UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

December 8, 2016

Jeanine Townsend
Clerk of the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Re: COMMENT LETTER – Cachuma Project Draft Order

Dear Ms. Townsend:

Thank you for providing NOAA's National Marine Fisheries Service (NMFS) with a copy of the State Water Resources Control Board (SWRCB) draft order amending Permits 11308 and 11310 for the Cachuma Project on the Santa Ynez River in Santa Barbara County, dated September 7, 2016. NMFS is submitting these written comments for the SWRCB's consideration in finalizing the SWRCB's draft order amending Permits 11308 and 11310 for the Cachuma Project on the Santa Ynez River. In addition to the general comments below, additional specific comments on the SWRCB's draft order are provided in Attachment A. As described elsewhere in these comments, NMFS emphasizes that, on November 29, 2016, we transmitted to the U.S. Bureau of Reclamation's (BOR) a draft biological opinion for BOR's operation and maintenance of the Cachuma Project, dated November 28, 2016.

The SWRCB's draft order represents an attempt to address the protection of the public trust interests of the steelhead of the Santa Ynez River, but is limited by not utilizing the most current scientific information about the Southern California Steelhead Distinct Population Segment, which is listed as endangered under the Endangered Species Act, or the guidance provided by NMFS' Southern California Steelhead Recovery Plan issued in 2012. The provisions in the SWRCB's draft order have the potential to improve rearing conditions for juvenile steelhead in the lower reaches of the Santa Ynez River below Bradbury Dam. However, the draft order relies too heavily on a strategy of substituting current inaccessible upstream tributary habitat with downstream habitat by attempting to improve habitat conditions in the lower Santa Ynez River, while not providing timely and effective measures for addressing a key fundamental threat to the viability of the Santa Ynez river steelhead: elimination of access to spawning, rearing, and refugia habitat located upstream of Bradbury Dam, particularly in the tributaries. This upstream habitat not only provided the overwhelming majority of the historic steelhead spawning and rearing habitats in the Santa Ynez River, but also contributed significantly to the diversity of rearing habitat types and conditions. This habitat diversity provides the selective pressures that drive the biological diversity of the species, which is the key to its long term survival. The importance of restoring and maintaining this diversity is reflected in NMFS' viability criteria as

described in NMFS' Southern California Steelhead Recovery Plan, at the level of the Distinct Population Segment, such as biogeographic diversity, life history diversity, and spatial distribution of individual populations.

The SWRCB's draft order makes reference to NMFS' biological opinion dated September 8, 2000 throughout the document and relies, in part, on the analysis and provisions in that document. NMFS' 2000 biological opinion has been subject to reinitiation of formal consultation. The outcome of this reinitiated formal consultation is a biological opinion that will supersede NMFS' 2000 biological opinion when final. In late November 2016, NMFS completed and provided BOR with a draft biological opinion for the operation and maintenance of BOR's Cachuma Project. NMFS' 2016 draft biological opinion differs in substantial ways, including in its analyses and conclusions, from the 2000 biological opinion, as well as from the SWRCB's September 7, 2016 draft order. The analyses and conclusions of NMFS' 2016 draft biological opinion rely on the best scientific and commercial data available, including the most current scientific studies of Southern California steelhead, which includes the population that occurs in the Santa Ynez River. NMFS is in the process of reviewing and discussing the draft 2016 biological opinion with BOR. Therefore, NMFS requests that the SWRCB refrain from finalizing and issuing its final order for the Cachuma Project until NMFS has issued the final biological opinion and concludes this formal consultation with the BOR under the Endangered Species Act.

NMFS has provided testimony and submitted a number of exhibits in connection with the SWRCB's Phase II hearings on the Cachuma Project in 2003 and 2012; these are incorporated by reference into this comment letter.

NMFS appreciates the opportunity to provide comments on the SWRCB's draft order for the Cachuma Project on the Santa Ynez River. If you have a question regarding NMFS' comments on this matter, please contact Mark Capelli at (805) 963-6478 or Darren Brumback at (562) 980-4060.

Sincerely,

Anthony P. Spina
Chief, Southern California Branch
California Coastal Office

Attachments

cc: Ed Pert, California Department of Fish and Game
Administrative File: 151422SWR2010PR00316

Attachment A

Comments of NOAA's National Marine Fisheries Service on the SWRCB's Draft Order Amending Permits 11308 and 11310 held by the U.S. Bureau of Reclamation for the Cachuma Project on the Santa Ynez River, Santa Barbara, California.

December 8, 2016

NOAA's National Marine Fisheries Service's (NMFS) comments are presented in sequence according to the major headings of the draft order.

1.0 INTRODUCTION

Page 1.

The reference to the geographic scope of the public trust interests in the Santa Ynez River, including the federally endangered Southern California steelhead (*Oncorhynchus mykiss*) Distinct Population Segment, is ambiguous throughout the draft order. The order uses various formulations to describe the geographic scope. For example on page 1 (paragraph 1) it refers to "public trust resources and downstream water rights on the Santa Ynez River below Bradbury Dam." On page 2 (top of page) the draft order refers to "the requirements necessary to protect senior water right and public trust resources downstream of Bradbury Dam." Both these formulations, and others used throughout the draft order, could be incorrectly interpreted to mean that the geographic scope of the public trust resources in the Santa Ynez River considered and protected by the SWRCB in this order is limited to the Santa Ynez River below Bradbury Dam.

However, in response to a written request by NMFS for a clarification of this issue at the onset of the SWRCB's Phase II Cachuma Project hearing in 2003, NMFS, and the other parties on the Service List for the Cachuma Project hearing, received a written notification from the SWRCB (dated May 29, 2003) clarifying that the public trust resources covered by the Cachuma hearing included public trust resources upstream as well as downstream of Bradbury Dam. The SWRCB's letter of May 29, 2003, advised the parties that "Consistent with the hearing notice, I intend to allow parties to present evidence concerning whether Reclamation's permits should be modified to address impacts of Cachuma Project operations to public trust resources above Bradbury Dam, including evidence concerning requirements that would apply above the dam." (See attached Attachment B). NMFS confirmed this understanding in a letter to the SWRCB dated October 7, 2003. (See Attachment B.)

At the SWRCB's Phase II Cachuma Project hearing in 2003 NMFS provided testimony regarding the public trust resources (including Southern California steelhead and its upstream progeny) in the Santa Ynez River above Bradbury Dam (NOAA-1, pp. 2-3; NOAA-2, pp. 4-6; NOAA-3, pp. 3-4; NOAA-4, pp. 3; NOAA-5, pp. 1-5; and NOAA-6, pp. 3-4; NOAA-7A; NOAA-7B; NOAA-7C), and a summary of these issues in NMFS' closing brief to the SWRCB

(dated February 16, 2004). As part of the SWRCB's Phase II Cachuma hearing in 2012, NMFS also provided additional comments in a letter dated May 27, 2011 on public trust resources issues in the Santa Ynez River above Bradbury Dam pertaining to the federally listed endangered southern California steelhead. (See Attachment C).

The issue of properly characterizing the geographic scope of the public trust issues in the Santa Ynez River, particularly with respect to steelhead, is critical, because the ability to sustain a viable population of steelhead in the Santa Ynez River, upon which any public trust interest is predicated, requires adult and juvenile steelhead to successfully pass around Bradbury Dam. The various formulations of the geographic scope of the public trust interest in the SWRCB's final order should be corrected to accurately reflect that the public trust interests, including endangered Southern California steelhead, includes public trust resources above Bradbury Dam, consistent with the SWRCB's notice to parties of May 29, 2003. NMFS suggests the following clarification: "downstream water rights on the Santa Ynez River below Bradbury Dam, and public trust resources upstream and downstream Bradbury Dam, including, but not limited to, fishery resources."

Page 2.

Paragraph 3: The references to NMFS' 2000 biological opinion, here and throughout the draft order, should be referred to as the "NMFS' 2000 biological opinion" as distinct from the revised NMFS 2016 draft biological opinion that is presently under consideration. NMFS' 2016 draft biological opinion differs in substantial ways, including in its analyses and conclusions, from NMFS' 2000 biological opinion.

Paragraph 3: In addition to the conclusion that higher flows and increased passage in the lower Santa Ynez River are likely to benefit steelhead, NMFS provided testimony indicating that restoring passage around Bradbury Dam, where the majority of the historic spawning and rearing habitats occurred, and still persists, is also necessary to restore viable steelhead runs in the Santa Ynez River and therefore protect the public trust interest in the steelhead resources of the Santa Ynez River.

Page 3.

Paragraph 2. Change the reference to NMFS' 2000 biological opinion; see previous comment above regarding the 2000 biological opinion.

2.0 FACTUAL AND PROCEDURAL BACKGROUND

2.1 The Cachuma Project

2.1.1 Project Setting

Page 5.

Paragraph 1. It should be noted that among the other land use categories listed, a large amount of land downstream of the Cachuma Reservoir is undeveloped, natural open space.

Footnote 1. In addition to the City of Santa Barbara, the south coast includes the incorporated cities of Goleta and Carpinteria.

2.4 2002 Settlement Agreement

Page 16

Paragraph 1. Change references to NMFS' 2000 biological opinion; see NMFS' comment above on page 4 of these comments regarding the 2000 biological opinion.

2.5 Evidentiary Hearings

Page 16

Paragraph 1. The SWRCB's 2000 Notice of Public Hearing for the Cachuma Project indicated that the hearing was "to consider what conditions should be included in the Cachuma Project Permits to protect public trust resources as well as downstream water rights." (See SWRCB's Notice of Public Hearing, dated September 25, 2000.) This purpose should be clarified in the description of the procedural background. In addition, see NMFS' comments above on page 4 of these comments regarding the geographic scope of the public trust resources of the Santa Ynez River to be considered in the Cachuma Project hearing.

