H.T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

MEMORANDUM

PROJECT# 3239-01

TO: Katie Drexhage

FROM: Sharon Kramer and Christine Hamilton

DATE: 3 March 2011

SUBJECT: Review of 2009 Arroyo Grande Draft HCP, remaining issues and deficiencies

We reviewed the 2009 draft HCP and accompanying memos and minutes that you provided to us on CD. Overall, we applaud the District for getting through negotiations with NMFS on flow releases, which is probably the biggest hurdle for completion of the HCP. However, we believe there needs to be a substantial revision of the 2009 draft HCP to incorporate the new flows and ramping rates, and modeling results. In addition, the HCP is missing critical information and needs reorganization. For example, the project description describes changes in flows and stream gage removal, but we believe that these actions are minimization and mitigation measures. Instead, we recommend that the project description includes a thorough description of the dam and all its components (such as the location and elevation of the reservoir intake, etc.), current operations (including instream flows and reservoir operations), and maintenance activities. This basic information will help the reader understand the covered activities and how the project relates to the biological goals and objectives, and sets the stage for the conservation measures. More information in the environmental setting is also needed, as it is currently difficult to understand the plan area, particularly the hydrology, and existing habitat of Arroyo Grande Creek. High-quality maps to better convey the setting are recommended. The biological impacts/take assessment section only generally describes potential impacts, does not include any attempt to quantify or model habitat changes by stream reach associated with the conservation measures, and does not clearly demonstrate how the HCP will benefit steelhead and CRLF. The conservation program currently lacks sufficient detail and commitment, as evidenced by non-committal language, a lack of performance and success criteria, a sufficient monitoring program, and a clearly-defined adaptive management strategy. We recommend working with the agencies and selecting/committing to at least 1 or 2 key habitat enhancement/ mitigation actions and clearly describing the actions and benefits, rather than just including a laundry list of things that may be done. In addition, there appears to be a few major remaining issues to be decided upon, such as the point of compliance for flow releases, and whether or not the HCP will cover tidewater gobies.

Responses to your specific questions are below.

1. How far is the District into the process (e.g., 90% done?)
Based on our detailed assessment of the 2009 draft, the Arroyo Grande HCP appears to be less than 50% complete (see our section-by-section assessment below for more details). However,

given that we know that: (1) some of the omitted information is available from the 2004 draft; (2) there is information in new memos and documents provided by the District that still needs to be incorporated; and (3) the flow releases have been agreed upon by NMFS, we think the District may be closer to 70-80% finished with this process.

2. Are there any fatal flaws in the District's goals?

We do not believe there are any "fatal" flaws but often in HCP development, small things can really hold up progress and become highly contentious. From our review, we focused on two areas of concern: point of compliance for instream flow releases, and reservoir operations.

- We could not determine the location of the point of compliance for flow releases – if this has already been negotiated but not clearly noted in the HCP, then this is only a minor problem. Point of compliance could potentially be a sticking issue because of the multiple regulated and unregulated diversions and uses of the river. Typically, the point of compliance is associated with a USGS or other public gaging station. If the point of compliance is too far downstream from the dam, it may not be possible to achieve compliance due to other water removal and pumping that occurs along the river. Therefore, it is important to obtain agreement on the point of compliance and level of monitoring expected. We are aware of another flow-related HCP in which this specific issue became a major problem when the applicant thought the process was nearly completed.
- We are concerned about activities occurring above the dam, particularly reservoir operations. With respect to steelhead, we are concerned that the rainbow trout that occur above the dam could be listed at some point in the future, especially given the apparent controversy over this issue that occurred during the listing process. If rainbow trout became a listed entity, then reservoir operations could result in take by affecting access to spawning tributaries. It is possible that the listing of rainbow trout could be considered a foreseeable changed circumstance and we recommend exploring how this could be addressed. With respect to CRLF, we are concerned about the effects of reservoir filling and drawdowns on the species, such as the potential that the reservoir enhances habitat for bullfrogs. Additionally, we are concerned that the Covered Lands, which extend to approximately 50 feet outside the channel, are not large enough to assess impacts to CRLF.

3. What are the key issues remaining to be addressed?

- A permit duration of 20 years seems like a rather short duration, especially relative to the number of years it is taking to negotiate and complete this HCP, and the rationale provided for this duration is weak. Was this something negotiated already with NMFS? If not, we recommend considering a longer permit duration. Alternatively, we recommend exploring if the HCP could include a mechanism for extending the HCP for another 10 or 20 years if adaptive management and monitoring are indicating that the HCP is meeting its goals and objectives and if everyone is in agreement.
- Does the District conduct activities in the reach downstream of Fair Oaks Blvd and above the ½ mile that they do not own? If so, the Covered Lands probably should include this reach down to the limit of the District's ownership.

