UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

September 28, 2007

In response, refer to:
150308SWR2007PR00445

Ms. Diane Riddle
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Re: Revised Draft Environmental Impact Report, Consideration of Modifications to the U.S. Bureau of Reclamation's Water Rights Permits 11308 and 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River Below Bradbury Dam (Cachuma Reservoir) SCH #1999051051

Dear Ms Riddle:

NOAA's National Marine Fisheries Service (NMFS) reviewed the above referenced Revised Draft Environmental Impact Report (RDEIR) and hereby provides the following comments for the State Water Resources Control Board's (SWRCB) consideration. These comments supplement those comments NMFS previously provided to the SWRCB (letter from Rebecca Lent to Harry M. Schueller dated September 19, 2001; letter from Rodney R. McInnis to Andrew Fecko dated October 7, 2003), and are confined to the information that is new or has been changed from the 2003 DEIR to the 2007 RDEIR. The format of these comments is according to two general categories: (1) NMFS' recovery planning efforts with relevance to the Santa Ynez River, and (2) specific comments on the RDEIR.

NMFS' RECOVERY PLANNING EFFORTS

As the SWRCB recognized, NMFS has a unique role in this matter "as the agency that listed the Southern California steelhead ESU as endangered, authored the Biological Opinion, and is responsible for preparing a recovery plan for the species" (letter from Peter S. Silva, Hearing Officer, to Cachuma Hearing Service list, dated May 29, 2003). Since the issuance of the DEIR in 2003, NMFS' Southwest Fisheries Science Center and Southwest Regional Office have completed and published a number of Technical Memoranda and reports that are related to recovery planning for the endangered Southern California Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*). Copies of the following reports are enclosed with this letter:

- "Contraction of the Southern Range Limit for Anadromous Oncorhynchus Mykiss" (2005);
- "Steelhead of the South-Central/Southern California Coast: Population Characterization for Recovery Planning (2006)";

- "Potential Steelhead Oversummering Habitat in the South-Central/Southern California Coast Recovery Domain: Maps Based on the Envelope Method" (2006);
- "Viability Criteria for Steelhead of the South-Central and Southern California Coast" (2007);
- "Updated status of federally listed ESUs of West Coast salmon and steelhead" (2005);
- "Population Structure and Ancestry of *O. mykiss* Populations in South-Central California Based on Genetic Analysis of Microsatellite Data" (2006); and,
- "Federal Recovery Outline for the Distinct Population Segment of Southern California Coast Steelhead" (2007).

The Technical Memoranda and reports are ecologically significant for a number of reasons, a few of which are described here. First, these documents analyze and present new information about endangered steelhead, including information relevant to the Santa Ynez River, which was not available at the time of the original circulation of the DEIR for the Cachuma Project. Second, the Recovery Outline synthesizes material from the Technical Memoranda and identifies recovery strategy (based upon the Technical Memoranda), and identifies a set of priority recovery actions, which have implications for steelhead in the Santa Ynez River watershed including putative resident steelhead (*O. mykiss*) that still reside upstream of Bradbury Dam. The Recovery Outline is intended to serve as interim guidance to recovery efforts and planning until a full recovery plan is developed and approved, and contains recommendations that are relevant to the issues, particularly public trust issues regarding steelhead, raised by the proposed revisions to the Cachuma Project.

The Technical Memoranda and other recovery-related documents have direct relevance to the SWRCB's consideration of Santa Ynez River and the Cachuma Project. A brief summary of the more significant findings reported in these documents is as follows:

- Regarding the status of the native resident *O. mykiss* above Bradbury Dam, the genetic report (Girman and Garza 2006) concluded that there was not widespread genetic evidence of interbreeding between hatchery reared and native *O. mykiss*, and that a non-significant portion of the genetic differences between above and below-dam native *O. mykiss* populations in the Santa Ynez basin indicated a common ancestry for these populations. The *O. mykiss* upstream of the dam are largely or entirely descended from relic native populations of this species, and the populations considered in the study are all closely related to one another including native anadromous populations of *O. mykiss* in southern California. This has been re-affirmed by the most recent, but not yet published genetics study of *O. mykiss* in the Santa Ynez watershed (Clemento and Garza 2007), the findings of which were recently presented in September at the annual meeting of the American Fisheries Society in San Francisco.