Page 17.

Paragraph 1. The formulation of the scope of the Phase 2 hearing is inaccurately described as "whether modifications in permit terms and conditions for Reclamation's Permits are necessary to protect public trust resources and water right holders on the Santa Ynez River below Bradbury Dam". As noted above in these comments on page 4, the geographic scope of the public trust resources includes those resources upstream as well as downstream of Bradbury Dam. In order to avoid future ambiguity regarding this issue, NMFS recommends the following revision to the order, consistent with the SWRCB's clarifying letter of May 29, 2000: "downstream water rights on the Santa Ynez River below Bradbury Dam, and public trust resources upstream and downstream of Bradbury Dam, including, but not limited to, fishery resources."

2.5.2 Cachuma Hearing Phase 2

Key Issue 3: Should Permits 11308 and 11310 be modified to protect public trust resources?

Page 18.

Paragraph a. The characterization of the geographic scope of the public trust issue is not consistent with the clarifying language in the SWRCB's letter of May 29, 2003, or the terms of the SWRCB's draft order amending Permits 11308 and 11310, which specifically involve public trust resources upstream of Bradbury Dam (e.g., native California oaks, *Quercus* spp., and passage of native steelhead). To avoid inconsistency regarding this issue NMFS recommends modifying this characterization by changing the text with the following revision, which is consistent with the SWRCB's clarifying letter of May 29, 2003: "downstream water rights on the Santa Ynez River downstream of Bradbury Dam, and public trust resources upstream and downstream of Bradbury Dam, including, but not limited to, fishery resources."

Also, the reference to NMFS' biological opinion for the Cachuma Project should be clarified by referring explicitly to NMFS' 2000 biological opinion as distinct from NMFS' 2016 draft biological opinion for the Operation and Maintenance of the Cachuma Project. As noted at the bottom of page 5 of these comments, there are substantial differences between these two biological opinions.

Footnote 14. This footnote should be modified to refer explicitly to the SWRCB's May 29, 2003 notice to the parties on the Cachuma Hearing Service List regarding the clarification of the geographic scope of the public trust resources to be considered as part of the Cachuma Project hearing on Applications 11331 and 11332 (Permits 11308 and 11310).

3.0 LEGAL BACKGROUND

3.2 Fish and Game Code Section 5937

Page 22.

The SWRCB's draft order cites California Fish and Game Code Section 5937, which involves the provision of flows below dams, but the draft order should as well include a citation to Fish and Game Code Section 5933, which involves the provision of fish passage around dams. These two sections of the California Fish and Game Code involve interrelated activities that are collectively essential for meeting the migratory behavior and ecology of migratory fish species such as the highly migratory southern California steelhead. Both sections are "a legislative expression of the reasonable use and public trust doctrines which the SWRCB considers when exercising its authority under those doctrines."

3.3 Salmon, Steelhead Trout and Anadromous Fisheries Program Act

Page 23.

Paragraph 1. In addition to establishing fishery protection flows for the Santa Ynez River, providing passage around fish passage impediments such as Bradbury Dam is an integral

component of the Anadromous Fisheries Program "policy regarding the importance of protecting and increasing the natural production of steelhead trout." Fish passage should therefore be specifically included in this discussion.

3.5 Federal Endangered Species Act

3.5.1 Sections 4 and 9 of the ESA

Page 25.

Paragraph 3. As a matter of clarification, the U.S. Endangered Species Act (ESA) defines "take" to mean "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 USC §1532(19). The term "harm" has been defined by NMFS to mean "...an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding, or sheltering." 50 CFR 222.102. Because steelhead are a highly migratory fish that migrates between feeding, sheltering and breeding areas, impediments to their migration disrupt and in some cases can prevent the successful completion of their life cycle, leading to the reduction and possible extirpation of individual populations, and potentially of the entire species.

3.5.3 Listing of the Southern California Steelhead Evolutionary Significant Unit

Page 27.

Paragraph 1. The original listing of Southern California steelhead in 1997 was modified in 2002 with the extension of the geographic range of the listed species south from the Santa Monica Mountains to the U.S.-Mexico border (67 FR 21586; May 1, 2002). The listing of the Southern California steelhead Distinct Population Segment as an endangered species was reconfirmed (using the Distinct Population Segment [DPS] policy) in 2006 (71 FR 834; January 5, 2006). Critical habitat was designated for Southern California steelhead DPS in 2005 (70 FR 52488; September 2, 2005).

The ESA provides for the development and implementation of recovery plans for the conservation and survival of the listed species. Recovery plans must, to the maximum extent practicable, incorporate (1) site-specific management actions necessary to achieve the goals of the recovery plans for the conservation and survival of the species; (2) objective, measurable criteria for the recovery of the species that would allow a determination that the species was recovered and therefore eligible for removal from the list of endangered or threatened species; and, (3) estimates of the time and cost required to carry out measures needed to achieve the plans goals, as well as intermediate steps toward that goal. To meet this requirement, NMFS convened a Technical Recovery Team in 2001 that has produced a series of scientifically peer reviewed

Technical Memoranda that formed the basis of the Southern California Steelhead Recovery Plan adopted in 2012. This Recovery Plan identifies watershed specific threats and recovery actions, including those for the Santa Ynez River watershed, as well as population and DPS-wide viability criteria.

While the SWRCB's draft order addresses some of the threats to the steelhead of the Santa Ynez River that are identified in the Southern California Steelhead Recovery Plan, the draft order does not fully address the provisions of this Recovery Plan, or aspects of NMFS' draft 2016 biological opinion for the Operation and Maintenance of the Cachuma Project. The draft order is therefore not expected to provide the level of protection necessary to ensure a viable steelhead population in the Santa Ynez River, and therefore protect the public trust interest in the steelhead resources of the Santa Ynez River.

3.5.4 Section Consultation for the Cachuma Project – Biological Assessment

Page 27.

Paragraph 2. The SWRCB's draft order refers to the Bureau of Reclamation's (BOR) "Biological Assessment for Cachuma Project Operations and the Lower Santa Ynez River, April 1999". All references to this Biological Assessment should be to the BOR 1999 Biological Assessment to distinguish it from the BOR's revised 2013 Biological Assessment which was prepared and submitted to NMFS in 2013, with amendments in 2015. Furthermore, the draft order should clarify that the BOR 1999 Biological Assessment has been superseded by the BOR 2013 Biological Assessment, with amendments, and differs substantially from the BOR 1999 Biological Assessment upon which the SWRCB's draft order relies.

Surcharging

~~Page 27.~~

Paragraph 1. The SWRCB's draft order refers to the "Revised Biological Assessment" which was issued in 2000. To distinguish the Biological Assessments, i.e., between previous and subsequent Biological Assessments issued by the BOR, the draft order should be revised to clarify reference to the 2000 Revised Biological Assessment.

Rearing flow releases

Page 28.

Paragraph 1. See comment above regarding BOR 1999 Biological Assessment.

Paragraph 2. See comment above regarding Revised Biological Assessment.

Page 29.

Paragraph 1. See comment above regarding NMFS' 2000 biological opinion.

Fish passage supplementation

Page 29

Paragraph 1. See comment above regarding the BOR 1999 Biological Assessment.

Adaptive management account (AMA)

Page 30.

Paragraph 2. See comment above regarding the BOR 1999 Biological Assessment.

Ramping Rates

Page 30.

Paragraph 3. See comment above regarding the BOR 1999 Biological Assessment.

Habitat improvement projects

Page 30.

Paragraph 4. See comment above regarding the BOR1999 Biological Assessment.

Page 31.

Paragraph 1. See comment above regarding the BOR 1999 Biological Assessment.

3.5.5 Biological Opinion for the Cachuma Project

Page 31.

Paragraph 2. As noted previously in these comments, the references to NMFS' 2000 biological opinion and BOR's 1999 Biological Assessment should be referred to as "NMFS' 2000 Biological Opinion" and the "BOR 1999 Biological Assessment," to distinguish these documents from subsequent documents. See comment below regarding reinitiation of ESA Section 7 consultation for the Cachuma Project.

3.5.6 Reinitiation of ESA Section 7 Consultation for the Cachuma Project

Page 32.

Paragraph 2. The SWRCB's draft order refers to NMFS' 2000 biological opinion containing a requirement that the BOR reinitiate consultation if the tributary passage impediment and barrier

fixes that BOR had proposed to implement were not completed by 2005. Because BOR did not implement the barrier remediation projects according to schedule, and the amount of take of steelhead specified for the annual monitoring program has been exceeded in most years, NMFS agreed with BOR to reinitiate formal consultation under Section 7 of the ESA for the Cachuma Project Operations and Maintenance. The outcome of this reinitiated formal consultation is a biological opinion that will supersede NMFS' 2000 biological opinion when final. NMFS is in the process of reviewing and discussing the draft 2016 biological opinion with BOR. Therefore, NMFS requests that the SWRCB refrain from finalizing and issuing its final order for the Cachuma Project until NMFS has issued the final biological opinion and concludes this formal consultation with the BOR under the Endangered Species Act.

4.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

4.1 Environmental Impact Report Prepared for the Proposed Project

Page 34.

Paragraph 1. The formulation of the scope of the EIR in connection with the SWRCB's consideration of modification of the BOR Permits for the Cachuma Project is ambiguously described as "to protect downstream water rights and public trust". Consistent with NMFS' comments earlier in this letter, the geographic scope of the public trust resources includes those resources upstream as well as downstream of Bradbury Dam; to avoid ambiguity regarding this issue NMFS recommends the following revision, consistent with the SWRCB's clarifying letter of May 29, 2000: "downstream water rights on the Santa Ynez River downstream of Bradbury Dam, and public trust resources upstream and downstream of Bradbury Dam, including, but not limited to, fishery resources."