- Has NMFS already agreed to the non-flow mitigation approach? If not, we recommend front-loading it so that more mitigation occurs earlier in the HCP, and that perhaps the first few projects are more concretely described and funded, with the $50k/year occurring after a few key projects are done. Currently there is a long laundry list of things that could be done with no guarantee of completion of any of the higher-priority actions (best bang for the buck, and greatest benefit to steelhead/CRLF). Is there reason to believe spawning habitat is limiting? If so, removing the barrier and adding gravel (commitment to both) along with instream flows could be a huge benefit to steelhead.
- Many of the details in the Conservation Program and Plan Implementation sections are incomplete. Based on our experience, these details are usually left to the end of the HCP process, but still take some time and negotiation to complete. Sections that appear incomplete include: Mitigation Measures, Monitoring, Performance and Success Criteria, Adaptive Management, Reporting, and Funding (see section-by-section assessment below for more details).

4. Are there important deficiencies in the work performed to date?

- The proposed instream flows and ramping rates are conservation measures of the HCP, but what is the basis for determining if the changes to flows are benefiting fish? The proposed flows are built on the assumption that mimicking flows that are more "natural", or more like the unimpaired hydrograph, translates into improved fish habitat. The District does not have specific habitat quality or quantity models demonstrating this assumption, and does not lay out the rationale for why the new flows are better (with the exception of the ramping rate). For example, there is no quantification of spawning habitat. It is difficult to justify the need for additional spawning gravel when there is no determination of the effects of flow on existing spawning habitat. The same case can be made with respect to CRLF. The HCP strategy for CRLF appears to be "if flows are more "natural" and improve conditions for steelhead, then habitat is better for CRLF as well". We assume NMFS has agreed to this approach, but has USFWS?
- Operations and maintenance of the dam and reservoir, and reservoir water storage, are included as Covered Activities but the potential effects and incidental take as a result of these activities on the Covered Species is not assessed. The Covered Lands do not include the area above the dam; therefore, these Covered Activities actually occur outside of the plan area. This needs to be rectified, either by excluding those as Covered Activities or by including the dam and reservoir in the Covered Lands.
- There is very little information about stream temperatures in the HCP. We recommend that the HCP summarize baseline stream temperatures and describe why stream temperatures are likely to be better/same/worse as a result of the HCP.

OUR SECTION-BY-SECTION ASSESSMENT OF THE 2009 ARROYO GRANDE DRAFT HCP

Project Description: (*5% Complete*)
This section describes the new flow releases and removal of the stream gage, but these actions are actually minimization and mitigation measures and should be in that section of the HCP. Instead, this section should clearly describe the characteristics of the dam (height, elevation, location/elevation of releases, plumbing, etc.) and the operations and maintenance activities of the dam. Some, but not all, of this information appears to be in the 2004 draft HCP, but after reviewing that information we found it difficult to understand the components of this water supply system. The HCP also should include a diagram and/or a photo of the dam and a high-quality map of the project area. Since the dam is already in and not a "project" to be constructed, this section could be titled something like "Overview of Lopez Water Supply Storage and Delivery Facilities" instead of "Project Description". The Bull Run HCP, which is a similar project/HCP, is a good example of how this type of information can be conveyed.

The Covered Activities and the Covered Lands do not match up. Operations and maintenance of the dam and reservoir, and reservoir water storage, are included as Covered Activities, but the plan area does not include the area above the dam; therefore, these Covered Activities actually occur outside of the Covered Lands. This needs to be rectified, either by excluding those as Covered Activities or by including the dam and reservoir in the Covered Lands.

Environmental Setting/ Biological Resources: (*50% Complete*)
In general, high-quality maps need to be included to convey information in this section, as it is currently difficult for the reader to visualize the project area and environmental setting. The topographic maps included in the 2004 draft are low-quality, and it would be relatively easy to make much better quality maps using GIS and aerial photos as background as appropriate. Other relevant topics could also be added to this section to make it more complete, as this section does not adequately "set the stage" in its current form. Although not listed as headers in the HCP template, there is some flexibility to include topics/headers that are relevant to the project. Useful topics could include Water Quality, Water Quantity, Air Temperature, and Habitat Conditions by Stream Reach; we noted that this information was included in the 2005 draft. The 2008 Bull Run HCP is a good example of how this type of information could be incorporated.

