.ca.us/departments/utilities/groundwater/SNMP/Pages/default.aspx

Appendix O-2 thru O-4

PLACEHOLDER SHEET FOR WHEN STUDIES ARE COMPLETED

O-2 Paso Robles Basin Salt and Nutrient Management Plan

O-3 Paso Robles Basin Groundwater Model Update

O-4 Santa Maria Basin Characterization