Paragraph 3. See comment earlier in this letter regarding reference to the BOR 1999 Biological Assessment.

5.0 PROTECTION OF PUBLIC TRUST RERSOURCES

Page 37.

Paragraph 1. The SWRCB's draft order indicates that "the primary objectives of the proceedings is to ensure the protection of public trust resources to the extent feasible and in the public interest, including but not limited to species listed under CESA or the federal ESA and wetlands downstream of Bradbury Dam." However, this language is ambiguous and does not clearly establish that the geographic scope of the public trust resources includes resources upstream as well as downstream of Bradbury Dam; to avoid ambiguity regarding this issue NMFS recommends the following formulation, consistent with the SWRCB's clarifying letter of May 29, 2000: "downstream water rights on the Santa Ynez River downstream of Bradbury Dam, and public trust resources upstream and downstream of Bradbury Dam, including, but not limited to, fishery resources."

5.3 EVALUATION OF FISHERY RESOURCES

5.3.1.3.1 Steelhead Lifecycle and Habitat

Page 41.

Paragraph 1. The distinction between resident rainbow trout and anadromous steelhead as presented in this summary of lifecycle is misleading. It has been long recognized that progeny of freshwater maturing individual *O. mykiss* may emigrate to the ocean and return as anadromous adults, and progeny of anadromous steelhead may or may not emigrate to the ocean and remain and mature in freshwater. Genetic studies, including those in the Santa Ynez watershed, have confirmed the common ancestry of both forms (see references in NMFS' 2012 Southern California Steelhead Recovery Plan).

Page 42.

Paragraphs 2-3. Higher temperature tolerances of rearing juvenile *O. mykiss* have been well documented in studies conducted in southern California watersheds supporting native steelhead (see references in NMFS' 2012 Southern California Steelhead Recovery Plan).

Page 44.

Paragraph 2-3. Juvenile *O. mykiss* rearing in warm, well oxygenated waters with abundant food sources have been documented to reach smolting conditions within a single year (see references in NMFS' 2012 Southern California Steelhead Recovery Plan, and Boughton et al., 2015[1] and references therein).

5.3.1.3.2 Steelhead Condition Prior to Bradbury Dam

Page 45

Paragraph 1. The SWRCB's draft order indicates that: "The availability of, and access to, year – round rearing habit with appropriate water temperatures was probably the major limiting factor associated with historical steelhead stocks in the Santa Ynez River and is the main limiting factor today." This characterization is confusing and misleading. It should be reworded as follows. "The availability of, and access to, year-round rearing habitat with appropriate water temperatures and dissolved oxygen levels, as well as abundant food sources, in a wide network of upstream tributaries and the main-stem river was probably one reason for the reported large steelhead runs. The substantial reduction in the amount of such accessible habitat in the Santa Ynez River system is a factor that continues to greatly limit abundance of steelhead today."

[1] Boughton, D. A., L. R. Harrison, A.S. Pike, J. L. Arriaza, and M. Mangel. 2015. Thermal potential for steelhead life-history expression in a southern California alluvial river. Transactions of the American Fisheries Society 144: 258-273.

5.3.1.3.3 Impacts from Construction, Operation, and Maintenance of Bradbury Dam

Pages 46-48.

Paragraphs 1-5. The impacts of the construction, operation, and maintenance of Bradbury Dam have been multifold and include (1) modifying the natural pattern and magnitude of river discharge, (2) reducing inflow and frequency of smaller floods throughout downstream habitats and strongly influencing the timing, frequency, and duration the estuary is open to the ocean, (3) blocking passage of steelhead to spawning and rearing habitats that are upstream of Bradbury Dam, and (4) effecting geomorphic changes on downstream habitats, including disrupting the natural reworking of the river channel and floodplain, and reducing the number and volume of pools. These impacts translate into a number of harmful consequences for endangered Southern California steelhead, including suppressing population abundance, population growth rate, population spatial structure, and population diversity. The principal mechanisms for these consequences involve disrupting or precluding steelhead from completing essential aspects of their life-history pathways due to (1) altering the quality and availability of the freshwater migration corridor that is necessary for adult steelhead migrating upstream from the ocean to freshwater spawning and rearing sites and smolts migrating downstream to the estuary and ocean downstream of Bradbury Dam, (2) altering the quality and availability of freshwater spawning and rearing sites in the river downstream of Bradbury dam, and (3) continuing to prevent adult steelhead from migrating to more abundant, higher quality spawning and rearing habitats upstream of Bradbury Dam and their progeny (e.g., smolts) from migrating downstream past the dam to the estuary and ocean. See NOAA-7A; NOAA-7B; NOAA-7C for a depiction of the loss of steelhead habitat caused by the construction, operation, and maintenance of Bradbury Dam.

5.3.1.3.4 Determining Sufficient Steelhead Condition Post Construction of Bradbury Dam

Page 48.

Paragraph 1. First and foremost, in terms of criteria the SWRCB may use to determine the status of steelhead, please be aware the federal listing status under the ESA for this species is "endangered."

Secondly, while the proposed definition of fish in good condition contains many pertinent elements of the physical and biological conditions associated with a viable population of fish, it does not address criteria that are pertinent to the viability criteria for either an individual population of steelhead or, more broadly, the Southern California DPS of steelhead. These population and DPS viability criteria are set forth in NMFS Southern California Steelhead Recovery Plan, which identify metrics such as mean annual run-size for individual populations, ocean conditions, spawner density, and anadromous fraction, and DPS level criteria such a biogeographic diversity, life history diversity, and spatial distribution of individual populations.

Thirdly, this information in the draft order ignores the necessary consideration of the egg-to-smolt survival of steelhead in the Santa Ynez River. Understanding the egg-to-smolt survival of steelhead is crucial because the anadromous life history of this species is dependent on habitats within a watershed that produce large smolts in sufficient abundance. A watershed that produces a lesser number of predominately small smolts is not expected to result in many returns of adult steelhead. By contrast, a watershed that generously produces sizeable smolts is expected to experience large numbers of adult returns. This is because the larger smolts survive better in the ocean, as evidenced by their overrepresentation in adult returns to freshwater for spawning. The Santa Ynez River typically produces very low numbers of predominately small smolts, and few adults are known to return to the river. Therefore, relying on the draft order's approach has the potential to generate erroneous conclusions regarding the 'condition' of the steelhead population.

Individual Level

Page 49.

Paragraph 1. The elements outlined in this section deal with water conditions important to sustaining an existing standing crop of fish residing in a river or stream (e.g., focuses only on the fish that are present at a point of time, and says nothing about the number and sizes of fish lost to disease, parasites, or predators prior to any inspection), but do not specifically address the flows necessary to induce or facilitate migration of fish, either from or to the ocean, or throughout the dry season as fish need to access different habitats and areas to sustain life history pathways. This aspect of a flow regime is a particularly important for highly migratory fish species such as the anadromous steelhead that occur in the Santa Ynez River.

A factor that the SWCRB should consider when attempting to inform a determination regarding 'status,' involves whether the Project is promoting hydrologic connectivity in the main-stem river and at tributary confluences downstream of Bradbury Dam. In this regard, the SWRCB should be aware that the variety of life-history pathways that juvenile steelhead express in nature (e.g., the different ways in which juveniles rear, grow, and survive in a watershed) must be supported for large numbers of individuals to reach the smolt stage and for the population as a whole to perpetuate its natural biological diversity. Central to these pathways is the ability of juvenile steelhead to undertake *volitional movement* such as for departing upstream reaches, including tributaries, for downstream reaches or the estuary, and leaving the estuary or downstream reaches for upstream reaches, including tributaries. Hydrologic connectivity and the related linkages between and among habitats must be present to promote these volitional movements. Expression of these life-history pathways is exceedingly important because they confer a survival advantage, not only to this specific life stage, but to smolt and adult stages.

Population Level

Pages 49.

Paragraph 1. As with the discussion under "Individual Level" above, this discussion does not specifically recognize the importance of migration flows to promote a viable population size of anadromous steelhead (i.e., a mean annual run size of adult steelhead). In addition to sustaining a population of rearing juvenile steelhead progeny, adequate flows are necessary to induce or facilitate migration, either from or to the ocean. Adequate migration opportunities, as well as adequate rearing habitat size and quality, are essential to maintain a viable population of steelhead, and therefore protect the public trust interest in this species in the Santa Ynez River.

Furthermore, this information in the draft order ignores the necessary consideration of the egg-to-smolt survival of steelhead in the Santa Ynez River. See our comments on this topic at the top of page 13; multiple age classes says nothing about the number and sizes of smolts that enter the ocean and the resulting survival and return of adult steelhead to sustain the anadromous life-history form.

Page 50.

Paragraph 1. The SWRCB's draft order indicates that the numbers of steelhead reported in the lower Santa Ynez River in 2006 (13,500) did not distinguish between rainbow trout and steelhead. More significantly, this data did not distinguish between juvenile rearing steelhead and mature returning adult spawning steelhead, which is the metric used in the viability criteria of NMFS' Southern California Steelhead Recovery Plan.

Page 52.

Paragraph 1. The SWRCB's draft order indicates that a viable steelhead population run size in NMFS Draft Steelhead Recovery Plan for southern California steelhead "is estimated at 4,140 spawning adults per year for the Southern California DPS." The SWRCB's draft order also indicates that "Dr. Hanson asserted that the recovery goals of 4,150 adult steelhead should not apply to individual river systems, but instead to the entire DPS. "

Neither of these statement accurately characterizes the mean annual run size identified in either the NMFS' Draft or Final Southern California Steelhead Recovery Plan. Both the Draft and the Final Steelhead Recovery Plan identify a mean annual run-size of 4,150 adult steelhead for each core population (i.e., watershed, not the DPS as a whole) in its prescriptive population viability criteria. The method of deriving this number for an individual core population is described in detail in NMFS' Technical Memorandum, Viability Criteria for Steelhead of the South-Central and Southern California Coast (NOAA-TM-NMFS-SWFSC-407).