- With regard to the role of resident *O. mykiss* in the recovery of the endangered Southern California DPS of steelhead, the recent Viability Criteria Report (2007) stressed the need to maintain all the life-history forms of the native steelhead, including the freshwater-resident forms in each population. This is viewed as important in the recovery of the anadromous (listed) *O. mykiss* because the resident forms can give rise to the anadromous form, thus lowering the extinction risk of the listed anadromous form through two mechanisms: "rescue effect" which occurs when the input from the resident form in a watershed prevents the complete disappearance of the anadromous form, and "recolonization" when the anadromous form disappears completely, but is regenerated by the resident *O. mykiss* population, either directly from fish within the watershed or through dispersal of fish from another watershed. Overall, the resident form of steelhead can contribute to the long-term viability of the listed species as a whole.
- With regard to Bradbury Dam obstructing passage of steelhead to historical spawning and rearing habitats, the Technical Memoranda and other recovery-related documents identify blockage of fish passage to spawning and rearing habitats, including oversummering habitat for juvenile steelhead, and recommend restoring steelhead access to such habitats as a necessary step to achieve viability of the listed species as a whole.

SPECIFIC COMMENTS ON THE RDEIR

In this section, NMFS presents specific comments on the RDEIR. The comments have been presented according to the organization and format of the RDEIR for ease of reference.

Executive Summary

NMFS requested that an alternative flow regime for the lower mainstem of the Santa Ynez River be evaluated (in conjunction with fish passage opportunities at Bradbury Dam). Specifically, NMFS requested that the DEIR analyze and evaluate the 3A2 alternative flow regime (and variations) identified in the Cachuma Contract Final Environmental Impact Report of December 1995 (letter of R. McInnis to A. Fecko, dated October 7, 2003). The purpose of this request was to determine the suitability of the 3A2 alternative to meet the public trust interests in the steelhead resources of the Santa Ynez River, and the closely related goal of recovering and ultimately de-listing the endangered Southern California DPS of steelhead. NMFS also requested that the 3A2 alternative flow regime be evaluated by an independent consultant under the auspices of the SWRCB, utilizing an accepted instream flow methodology, and subject to technical review by the regulatory and trustee agencies (SWRCB, California Department of Fish and Game, Bureau of Reclamation, and NMFS). However, the RDEIR does not analyze the 3A2 alternative flow regime, but two new variations, Alternatives 5B and 5C. Nor does the RDEIR include any analysis of fish passage at Bradbury Dam.

ES.1 Background

As noted above, since issuance of the 2003 DEIR, NMFS has developed and published a number of Technical Memoranda dealing with the endangered Southern California DPS of steelhead, as well as a detailed Recovery Outline. Additionally, NMFS has re-designated critical habitat (see 70 FR 52488, September 2, 2005), and also reaffirmed its listing of the southern California steelhead as endangered (see 71 FR 834, January 5, 2006) under the federal Endangered Species Act.

ES.2 Project Alternatives Considered in August 2003 DEIR

See comment above regarding NMFS' request to consider the 3A2 flow regime alternative.

ES.3 Project Alternatives to be Considered in this Revised DEIR.

See comment above regarding NMFS' request for consider the 3A2 flow regime alternative, as well as comments below.

ES.4 Summary of Impacts

See comments below on Alternatives 5B and 5C.

1.0 Introduction

See comments below regarding scope of public trust interests affected by the proposed project.

1.2 Factual and Procedural Background Information

See comments below regarding scope of public trust interests affected by the proposed project.

2.4 Biological Opinion

2.4.1 Background Information

As noted above, since issuance of the 2003 DEIR, NMFS has developed and published a number of Technical Memoranda dealing with the endangered Southern California DPS of steelhead. These documents (and their relevant findings) should be reflected in the final EIR for the Cachuma Project. Additionally, NMFS has re-designated critical habitat and also reaffirmed its listing of the southern California steelhead as endangered.

3.0 Proposed Project (Alternatives)

3.1 Proposed Project

3.1.3 Public Trust Resources

The description of the scope of the public trust resources on the Santa Ynez River is incorrectly characterized as "downstream of Bradbury Dam." Subsequent to the original Notice of the Water Rights Hearing for the Cachuma Project (September 25, 2000), the SWRCB Hearing Officer clarified the scope of the public trust resources that would be addressed. The SWRCB specifically advised the parties to the Water Rights Hearings that: "By its terms, the key hearing issue 4b is not limited to public trust resources below Bradbury Dam, or to requirements that apply below Bradbury Dam. Consistent with the hearing notice, I intend to allow parties to present evidence concerning whether Reclamation's permits should be modified to address any impact of Cachuma Project operations to public trust resources above Bradbury Dam, including evidence concerning requirements that would apply above the dam" (letter from Peter S. Silva, Hearing Officer, to Cachuma Hearing Service list, dated May 29, 2003).