<u>Topography/Geology and Hydrology</u>: These sections are too brief and should be expanded to include a more complete description. High-quality maps and figures should also be included showing hydrological characteristics, stream reaches, locations of stream gages, locations of flow releases, etc. Some of the detailed modeling and historic information about flows from the 2004 draft should be incorporated into this section, as they can be considered baseline information. Also, the detailed modeling information that was present in the 2004 draft HCP was only referred to a few times in the 2009 draft HCP, without a reference and with very little information. Since this information was the basis for determining historical flows as well as calculating new flow releases, we recommend either incorporating it into the HCP document as an appendix or as a separate technical report so that this information can be referenced and accessed.

Steelhead: Critical habitat was designated for steelhead in the project area in 2005; this needs to be incorporated. In addition, few citations were provided in the life history section and we recommend adding some appropriate references. Information from the 2004 Stream Inventory Report should also be included in this section, as it assesses steelhead habitat conditions. However, we caution that this report lacks specific information about steelhead habitat and we do not believe it can be used for modeling or quantifying habitat or potential impacts.

California Red-Legged Frog: The 2010 CRLF habitat surveys need to be incorporated into the HCP.

Tidewater Goby: Whether this will be a covered species in the HCP remains to be determined. . If it is not going to be a covered species, consider adding a section detailing life history, distribution, local survey info, etc., and then build the case for not including the tidewater goby as a covered species. Some of this information is in the 2009 draft, in the "Covered Species" section.

Potential Biological Impacts/Take Assessment: (*10% Complete*)
This section has serious deficiencies. It does not assess expected habitat changes as a result of the new flows. Such an endeavor would require an assessment of existing habitats and the modeling of expected changes in habitat by stream reach as a function of altered flows. This exercise will likely be difficult, particularly in the lower reaches, due to unregulated diversions that the District has no control over. However, the analysis is needed to quantify potential impacts and incidental take on steelhead and CRLF. We find it unlikely that NMFS would be able to complete a biological opinion and quantify incidental take with the information provided.

We recommend describing the impacts/take assessment for each covered species in separate sections rather than all species together. Within each covered species impact assessment, we recommend subheaders to discuss the impacts on each life stage of project actions and minimization measures. The CRLF impacts assessment appears somewhat more complete than the steelhead assessment and we recommend adding more information on steelhead. Potential impacts on critical habitat for CRLF and steelhead also needs to be assessed.

A cumulative effects analysis needs to be included. This is where a description of other land uses (i.e., agriculture and water diversions) and their effects would be summarized. Some of this information is already in the "Environmental Setting" section.

Conservation Program: (*25% Complete*)
We recommend moving this section to before the Potential Biological Impacts/Take Assessment section because the Potential Biological Impacts/Take Assessment section addresses impacts and take as a result of the Conservation Program as well.

Minimization Measures: The new flow releases, which are currently in the project description, should be considered minimization measures and included in this section instead.

Mitigation Measures: It appears as if many of the mitigation measures are not decided upon, as evidenced by non-committal language and highlighted text. Removal of the stream gage, which

is currently in the project description, should be considered a mitigation measure and included in this section instead. This section would benefit from better organization with additional headers and subheaders.

Monitoring: The monitoring program was described in detail for CRLF, but not for steelhead. Thus, we recommend that the monitoring program be described in the same level of detail as the red-legged frog. The monitoring program needs to have 3 components: (1) compliance monitoring (tracks the permit holder's compliance with the HCP requirements); (2) effects monitoring (tracks the impacts of the covered activities on the covered species); and (3) effectiveness monitoring (tracks the progress of the conservation strategy in meeting the biological goals and objectives (includes species surveys, reproductive success, etc.). These 3 components are not clearly described in this section and should be more clearly defined, particularly effectiveness monitoring for steelhead.

Performance and Success Criteria: This is a major section that has not been adequately addressed. This section details the actions and roles of the technical committee but does not detail actual criteria for determining success.

Priorities and Implementation Schedule: Consider including a calendar to indicate when things will be happening.

Adaptive Management Strategy: This section contains a lot of general information about the concept of adaptive management but does not indicate how it will be used for this HCP. The section should describe when adaptive management will be necessary (i.e., what the "triggers" will be) and how it will be implemented.

Reporting: Reporting is mentioned in 2 different sections, first in the monitoring section (section 5.5), and second as template language in its own section (section 5.9), and should be all in one section. The language from section 5.5, which seems relatively complete (although would need reviewing/editing once the monitoring and adaptive management sections are complete) should be placed into section 5.9 and the template language removed.

Plan Implementation, Changed and Unforeseen Circumstances: *(90% complete)*
Most of these sections are canned language and therefore these sections appear to be relatively complete, although they need reviewing/editing and some formatting.