Additional/Improved Habitat

Pages 54-55.

Paragraphs 1-3. The SWRCB's draft order indicates that to support a viable population of steelhead in the Santa Ynez River "adequate habitat quality and quantity must be available." It further indicates that "Without access to habitat above Bradbury Dam, at a minimum more habitat will need to be provided below Bradbury Dam to improve the steelhead population condition." This characterization does not adequately recognize the importance and diversity of habitats types that exist upstream of Bradbury Dam, particularly in the tributaries, and incorrectly assumes that the lower main-stem river may act as substitute spawning and rearing habitats. However, as noted above, the spawning, rearing, over-summering, and drought refugia habitats upstream of Bradbury Dam significantly increase the diversity of habitat types and conditions (and hence the diversity of selective pressures that sustains the biological diversity of the species). NMFS' Southern California Steelhead Recovery Plan provides an extensive description about why restoring passage of steelhead to historical habitats, such as habitats upstream of Bradbury Dam, is essential to recover the species (beginning on page 7-11 of the recovery plan). The reasoning involves four principal lines of evidence: (1) native steelhead existed in the areas that are currently inaccessible, (2) restoring passage to historical habitats would reduce extinction risk, (3) the habitats within currently inaccessible areas are capable of supporting essential life history functions, and (4) restoring steelhead passage to historical habitats is expected to be feasible and successful.

5.3.2 Measures to Protect Steelhead Below Bradbury Dam

Page 55.

Paragraph 1. There should be a separate section describing and evaluating the measures to protect public trust resources (including the native *O. mykiss*) upstream of Bradbury Dam. As noted in NMFS' comment letter to the SWRCB on the 2nd Revised Draft EIR for the Cachuma Project (May 27, 2011), and previous comments letters of December 7, 2007, September 21, 2010, and October 26, 2010, the information, analysis, threats assessment, recovery actions, and viability criteria identified in NMFS' Southern California Steelhead Recovery Plan would meaningfully inform the SWRCB's order in modifying the BOR Permits 11308 and 11310 to protect the public trust resources of the Santa Ynez River.

5.3.2.1 Alternative 3C

5.3.2.1.1 Description of Alternative 3C

Pages 55-56.

Paragraphs 1-2. Change references throughout this section to NMFS' 2000 biological opinion. See the comment above regarding references to NMFS' 2000 biological opinion. In addition, see

the comment above regarding reinitiation of formal consultation with BOR. The outcome of this reinitiated formal consultation is a biological opinion that will supersede NMFS' 2000 biological opinion when final. NMFS is in the process of reviewing and discussing the draft 2016 biological opinion with BOR.

5.3.2.1.2 Rearing Passage Flows

Pages 56-57.

Paragraphs 1-3. See comment above regarding references to NMFS' 2000 biological opinion.

5.3.2.1.3 Habitat Improvement Projects

Page 57.

Paragraph 1. Protecting, restoring, and providing access to tributary habitat will also serve to ensure the important diversity of habitat types throughout the Santa Ynez Watershed, particularly upstream of Bradbury Dam. The location and amount of this habitat is depicted in the maps of historic and potential steelhead habitat prepared by NMFS (NOAA-7A; NOAA-7B; NOAA-7C).

Paragraph 2. As NMFS has noted in previous testimony, improving access to tributaries downstream of Bradbury Dam cannot act as an ecologically meaningful substitute for the loss of access to tributaries upstream of Bradbury Dam, not only because of the relative size and quality of the upstream habitat, but also because of the diversity of habitat that is found tributaries upstream of Bradbury Dam (NOAA-1, pp. 2-3; NOAA-2, pp. 4-6; NOAA-3, pp. 3-4; NOAA-4, pp. 3; NOAA-5, pp. 1-5; and NOAA-6, pp. 3-4; NOAA-7A; NOAA-7B; NOAA-7C); see comments above and a summary of these issues in NMFS closing brief to the SWRCB (dated February 16, 2004). In addition, the habitats that exists upstream of Bradbury Dam are expected to buffer this species from the effects of climate change (see NMFS' 2012 Southern California Steelhead Recovery Plan for an extensive discussion regarding the need to restore volitional passage of steelhead to historical spawning and rearing habitats).

Page 58.

Paragraphs 2-3. Please revise references throughout this section to NMFS' 2000 biological opinion in part to distinguish the 2000 biological opinion from NMFS' 2016 draft biological opinion for the Cachuma Project.

As a matter of perspective regarding the nearly 14 additional miles of tributary habitat made accessible (in addition to the habitat in the main stem) downstream of Bradbury Dam, there are potentially 43 miles of steelhead habitat in the main-stem river and additional 248 miles of habitat in the tributaries upstream of Bradbury Dam (NOAA-7A; NOAA-7B; NOAA-7C).

5.3.2.1.4 Evaluation of Alternative 3C

Pages 59-62.

Paragraphs 1-6. Please revise references throughout this section to NMFS' 2000 biological opinion in part to distinguish the 2000 biological opinion from NMFS' 2016 draft biological opinion for the Cachuma Project.

5.3.2.2 Alternative 5C

5.3.2.2.1 Description of Alternative 5C

Pages 62-63.

Paragraphs 1-4. The IFIM methodology referred to in the SCWCB's draft order addresses many pertinent elements of the physical and biological conditions associated with a viable population of fish; however, it is not specifically intended to address those aspects of river flow which are pertinent to anadromous fish. IFIM deals primarily with water conditions important to sustaining an existing standing crop of fish residing in a river or stream, but does not specifically address the flows necessary to induce or facilitate migration of fish, either from or to the ocean. As noted above, this aspect of a flow regime is particularly important for highly migratory fish species such as the anadromous steelhead that occur in the Santa Ynez River. Overall, the manner of IFIM application does not promote the elements of the natural flow regime under which species life history and habitat requirements have evolved, and that are responsible for creating and maintaining habitats that are essential for properly functioning habitat condition and sustainment of life-history diversity and performance in anadromous salmonids, including endangered steelhead.

5.3.2.2.2 Evaluation of Alternative 5C

Pages 63-65

Paragraphs 1-5. While Alternative 5C has the potential to provide more favorable conditions to rearing juvenile steelhead in the lower Santa Ynez River below Bradbury Dam than Alternative 3C, it does not effectively address the range of impacts of the operation and maintenance of Bradbury Dam on the steelhead of the Santa Ynez River. Flows prescribed for juvenile steelhead must be predicated on a key life-history feature of this life stage if the flows are desired to be protective of this life stage: **the necessity of volitional movement to sustain life-history pathways throughout the year.** The following explains this topic more fully.

A prerequisite for understanding the necessity of volitional movement to sustain life history pathways in this life stage involves the basic model for the behavior and ecology of juvenile steelhead. Upon emerging from the gravel and beginning existence in the water-column, juvenile steelhead must find suitable habitat to sustain growth and survival. Yet, habitat

requirements of juvenile steelhead change as they grow, and environmental features and conditions can influence the quality and availability of habitat for juvenile steelhead. These factors can compel juvenile steelhead to undertake movements to suitable habitat that ultimately lead to production of large smolts and a likelihood of better ocean survival. This underscores the value of hydrological connectivity within a watershed for growth and survival of juvenile steelhead; a watershed showing hydrologic connectivity would favor successful expression of various life history pathways (e.g., emergence of young in upstream tributaries and movement downstream in spring and early summer to the main stem river or estuary, and upstream return in fall). By contrast, a watershed with limited hydrologic connectivity restricts fish movement and may only marginally support, if at all, these pathways, limiting life-cycle pathways and increasing risk of cohort failure. Limited hydrologic connectivity decreases the potential that the physicochemical capacity of the watershed would be able to sustain juvenile growth and survival, and produce large smolts which are key to population success.

Water releases from Bradbury Dam must as well maintain estuary-ocean connectivity to allow juvenile steelhead to volitionally transition from freshwater to saltwater during the wet season emigration period. Because Bradbury Dam captures the bulk of winter and spring flood flows, the frequency and duration of the estuary-ocean connectivity has been artificially decreased by the Cachuma Project operations.

Temperature

Pages 65-67.

Paragraphs 1-5. Much of the temperature discussion, including temperature tolerances for rearing southern California steelhead, and behavioral response to changes in the temperature regime, does not reflect current scientific understanding of these issues. In addition, an investigation of water temperature with implications for steelhead life history was recently undertaken in the Santa Ynez River Watershed, the findings of which were published in the peer-reviewed literature (Boughton, D. A., L. R. Harrison, A.S. Pike, J. L. Arriaza, and M. Mangel. 2015. Thermal potential for steelhead life-history expression in a southern California alluvial river. Transactions of the American Fisheries Society 144: 258-273.)

Dissolved Oxygen

Page 67.

Paragraph 1. The SWRCB's draft order refers to the BOR "Biological Assessment for Cachuma Project Operations and the Lower Santa Ynez River, April 1999". All references to this Biological Assessment should be to the "1999 Biological Assessment" to distinguish it from the BOR's revised 2013 Biological Assessment which was prepared and submitted to NMFS in 2013, with amendments in 2015.

Substrate

Pages 67-68.

Paragraph 1. As noted above, the SWRCB's draft order refers to the BOR's "Biological Assessment for Cachuma Project Operations and the Lower Santa Ynez River, April 1999". All references to this BOR Biological Assessment should be to the "1999 BOR Biological Assessment" to distinguish it from the BOR's revised 2013 Biological Assessment which was prepared and submitted to NMFS in 2013, with amendments in 2015.

Estimated Increases in Habitat Based on SYRTAC Study

Pages 68-72.