In addition to the public trust resources enumerated in this section, there are native fish (including *O. mykiss*), amphibians, reptiles, birds, and mammals which occur along the mainstem of the Santa Ynez River and its tributaries above Bradbury Dam; they are found largely, though not exclusively, on federal lands within the Los Padres National Forest. These resources also fall within the scope of the public trusts interests to be considered by the SWRCB as part of its consideration of the Cachuma Project.

3.2 Alternatives

3.2.1 Development of Alternatives

The RDEIR concludes that by switching to the long-term flow requirements in the Biological Opinion during below-normal, and dry and critical years, Alternatives 5B and 5C would have less of an impact on water supply available from the Cachuma Project than alternative 3A2. However, the RDEIR does not address the fundamental issue of the environmental impacts to listed steelhead resulting from any of these alternatives, and specifically the impacts to the public trust interest in this resource (see additional comments below).

The analysis in the RDEIR also does not recognize the cumulative effects of reducing flows to support steelhead in below-normal, dry and critical years. The result of this analytical framework is to minimize the effects of the Cachuma Project alternatives on listed species, and other public trust resources.

The REDIR indicates that alternative 3A2 is described in detail in section 3.2.2; however, there is no analysis of the environmental benefits of this alternative in section 3.2.2, only the variations of Alternatives 5B and 5C.

3.2.2.3 Alternative 3C- Operations under Biological Opinion with 3.0-foot Surcharge

The discussion of this alternative should contain a break-down of releases similar to that given for Alternatives 2 and 3B.

3.2.2.4 Alternative 4B- Operations under the Biological Opinion with 3.0-foot Surcharge and the Exchange of SWP Water for BNA Water.

The discussion of this alternative should contain a break-down of releases similar to that given for Alternatives 2 and 3B.

3.2.2.5 Alternatives 5B and 5C

This discussion focuses on the various water supply savings associated with the two variations (5B and 5C) on the 3A2 flow regime, but does not recognize the biological impacts on the listed steelhead in the lower Santa Ynez River (see additional comments below).

4.0 Environmental Analysis of Alternatives (Flow-Related Actions)

4.2.2. Potential Impacts of the Alternatives

The RDEIR indicates that the only hydrological effect of the proposed alternatives that can be interpreted as adverse or beneficial would be the change in flood hazards downstream. This focus does not take into account the effects of channel-forming processes associated with the various alternatives, which are important for aquatic resources such as the listed steelhead. These channel-forming processes are important to facilitating fish passage, as well as maintaining over-summering habitat for juveniles and adults that may holdover in the stream after spawning.

4.2.2.1 Overview of Hydrologic Modeling for the EIR

Use of the Model for Comparing Alternatives

The RDEIR notes that the Santa Ynez River Hydrologic Model (SYRHM) has not been used to model winter storm operations and ramping of outlet releases because the model uses monthly time steps, and winter operations and ramping outlet releases would occur within days. However, the RDEIR does not acknowledge that biologically significant changes in response to hydrologic changes also occur within shorter time-frames that cannot be captured with the SYRHM. Using this tool to compare the biological effects of the various alternatives therefore has potentially significant limitations, including leading to an underestimate of the full extent of the impacts of the various alternatives. The fact that the SYRHM subjects each alternative to the same degree of error does not consequently make the model for comparative purposes valid

because the degree of error has different implications (significance) for the different impacts (hydrological, water quality, aquatic habitats, etc.) being analyzed.

4.2.2.3 River Impacts

The general characterization of Alternative 5B and 5C should include a comparison with alternative 3A2 as well as 3B, 3C, and 4B.

It is not clear why leakage is counted as part of the dedicated fish releases, since this component is not managed to achieve the specific objectives of the fish release account, and may not do so.

The reduced spill frequency under all the alternatives should also be analyzed in terms of the reduction in channel forming processes associated with the higher flows from spills. Also, it was not clear if the projected reduction in spill under the alternatives was measured by total volume or rate.

The RDEIR notes that while the percentage of time at which flows of 5 Cubic feet per second (cfs) at Highway 154 are increased significantly under Alternatives 3B and 5B (from 48 to 76 or 77%) over the baseline conditions, the increase in frequency of downstream low-flows over baseline conditions "becomes *smaller* with distance from the dam, such that there is very little difference in the frequency of low-flows near Salsipuedes Creek." [emphasis added] This pattern generally holds for all of the alternatives analyzed in the RDEIR. If the improvement in habitat conditions is confined principally to the 3 mile reach below Bradbury Dam, but does not provided a similar level of protection and/or improvement to the remaining 50 miles of the lower Santa Ynez River, it is unclear how these alternatives address the public trust interests in the natural resources of a majority of the lower Santa Ynez River.