Paragraphs 1-6. See the comments above regarding the additional of amount of steelhead spawning and rearing habitat in either Alternative 3C or 5C in comparison to the additional miles of tributary habitat in the tributaries upstream of Bradbury Dam (NOAA-7A; NOAA-7B; NOAA-7C).

5.3.2.3. Water Supply Impacts of Alternatives 3C and 5C

Pages 73-77.

Paragraphs 1-10. The SWRCB's draft order contains an extension discussion of existing sources of water supply to service the Member Units. The SWRCB's draft order analyses the impacts of Alternatives 3C and 5C on the existing water supplies, including the environmental impacts associated with building and operating a hypothetical desalination facility to service the South coast of Santa Barbara County.

Since the SWRCB certified the 2nd Revised EIR for the Cachuma Project in 2012, the City of Santa Barbara has permitted and constructed a desalination plant with an annual water production capacity of 3,125 acre feet of potable water per year (supplying approximately 30% of the City's current demand). The SWRCB's final order should reflect this change in the water supply and impacts analysis of Alternatives 3C and 5C, as well as any other alternatives that may be identified in the SWRCB's final order for Permits 11308 and 11310 for the Cachuma Project.

5.3.2.4 Conclusion Regarding the Measures Necessary to Protect Steelhead

Page 77-81.

Paragraphs 1-10. As noted previously, while Alternative 5C, and the additional studies identified in the SWRB's draft order, has the potential to provide more favorable conditions to rearing juvenile steelhead in the lower Santa Ynez River below Bradbury Dam than Alternative 3C, it does not effectively address the full range of impacts of the operation and maintenance of Bradbury Dam on the steelhead of the Santa Ynez River in a timely manner.

NMFS' 2016 draft biological opinion incorporates a more detailed analysis based on the best available science, including NMFS' Southern California Steelhead Recovery Plan, which can aid the SWRCB's determination how best to protect and restore the public trust interests in the steelhead resources of the Santa Ynez River, both upstream and downstream of Bradbury Dam.

While taking a collaborative approach to adaptive management, the SWRCB's draft order appears to inappropriately defer the development and implementation of changes to Table 2. Specifically the proposal that any changes must not generate impacts to water supplies not identified in the 2nd Revised Final EIR for the Cachuma Project (p. 79, paragraph 3) does not take into account the new water supplies that have been developed since the 2nd Revised Final EIR for the Cachuma Project was certified in 2012, or that may be developed in the intervening years. Also, the extension discussion (p 80, paragraph 2; page 81, paragraph 1) regarding temperatures in the lower Santa Ynez River below Bradbury, and the reduction or cessation of flows, does not reflect the most recent temperature studies on the lower Santa Ynez River.

5.3.2.5 Additional Studies and Study Plan

Page 81.

Paragraph 1. See the comments above regarding references to NMFS' 2000 biological opinion. Also, the see the comments above regarding the geographic scope of the public trust interest in the Santa Ynez River, includes those upstream as well as downstream of Bradbury Dam.

Page 82.

Paragraph 2. The BOR's 1999 Biological Assessment has been superseded by the BOR's 2013 Biological Assessment, with amendments, and differs substantially from the BOR 1999 Biological Assessment upon which the SWRCB's draft order relies.

Paragraph 3. The SWRCB's draft order requires that the BOR determine other measures that "keep the steelhead fishery in good condition, including passage, instream flows determined by an IFIM . . ." The IFIM methodology referred to the SCWCB's draft order addresses many pertinent elements of the physical and biological conditions associated with a viable population of fish; however, it is not specifically intended to address those aspects of river flow which are pertinent to anadromous fish. IFIM deals primarily with water conditions important to sustaining an existing standing crop of fish residing in a river or stream, but does not specifically address the flows necessary to induce or facilitate migration of fish, either from or to the ocean. As noted above, this aspect of a flow regime is particularly important for highly migratory fish species such as the anadromous steelhead that occur in the Santa Ynez River. Overall, the manner of IFIM application does not promote the elements of the natural flow regime under which species life history and habitat requirements have evolved, and that are responsible for creating and maintaining habitats that are essential for properly functioning habitat condition and

sustainment of life-history diversity and performance in anadromous salmonids, including endangered steelhead.

Passage Study

Pages 82-83.

Paragraphs 1-3. The SWRCB's draft order correctly identifies the critical role of providing passage of steelhead (both adults and juveniles) around Bradbury Dam to protect these public trust resources, but does not include effective means of achieving fish passage around Bradbury Dam. Equally, important is the timeliness of providing such passage. The SWRCB's final order should make clear the importance of providing passage as expeditiously as possible. Projected climate change and the more frequent and prolonged droughts that are expected will make access to the spawning and rearing (refugia) habitats upstream of Bradbury Dam critical to the survival of the already substantially reduced steelhead runs in the Santa Ynez River. Providing for the passage downstream of native *O. mykiss* which presently exist in the tributaries upstream of Bradbury Dam, and which are now blocked from emigrating to the ocean, should be investigated, and a plan developed and implemented to facilitate access to the ocean as soon as practicable.

Instream Flow

Pages 83-84

Paragraph 1.The SWRCB's draft order indicates that "the habitat that was lost as result of the construction of Bradbury Dam will need to be replaced to the extent feasible." This strategy of substituting lost upstream spawning and rearing habitat upstream of Bradbury dam with habitat below Bradbury Dam reflects a fundamental misconception about the role of the upstream tributaries habitats. These two habitat areas are not interchangeable owing to differing ecological functional capabilities and values (see NMFS' 2012 Southern California Steelhead Recovery Plan for information about the importance and role of habitats upstream of dams that are currently inaccessible to adult steelhead for the protection and restoration of this public trust resource).

As noted above, this approach to protecting and restoring the public trust interest in the steelhead resources of the Santa Ynez River does not adequately recognize the importance of diversity of habitats types that exist upstream of Bradbury Dam, particularly in the tributaries, and incorrectly assumes that the lower main-stem river may act as a substitute spawning and rearing habitat. However, as noted previously, access to the spawning, rearing, over-summering, and drought refugia habitat upstream of Bradbury dam would significantly increase the diversity of spawning and rearing habitat types and conditions available to steelhead (and hence the diversity of selective pressures that sustains the biological diversity of the species).

The DPS level viability criteria contained in NMFS' Southern California Steelhead Recovery Plan reflect the importance of this diversity by identifying recovery metrics such biogeographic diversity, life history diversity, and spatial distribution of individual populations. As conservation efforts over the past 20 years have demonstrated, focusing conservation measures on the lower Santa Ynez River (and tributaries) downstream of Bradbury Dam is not an effective strategy for increasing the annual run of steelhead and thus protecting the public trust interests in the steelhead of the Santa Ynez River.

See comments above regarding the application of the IFIM methodology.

Page 85.

Paragraph 1. The SWRCB's draft order requires the BOR to develop studies that would "specify the metric or metrics that will be used to define what would constitute good condition of the steelhead fishery in the Santa Ynez River at the population and community level." This requirement in effect requires the BOR to develop viability criteria for a federally listed endangered species. However, it is the responsibility of the listing agency, in this case NMFS, to develop such criteria in the context of the listed DPS. These viability criteria have in fact been developed for the Southern California Steelhead DPS by NMFS' Southwest Fisheries Science Center and incorporated into NMFS' Southern California Steelhead Recovery Plan. Additionally, it should be recognized that the viability criteria developed for the Southern California Steelhead DPS reflect the needs of the entire listed species, not simply an individual watershed where the species occurs.

Page 86.

Paragraph 1. See the comments above regarding references to NMFS' 2000 biological opinion.

~~8.0 California Environmental Quality Act Findings~~

8.1 Findings Regarding Impacts to Water Supplies.

Pages 100.

Paragraph 1. See comment above regarding the increase to the Member Units water supply since the certification of the 2nd Revised EIR for the Cachuma Project in 2002.

Page 101-102

Paragraphs 3-4. As noted above the hypothetical discussion regarding the impacts of a local desalination plant on water quality should be updated in light of the permitting and construction of the City of Santa Barbara's new desalination facility since the certification of the 2nd Revised EIR for the Cachuma Project in 2012.

8.1.1 Mitigation Measures for the New Sources of Water

Desalination

Pages 103-104

Paragraphs 1-2. See comments above regarding the City of Santa Barbara's recently permitted and constructed desalination facility.

Section 29091(a)(2) Findings

Page 105

Paragraph 1. See comments above regarding the City of Santa Barbara's recently permitted and constructed desalination facility.

8.4 Statement of Overriding Considerations

Page 109.

Paragraph 1. The SWRCB's draft order indicates that "The record also supports the finding that the Alternative 5C will provide the endangered steelhead downstream of Bradbury Dam with additional habitat and should lead to the improvement of the condition for the Species. This action is consistent with the State Water Board's responsibility to protect public trust resources to the extent feasible." See the above comments regarding the effectiveness of Alternative 5C and the need to address, in a timely way the public trust resources, upstream of Bradbury Dam.

9.0 COMPLIANCE WITH ORDER 94-5.

Page 110.

Paragraph 1. The SWRCB's draft order refers to "downstream water rights and public trust resources, including fishery resources." This formulation, as others, is subject to misinterpretation. The issue of properly characterizing the geographic scope of the public trust issues in the Santa Ynez River, particularly with respect to steelhead is critical, because the ability to sustain a viable population of steelhead in the Santa Ynez River, upon which any public trust interest is predicated, requires adult and juvenile steelhead to successfully pass around Bradbury Dam. Consistent with the SWRCB's notice to parties of May 29, 2003, NMFS suggests the following revision to the subject language: "downstream water rights on the Santa Ynez River downstream of Bradbury Dam, and public trust resources upstream and downstream of Bradbury Dam, including, but not limited to, fishery resources."

Paragraph 2. See comment above.

10.0 CONCLUSION

Page 111.

Paragraph 1. The SWRCB's draft order indicates that "Moreover, there is no indication that the condition of the fishery will improve unless additional measure are implemented to increase the amount of suitable habitat available for spawning and rearing. NMFS generally concurs with this conclusion.

Paragraph 2. See the above comments regarding the effectiveness of Alternative 5C and the need to address, in a timely way the public trust resources, upstream of Bradbury Dam.

Page 112.

Paragraph 1. The SWRCB's draft order specifies that the order "allows for NMFS, CDFW, Reclamation, and the Member Units to modify the timing of the flows, provided that doing so does not cause any additional water supply impacts above those identified in the FEIR." As noted above, the proposal that any changes must not generate impacts to water supplies not identified in the 2nd Revised Final EIR for the Cachuma Project does not take into account the new water supplies that have been developed since the 2nd Revised Final EIR for the Cachuma Project was certified in 2012, or that may be developed in the intervening years.

Paragraph 2. Regarding metrics to quantify fish in "good condition", see comments above including comments regarding the development of metrics at the population and community level in the Santa Ynez River. Regarding the provision of effective fish passage around Bradbury Dam, see the comments above regarding the need to provide access for steelhead around Bradbury Dam in a timely way, including juvenile *O. mykiss* attempting to emigrate downstream to the ocean. The expansion of access to upstream habitat above Bradbury Dam should not be viewed as an alternative to implementation of increased flow requirements; these should be viewed as complementary not alternative actions.

11.0 ORDER

Term and Condition. 8.

Page 115-116.

Paragraph 1. The BOR 1999 Biological Assessment has been superseded by the BOR 2013 Biological Assessment, with amendments, and differs substantially from the BOR 1999 Biological Assessment upon which the SWRCB's draft order relies. Similarly, NMFS' 2000 biological opinion has been subject to a reinitiated consultation. The outcome of this reinitiated formal consultation is a biological opinion that will supersede NMFS' 2000 biological opinion when final. NMFS is in the process of reviewing and discussing the draft 2016 biological opinion with BOR.

Term and Condition 8 a. See the comment above regarding reinitiation of consultation on NMFS' 2000 biological opinion.

Page 118.

Term and Condition 9 b. The SWRCB's draft order specifies that flows may be reduced "if the California Department of Fish and Wildlife (CDFW) or the National Marine Fisheries Service (NMFS) determines that the flows are likely to harm the fishery." The order should make clear that a reduction in flow may trigger the ESA section 7 process for NMFS' review of the effects of BOR's Cachuma Project operations. To the extent that any SWRCB order or decision revises BOR's operations in a manner that causes an effect to listed species or critical habitat that was not considered in a biological opinion, BOR would need to request reinitiation of consultation.

Term and Condition 9 d. See comments above on Term and Condition 9 b.

Page 120.

Term and Condition 11.a. The June 1999 BOR Biological Assessment has been superseded by the BOR 2013 Biological Assessment, with amendments, and differs substantially from the 1999 Biological Assessment upon which the SWRCB's order relies.

Page 121.

Term and Condition 11.b. The SWRCB's draft order requires the rightholder (BOR) "to study any other measures that may necessary to keep the steelhead in the Santa Ynez River below Bradbury Dam in good condition at the individual, population and community level." Because these studies and measures should include areas upstream as well as downstream of Bradbury Dam, this language should be modified to delete the phrase "below Bradbury Dam" and add the following phrase at the end of the sentence, "to protect the public trusts interests in the steelhead of the Santa Ynez River."

Page 121-122.

Term and Condition 11 b (1). Add the sentence to the end of this paragraph: "Providing for the passage downstream of native *O. mykiss* which presently exist in the tributaries upstream of Bradbury Dam, and which are now blocked from emigrating to the ocean, should be investigated and a plan developed and implemented to facilitate access to the ocean as soon as practicable."

Page 122.

Term and Condition 11 b (3). See comments above regarding the application of the IFIM methodology.

Page 123.

Term and Condition 11 c. The SWRCB's draft order requires the rightholder (BOR) to "prepare a study plan for the studies described above and any other studies that may be necessary to determine the measures necessary to keep fish in good condition below Bradbury Dam." Because these studies and measures should include areas above as well as below Bradbury Dam, this language should be modified to delete the phrase "below Bradbury Dam" and add the following phrase at the end of the sentence, "to protect the public trusts interests in the steelhead of the Santa Ynez River."

Page 124.

Term and Condition 12. The BOR 1999 Biological Assessment has been superseded by the BOR 2013 Biological Assessment, with amendments, and differs substantially from the 1999 Biological Assessment upon which the SWRCB's draft order relies.

Term and Condition 13. The references to NMFS' 2000 biological opinion should be updated. Similarly, NMFS' 2000 biological opinion has been subject to a reinitiated consultation. The outcome of this reinitiated formal consultation is a biological opinion that will supersede NMFS' 2000 biological opinion when final. NMFS is in the process of reviewing and discussing the draft 2016 biological opinion with BOR.

Attachment B

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

F/SWR:MC

OCT - 7 2003

Mr. Andrew Fecko
Division of Water Rights
State Water Resources Control
Board 1001 "I" Street, Second Floor
Sacramento, California 95812

Dear Mr. Fecko:

The National Marine Fisheries (NOAA Fisheries) would like to provide the following comments on the Draft Environmental Impact Report (EIR) for Consideration of Modifications to the U.S. Bureau of Reclamation's (BOR) Water Right Permits 11308 and 11310 To Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River Below Bradbury Dam.

Introduction

On August 11, 1997, NOAA Fisheries listed the Southern California steelhead Evolutionarily Significant Unit (ESU), which includes steelhead found in the Santa Ynez River system, as an endangered species under the Federal Endangered Species Act (ESA). The Southern California steelhead ESU was listed as an endangered species because of the destruction and loss of habitat throughout its range that has caused the annual run size in the ESU to decline from historic estimates of 55,000 fish to less than 500 fish, a decline of more than 90%.

Steelhead that are part of the endangered Southern California steelhead ESU presently occur in the Santa Ynez River mainstem and tributaries downstream of Bradbury Dam. Prior to construction of the Cachuma Project in 1958, which included Bradbury Dam, the Santa Ynez River system supported one of the largest runs of steelhead in southern California, estimated by the California Department of Fish and Game to be approximately 20,000 adult fish per year. A majority of these fish are believed to have spawned and reared in the up-stream tributaries to the Santa Ynez River, above the current site of the Bradbury Dam, within the Los Padres National Forest. The current run of adult steelhead in the Santa Ynez River system is believed to be less than 100 adult fish per year, and is limited to the mainstem and tributaries of the Santa Ynez River below Bradbury Dam.

In September 2000, NOAA Fisheries issued a Biological Opinion to the BOR which addressed the affects of the operation and maintenance of the Cachuma Project (including Bradbury Dam) on the remnant steelhead in the lower Santa Ynez River. Additionally, NOAA Fisheries is in the

process of initiating recovery planning for the Southern California steelhead ESU. The State Water Resources Control Board's (SWRCB) hearing and related EIR for the operation and maintenance of the Cachuma Project has the potential to affect both of these NOAA Fisheries efforts to protect and restore the steelhead resources on the Santa Ynez River.

EIR Scope and Alternatives Analysis

The original Notice of the Water Rights Hearing for the Cachuma Project (September 25, 2000) indicates that the basic purpose of the hearing is to review BOR's Water Rights Permits 11308 and 11310 to determine whether any modifications in permit terms and conditions are necessary to protect the Public Trust values and downstream water rights on the Santa Ynez River below Bradbury Dam. In a subsequent ruling on the scope of the Water Rights Hearing for the Cachuma Project (May 29, 2003) the Hearing Officer Peter S. Silva clarified the scope of the Public Trust Resources which would be addressed in this hearing. Specifically, the SWRCB advised NOAA Fisheries and other parties to the hearing 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." (See letters from Peter S. Silva, State Water Resources Control Board to NOAA Fisheries and parties, May 29, 2003 and August 13, 2002.)

The Draft EIR indicates that the project consists of potential modifications of the BOR's existing water right permits to protect downstream water rights and Public Trust resources on the Santa Ynez River. As noted above, the SWRCB has established that the scope of the Public Trust interests in the steelhead resources of the Santa Ynez River include resources above as well as below Bradbury Dam. However, none of the potential modifications (or project alternatives) in the Draft EIR include provisions which specifically address Public Trust interests in the steelhead resources of the Santa Ynez River above Bradbury Dam. As such, the alternatives analyzed in the EIR are not adequate to address fully the issues raised by the project.

Because the range of alternatives addressed and evaluated as part of the Draft EIR relate to both the Biological Opinion NOAA Fisheries issued for the Cachuma Project and recovery of steelhead, as well as the Public Trust values in the Santa Ynez River, the scope of alternatives is an important element of the Cachuma Project Water Rights Hearing. In a letter dated December 11, 2000 to the BOR, the SWRCB indicated that the Board staff had determined that the range of alternatives for the BIR should be revised to reflect the Biological Opinion issued by NOAA Fisheries for the Cachuma Project. Because the alternatives in the Draft EIR are based on the actions proposed by the BOR and evaluated in NOAA Fisheries' Biological Opinion addressing Cachuma Project operations, they do not address the larger issue of how the Santa Ynez River steelhead contributes to recovery of the Southern California steelhead ESU (See additional comments below regarding the nature and scope of the Biological Opinion.)