4.3 Water Supply Conditions

4.4.2 Potential Impacts of the Alternatives

As noted above, NMFS has requested that the DEIR analyze and evaluate the 3A2 alternative flow regime (and variations) identified in the Cachuma Contract Final Environmental Impact Report of December 1995. This alternative should be included in the analysis of this section, and the RDEIR be re-circulated for public comment.

4.3.2.6 Indirect Impacts of Water Supply Shortages

The discussion of the potential indirect environmental impacts of water supply shortages is speculative, and does not adequately address the full range of alternatives that may be available to the Member Units to address short-term and temporary shortages due to the reallocation of water resources to instream beneficial uses in the Santa Ynez River recognized by the SWRCB. Also, the analysis incorrectly assumes that the supply of water for instream beneficial use is not

an integral part of the water-supply demand that the Member Units must meet as part of their overall operations.

4.3.2.9 Impacts Attributable to Desalination

The discussion of the Charles Meyer Desalination Facility does not acknowledge that the facility has been reviewed and permitted under the California Environmental Quality Act (CEQA), received an National Pollution Discharge Elimination System (NPDES) permit from the Los Angles Regional Water Quality Control Board, and a Coastal Development Permit under the California Coastal Act. The review of the desalination facility under CEQA does not support the assumption of the RDEIR "that the impacts to the Member Unit's water supply under Alternative 5B could result in significant and unmitigable indirect impacts (Class I)." The assessment of this mitigation is speculative, and is contradicted by an actual review of the mitigation under CEQA. This section also includes several brief comments dismissing other potential means of reducing water demand (e.g., replacing inefficient water using appliances, landscape irrigation techniques, etc), which are not within the scope of this section, and should be treated elsewhere, and with additional and more detailed analysis.

4.7 Southern California Steelhead and Other Fishes

4.7.2 Potential Impacts of the Alternatives

Method of Analysis and Scoring

The scoring system proposed in the RDEIR only addresses different flow regimes for fish habitat in the lower Santa Ynez River and in Cachuma Lake. As noted previously, the scope of the public trust issues raised by the Cachuma Project "is not limited to publish trust resources below Bradbury Dam, or to requirements that apply below Bradbury Dam." It also includes "any impact of Cachuma Project operations to public trust resources above Bradbury Dam . . ." (letter from Peter S. Silva, Hearing Officer, to Cachuma Hearing Service list, dated May 29, 2003).

4.7.2.3 Impacts on Southern California Steelhead/Rainbow Trout along the River

The RDEIR indicates that spawning of steelhead can occur at locations within the mainstem or in tributaries downstream. However, it does not recognize that the overwhelming majority of the suitable steelhead spawning and rearing habitats within the Santa Ynez River system is within the tributaries to the Santa Ynez River above Bradbury Dam, and that the loss of access (as a result of physical blockage and altered flows) to these tributaries by adult steelhead is one of the principal reasons for the decline and near extirpation of the anadromous runs in the Santa Ynez River (see comments above regarding the scope of the public trust interests in the natural resources of the Santa Ynez River, the enclosed map of distribution of potential spawning and rearing habitats in the Santa Ynez River watershed, and the report "Contraction of the Southern Range Limit for Anadromous Oncorhynchus Mykiss").

Method of Analysis and Scoring

The RDEIR uses a simple scoring system for flows based upon whether the flows provide more or less habitat. This approach fails to capture the complex role of flows in the creation and maintenance of habitats. Flows have several basic characteristics that are important to the various life-history stages of steelhead; these include magnitude, duration, rate-of-change, and timing. These aspects are not captured in the habitat scores, which "are derived from the average monthly flows calculated using simulated mean daily flows for each alternative." For example, monthly steps do not provide adequate resolution for rearing and spawning habitat conditions in the river because they do not capture the channel-forming processes that are dependent on rate-of-change and duration, as well as magnitude. The result of the simplistic analysis used in the RDEIR is to not capture the full biological significance of the proposed alternative flow regimes. Also, it is problematic to use a scoring system that equates a flow designed to prevent jeopardy (i.e., not to increase the already present risk of extinction) with a flow designed to protect the public trust interest in the steelhead resources of the Santa Ynez River system, particularly under the circumstances where the steelhead population is severely depressed as is the case with the Santa Ynez River population.

Fish Migration

The RDEIR indicates that steelhead migrate primarily from February through April. The migration of steelhead in the Santa Ynez River, as with all southern California streams, is closely tied to the rainfall and runoff pattern in the watershed. In the Santa Ynez River watershed significant rainfall and runoff extends from December through April, and runs coincide with this period (see also Fukushima and Lesh 1998, California Fish and Game 84(3):133-145, regarding run timing). Additionally, the initiation of anadromous runs is not keyed to the minimum flow required to navigate over critical riffle areas, as presumed in the RDEIR, but rather peak flows which breach the sand bar and create a sustained flow of sufficient duration to allow fish to successfully migrate to their principal spawning and rearing areas. It is therefore problematic to define a passage day as a day with a flow of greater than or equal to 25 cfs at the Alisal Bridge, because it assumes that adult steelhead will actually enter the Santa Ynez River under the lower flows within the flow range specified.

Spawning and Rearing Habitat

The spawning and rearing habitats in the lower Santa Ynez River (below Bradbury Dam) is strongly influenced by the channel-forming processes of variable flows. The RDEIR does not adequately recognize the degree to which the timing, duration, magnitude and rate-of-change in flows below Bradbury Dam create and maintain habitat suitable for spawning and rearing. Specific habitat features such as the size and distribution of sediment and in-channel morphology that are important to spawning and rearing are a function of the character of instream flows. The alternative flow regimes appear to presume that physical instream spawning and rearing habitats

are fixed, or will be adequately sustained by the existing highly modified flow regime below Bradbury Dam.

With regard to water temperature, new information indicates steelhead in southern California streams can tolerate warmer water, under certain conditions (e.g., abundant food sources, adequate oxygenation), than previously presumed. Individuals accept an elevated body temperature that exceed temperature preferences and upper heat tolerances reported for the species as a whole, and forage and remain active throughout the day despite elevated temperatures (Spina 2007, Environmental Biology of Fishes 80:23-34).

Results

Fish Migration

The number of days with fish passage indicated in this analysis presumes fish have been induced to enter the Santa Ynez River system with a minimum flow over critical riffle areas. The assumption is not consistent with steelhead migratory behavior, and therefore over-estimates the relative passage opportunities (benefits) of the various alternative flow regimes, and therefore the degree to which the alternative protects the public trust resources of the Santa Ynez River system, including listed steelhead. See the comments above regarding the scoring system based upon the assumptions associated with the minimum flow at critical riffles.

Spawning Habitat

As noted above, the alternative flow regimes do not take into account the importance of the channel-forming processes associated with variable flow, particularly those flows above the proposed release level, but presume the suitability of the channel morphology is fixed, or can be maintained by the existing highly modified flow regime below Bradbury Dam.

Rearing Habitat

The rearing habitat in the reach between Bradbury Dam and Highway 154 is influenced by a variety of artificial factors such as flow releases, channel-maintenance activities, and land use practices. See comment above regarding Spawning Habitat.

Finally, the RDEIR does not address the critical question of protecting the public trust resources of the Santa Ynez River above Bradbury Dam through providing appropriate fish passage for both adult and juvenile steelhead around Bradbury Dam. The Santa Ynez River has been identified in the NMFS' recovery planning process as one of the core steelhead populations within the endangered Southern California DPS of steelhead, which is essential for the recovery and ultimatel delisting of the species. Specifically, the evaluation and provision of appropriate fish-passage opportunities at Bradbury Dam on the Santa Ynez River was identified as a priority action to address factors (including limited spatial distribution) currently suppressing the potential for recovery of the Southern California Coast Steelhead DPS (see 2007 Federal

Recovery Outline for the Distinct Population Segment of Southern California Coast Steelhead prepared by the National Marine Fisheries Service, Southwest Regional Office).

As noted in NMFS' previous comment letter on the original DEIR for the Cachuma Project, the final EIR should include a detailed investigation of alternative means of providing adult steelhead fish passage to spawning and rearing habitats above Bradbury Dam, and effective emigration of rearing juvenile steelhead located above Bradbury Dam downstream to the ocean. The focus of this effort should be on restoring, to the maximum extent possible, the natural pattern of upstream migration and downstream emigration of fish between the ocean and the principal upstream steelhead spawning and rearing habitats above Bradbury Dam. Additionally, to ensure that the public trust resources of the native fishes above Bradbury Dam are adequately protected, the screening of all water intake facilities associated with the Cachuma Project (e.g., Tecolote Tunnel) should be investigated as part of the fish-passage investigation (see letter from Rodney R. McInnis to Andrew Fecko dated October 7, 2003 for additional comments).

NMFS appreciates the opportunity to comment on the RDEIR for the Cachuma Project. Should your staff have any questions regarding these comments, please contact Craig Wingert at (562) 980-4021.

Sincerely,

Rodney R McInnis

Rodney R. McInnis
Regional Administrator

Enclosures