To address the recovery of steelhead resources of the Santa Ynez River and in the Southern California steelhead ESU as a whole, the project alternatives should specifically include fish passage provisions for both adult and juvenile steelhead around Bradbury Dam, and protection of steelhead spawning and rearing habitat above Bradbury Dam. To analyze these alternatives NOAA Fisheries recommends the following six steelhead investigation be undertaken and incorporated into the Final EIR and the SWRCB deliberations before making any final decision on the Public Trust interests in the steelhead resources of the Santa Ynez River:

1. Steelhead Spawning and Rearing Habitat Assessment

Conduct a steelhead spawning and rearing habitat assessment of the following segments of the Santa Ynez River system to systematically document and evaluate the extent and quality of the steelhead habitat above Bradbury Dam which would became accessible to adult steelhead if fish passage and migration were re-established in the upper reaches of the Santa Ynez River watershed: (a) mainstem of Santa Ynez River between Bradbury Dam and Gibraltar Dam; (b) the following tributaries to the Santa Ynez River between Bradbury and Gibraltar Dam: Cachuma Creek, Santa Cruz Creek, Bear Creek, Tequepis Creek, Horse Canyon, Hot Springs Creek, Beach Creek, Los Laureles, Canyon, Red Rock Canyon, Lewis Canyon, Arroyo Burro Creek, and Devils Creek.

This assessment should use standard, acceptable fish habitat assessment protocols such as Habitat Suitability Index (HSI) and be prepared by an independent consultant, under the auspices of the SWRCB, subject to technical review by the regulatory and trustee agencies (e.g., SWRCB, California Department of Fish and Game, BOR, U.S. Forest Service, and NOAA Fisheries.)

2. Fish Passage Investigation for Bradbury Dam and Cachuma Reservoir

To provide a thorough and defensible analysis and evaluation of a full range of alternative fish passage opportunities at Bradbury Dam and Cachuma Reservoir, conduct an investigation of alternative means of providing adult steelhead fish passage to spawning and rearing habitat above Bradbury Dam, and effective emigration of rearing juvenile steelhead (smolts) located above Bradbury Dam downstream to the ocean. This investigation should aim at identifying effective means of reconnecting the upper portion of the Santa Ynez River watershed with the lower Santa Ynez River and the Pacific Ocean. Emphasis should be placed on restoring, to the maximum extent practical, the natural pattern of migration and emigration of fish between the ocean and upstream spawning and rearing areas, but the investigations should encompass a full range of passage options. Additionally, screening of diversions through the Tecolote Tunnel and other water intakes should be investigated in conjunction with the fish passage investigation.

This investigation should be based upon stream flow and fish passage (including fish screening) criteria established by NOAA Fisheries and the California Department of Fish and Game, and be prepared by an independent consultant, under the auspices of the SWRCB, subject to technical review by the regulatory and trustee agencies (e.g., SWRCB, Californi a Department of Fish and Game, BOR, U.S. Forest Service, and NOAA Fisheries.)

Because of the complexity of this issue, a special technical advisory group should be established to determine the scope of the fish passage (and screening) alternatives to be investigated for the dam and reservoir, and to direct the investigations; this technical advisory group should be comprised of representatives of the NOAA Fisheries, BOR, U.S. Forest Service, and California Department of Fish and Game.

3. Fish Flows to Support Migration, Spawning and Rearing above Bradbury Dam

Identify instream flow requirements (timing, duration, and magnitude) in the mainstem of the Santa Ynez River which would be necessary to provide effective fish migration for both adult and juvenile steelhead between the Pacific Ocean and the reach of the Santa Ynez River between Bradbury Dam and Gibraltar Dam. Additionally, identify the flows necessary to support spawning and rearing in the mainstem reach of the Santa Ynez River between Bradbury and Gibraltar Dams.

These investigations should use standard, acceptable instream flow protocols such as Incremental Flow Instream Methodology (IFIM). and be based upon fish passage criteria established by the California Department of Fish and Game and the NOAA Fisheries. These instream flow investigations should be prepared by an independent consultant under the auspices of the SWRCB, subject to technical review by the regulatory and trustee agencies (e.g., SWRCB, California Department of Fish and Game, BOR, U.S. Forest Service, and NOAA Fisheries.)

4. Channel Forming Flows in the Lower Mainstem Santa Ynez River

To determine if there are ways of improving migratory conditions for both adult and juvenile steelhead in the lower Santa Ynez River by improving and maintaining natural channel structure generated by fluvial processes, evaluate the effects on channel formation in the lower Santa Ynez River (with particular reference to effects on steelhead migration and fish habitat characteristics), resulting from the alteration of the natural frequency, duration, and magnitude of pre-project flood flows, created by the current operation of the Cachuma Project. This flow study should be prepared by an independent consultant under the auspices of the SWRCB, subject to technical review by the regulatory and trustee agencies (i.e., SWRCB, California Department of Fish and Game, BOR, and NOAA Fisheries.)

5. Alternative Flow Regime for Lower Mainstem Santa Ynez River

Analyze and evaluate the 3A2 alternative flow regime (and variations) identified in the Cachuma Contract Final Environmental Impact Report (December 1995) to determine its suitability to meet the Public Trust interests in the steelhead resources of the Santa Ynez River below Bradbury Dam, and the related goal of steelhead recovery (in addition to avoidance of jeopardy) in the Santa Ynez River. This evaluation should utilize standard, accepted instream flow methodology such as the Incremental Flow Instream Methodology (IFIM) and be prepared by an independent consultant under the auspices of the SWRCB, subject to technical review by the regulatory and trustee agencies (e.g., SWRCB, California Department of Fish and Game, BOR, and NOAA Fisheries.)

6. Watershed Analysis

Identify and evaluate anthropogenic activities within the watershed (e.g., roads, vegetation clearing or modification, fire management, grazing, recreational activities, etc.) affecting the quantity and quality of steelhead spawning and rearing habitat above Bradbury Dam in both the mainstem of the Santa Ynez River, and the major historic steelhead spawning and rearing tributaries (e.g., Gridley Creek, Carnuesa Creek, Indian Creek, Mono Creek, Blue Canyon, Agua Caliente Creek, North Fork Juncal Creek, Alder Creek, Juncal Creek). This investigation and analysis should be prepared by an independent consultant under the auspices of the SWRCB, subject to review by the regulatory and trustee agencies (e.g., SWRCB, California Department of Fish and Game, BOR, U.S. Forest Service, and NOAA Fisheries.)

This investigation is intended principally to address water quality issues (e.g., elevated turbidity, nutrient levels, etc.) which are an integral part of the Public Trust responsibilities of the SWRCB, and have a direct bearing on the productivity of steelhead and spawning and rearing habitats and are necessary to assure that the benefits ofrestoring steelhead passage and related flows are more fully realized.

Biological Opinion for the Cachuma Project

The Draft EIR includes an extended discussion of the Biological Opinion NOAA Fisheries issued to the BOR on September 8, 2000, for its proposed operation and maintenance of the Cachuma Project. The Biological Opinion concluded that the proposed operation and maintenance of the Cachuma Project was not likely to jeopardize the continued existence of the endangered Southern California steelhead ESU, but that it was expected to result in some incidental take of listed steelhead. Because incidental take was anticipated, an incidental take statement was issued with the Biological Opinion that includes a number of mandatory reasonable and prudent measures, as well as terms and conditions, that BOR must comply with to minimize and monitor any incidental take of steelhead (e.g., modifications to downstream water releases, provision of the Hilton Creek Water Supply Line, modification to current low flow crossing maintenance activities, and passage and habitat improvements to spawning tributaries downstream of Bradbury Dam such as Salsipuedes, El Jaro and Hilton Creeks, etc.).

As part of the Biological Opinion, NOAA Fisheries provided BOR with set of specific Conservation Recommendations designed to further minimize or avoid impacts on steelhead and also assist with recovery planning and implementation. Although BOR is not required to implement these Conservation Recommendations, section 7(a)(1) of the ESA directs Federal agencies such as BOR to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. NOAA Fisheries provided these Conservation Recommendations to BOR in light of this broader Federal agency obligation under the ESA.

Although these Conservation Recommendations are advisory and carry no binding legal force, NOAA Fisheries believes the implementation of these additional measures is important because they will either help to minimize the adverse effects of the Cachuma Project (i.e., incidentaltake of steelhead), or provide information necessary for the development of a recovery plan for the Southern California steelhead ESU. These advisory Conservation Recommendations include: (1) examination of alternative means of delivering water to downstream users of the Cachuma Project, (2) examination and evaluation of the means of providing passage for steelhead to and from the historic steelhead spawning and rearing habitat above Bradbury Dam, and (3) examination and evaluation of the ecological effects ofreducing natural flood flows in the lOlWer Santa Ynez River as a result of the operation of the Cachuma Project. The six steelhead investigations outlined above are based upon these advisory Conservation Recomrnendatiom, but provide more specificity for the purposes of meeting the SWRCB's Public Trust responsibilities and the requirements of the California Environmental Quality Act.

Finally, we would like to emphasize that NOAA Fisheries' Biological Opinion for the Cachmna Project did not address the specific requirements for recovery of steelhead in the Southern California ESU as a whole or the Santa Ynez River system in particular. Rather, the Biological Opinion focused on detennining whether or not the operation and maintenance of the Cachuma Project, as proposed by the BOR, would jeopardize the continued existence of the Southern California steelhead ESU. Although NOAA Fisheries's recovery planning efforts for this ESU are only now beginning, timely implementation of these Conservation Recommendations (as further described in the six steelhead investigations outlined above) will facilitate the development of potential operation and maintenance alternatives for the Cachuma Project tint further protect Public Trust values and contribute towards the recovery of the endangered Southern California steelhead ESU.

Summary

The Board 's Water Rights Hearing on the Cachuma Project raises issues central not only to the general Public Trust interest in the water resources of the Santa Ynez River system, but also to the protection and recovery of the endangered Southern California steelhead ESU. Any decision on the disposition of the water rights and Public Trust values in the Santa Ynez River should, therefore, be made in a manner which does not prejudice the NOAA Fisheries recovery planning process for the larger Southern California steelhead ESU.

Because the Board's consideration and possible decision on this matter is likely to precede the completion of NOAA Fisheries's recovery plan for the Southern California steelhead ESU, NOAA Fisheries recommends that any water rights decision made prior to the completion and adoption of this recovery plan be interim in nature. Further, any interim decision should also include specific conditions providing for continuing evaluation of the effects of the Cachuma Project on the recovery of the Southern C2.lifomia ESU, including implementation of the investigative Conservation Recommendations set forth in the Biological Opinion for the Cachuma Project, and as outlined in the six steelhead investigations described above.

Thank you for the opportunity to provide these preliminary comments on the Draft EIR addressing the effects of the Cachuma Project water rights hearing. Should you or your staff have any questions regarding these comments or wish to discuss these issues further, please feel free to contact either Jim Lecky at (562) 980-4015 or Craig Wingert at (562) 980-4021

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

cc:
Kirk Rogers, Actjng Regional Director, U.S. Bureau of Reclamation Jeanine
Derby, Forest Supervisor, Los Padres National Forest
Arthur G. Baggette, Chairperson, State Water Resources Control Board Robert
Hight, Director, California Department of Fish and Game
Mike Higgins, Regional Water Control Board, Central Coast Region
Charles Raysbrook, Regional Director, Region 5, California Department of Fish & Game Arthur
Kidman, Cachuma Conservation and Release Board
Robert Wignot, Cachuma Operation and Maintenance Board
Michael Jackson: Chairperson, Santa Ynez River Technical Advisory Committee
Robert Almy, Water Agency Manager, Santa Barbara County Water Management Agency

Attachment C

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

MAY 27 2011

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

Re: Second Revised Draft Environmental Impact Report (April 2011) – 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. Farwell:

NOAA's National Marine Fisheries Service (NMFS) appreciates the opportunity to comment on the State Water Resources Control Board's (State Water Board) Second Revised Draft Environmental Impact Report (2°d RDEIR). As previously expressed in letters dated September 21, 2010, and October 26, 2010, NMFS requests that the State Water Board not finalize this action pending release and incorporation of the new biological opinion for the operations and maintenance of the U.S. Bureau of Reclamation's (Reclamation) Cachuma Project and the Southern California Steelhead Recovery Plan. The intent of this request is to ensure that the Final EIR adequately considers and characterizes the anticipated effects of the Cachuma Project on the environment. Further, as the State Water Board Hearing Officer noted in his determination granting NMFS' request to participate as a party in Phase II of the Cachuma Project Hearing, "in light of [NMFS'] unique role as the agency that listed the Southern California steelhead ESU [now Distinct Population Segment (DPS)] as endangered, authored the Biological Opinion, and is responsible for preparing a recovery plan for the species," NMFS' participation will help the State Water Board "ensure that the record includes the evidence
necessary for the [State Water Board] to properly evaluate impacts on fisheries consistent with the [State Water Board's] public trust responsibilities".[1]

[1] Ruling by Peter Silva, State Water Board Hearing Officer, May 29, 2003.

The State Water Board's notice ofrelease of the 2nd RDEIR for public review requests that reviewers limit their comments to Sections 4.3 and 6.0. NMFS provides the following general and specific comments and addresses the State Water Board's request under the heading for each type of comment.

General Comments

Because NMFS' biological opinion (dated September 8, 2000) is referenced in Sections 4.3 and 6.0, and it is an integral underpinning of those sections and throughout the 2nd RDEIR, NMFS' general comment that pertains to the biological opinion relates to Sections 4.3 and 6.0 as well as analysis throughout the 2nd RDEIR. In a similar manner, NMFS' general comments that pertain to the Southern California Steelhead Recovery Plan and NMFS' previous requests for studies to inform the State Water Board's analysis are relevant to the comparison of alternatives in Section
6.0 as well as analysis throughout the 2nd RDEIR. Each of these general comments is presented as follows.

Biological Oinion for the Cachuma Proiect.-The relevance of NMFS' biological opinion to the subject 2n RDEIR is emphasized in the State Water Board's project description on page 1.0-2.

> *Development of revised release requirements and other conditions, if any, in the Reclamation water rights permits (Applications 11331 and 11332)for the Cachuma Project. **These release requirements will take into consideration the National Marine Fisheries Service's Biological Opinion*** (emphasis added)...

In addition, the State Water Board describes each of the alternatives considered in the 2nd RDEIR in reference to operations considered under NMFS' September 2000 biological opinion *(e.g.*, 2nd RDEIR at 3.0-7 to 3.0-9, 4.3-12, 4.3-14, 4.3-21, and 6.0-6 to 6.0-8). Moreover, the State Water Board describes the impacts to an important public trust resource, endangered Southern California steelhead *(Oncorhynchus mykiss),* in reference to NMFS' September 2000 biological opinion *(e.g.*, 2nd RDEIR at 4.7-26 ("The requirements of the biological opinion represent the consensus of minimal flows needed in order to support the continued survival of *O. mykiss* in the Santa Ynez River") and 4.7-41 ("The flow levels used in the scoring system were based . . . on the flow levels that NMFS determined would result in no jeopardy to steelhead (NMFS, 2000)"), which is reflected in the comparison of alternatives in Section 6.0 (RDEIR at 6.0-2 and 6.0-7).

Therefore, the formulation and evaluation of alternatives within the 2nd RDEIR are based on the presumption that the flow releases (i.e., magnitude, frequency, timing, rate of change, and duration) proposed by Reclamation and considered in the September 2000 biological opinion, continue to ensure that Reclamation's Cachuma Project is not likely to jeopardize the continued existence of endangered steelhead or result in the destruction or adverse modification of critical habitat, pursuant to Section 7 of the Federal Endangered Species Act (ESA). However, as supported by NMFS' administrative record and for reasons stated in NMFS' October 26, 2010, letter to the State Water Board, reinitiation of ESA formal consultation for the Cachuma Project, including a new biological opinion, is required (50 CFR § 402.16).

NMFS expects Reclamation to submit a revised description of the proposed operations and maintenance of the Cachuma Project, including flow releases, and analyses of effects to endangered steelhead and designated critical habitat as required under 50 CFR § 402.14(c). As stated in NMFS' October 26, 2010, letter to the State Water Board, NMFS anticipated issuing a new biological opinion by December 2011, based on discussions with Reclamation. NMFS is presently coordinating with Reclamation to define a schedule for the reinitiated consultation, including development and submittal of required work products to support the process. Such work products include the annual monitoring data and summaries as required by the previous (September 2000) biological opinion. Although the 2nd RDEIR (page 2.0-21) indicates that such data and reports were submitted to NMFS in February 2010, the 2nd RDEIR is not accurate in this regard.

Accordingly, NMFS recommends that the State Water Board defer completion of the Final EIR until NMFS and Reclamation have completed reinitiated ESA Section 7 consultation for the operations and maintenance of the Cachuma Project and a new biological opinion has been issued. Should the State Water Board finalize the EIR before NMFS concludes reinitiated consultation and prepares the new biological opinion, NMFS would be concerned that the CEQA process, including the assessment of possible effects upon public trust resources, would not be adequately informed.

Southern California Steelhead Recovery Plan.-At the time of issuance of its September 2000 biological opinion, NMFS had not begun its recovery planning process for Southern California steelhead. That process was in early stages at the time of the initial Draft EIR for the Cachuma Project and related Cachuma water rights hearings. Since that time, NMFS has (1) developed and published a series of Technical Memoranda intended to provide the scientific foundation for recovery planning; (2) developed a draft recovery plan that has been subjected to scientific peer review, co-manager review, and public review; and, (3) is in the process of finalizing and publishing the recovery plan. The Southern California Steelhead Recovery Plan will identify a set of recovery goals and measurable objectives for both the species (i.e., the DPS) as a whole
and individual watersheds such as the Santa Ynez River. This plan will also identify the types of recovery actions necessary to recover steelhead within individual watersheds, as well as the DPS as a whole. The Santa Ynez River is identified as one of a number of core steelhead populations that must be restored to viable levels to ensure recovery of the species. The goals and objectives, and the specific recovery actions for the Santa Ynez River identified in the draft recovery plan include measures beyond those identified in the September 2000 biological opinion, based on the additional information that has been developed since issuance of the subject biological opinion.

As NMFS explained in its October 26, 2010, letter to the State Water Board (as well as NMFS' December 7, 2007, and September 21, 2010, letters to the State Water Board), "NMFS believes the scientific information resulting from forthcoming ESA processes and products, [including] the Southern California Steelhead Recovery Plan (Recovery Plan) . . ., will provide meaningful scientific information that better informs the State Water Board's Final EIR." Accordingly, NMFS recommends that the State Water Board consider in the Final EIR the information described above that has been and is being developed in NMFS' recovery planning process and defer completion of the Final EIR until completion of the Recovery Plan.

NMFS' Previous Requests for Studies. —NMFS' October 7, 2003, letter recommended that the following "six studies be undertaken and incorporated into the Final EIR and the [State Water Board's] deliberations before making any final decision on the Public Trust interests in the steelhead resources of the Santa Ynez River." NMFS reiterated its request for these studies in its February 16, 2004, Closing Brief in Phase II of the State Water Board's Cachuma Project Hearings. These studies do not appear to have been completed to date.

- Steelhead Spawning and Rearing Habitat Assessment
- Fish Passage Investigation for Bradbury Dam and Cachuma Reservoir
- Fish Flows to Support Migration, Spawning and Rearing above Bradbury Dam
- Channel Forming Flows in the Lower Mainstem Santa Ynez River
- Alternative Flow Regime for Lower Mainstem Santa Ynez River
- Watershed Analysis

Specific Comments

Although the State Water Board's notice ofrelease of the 2nd RDEIR for public review requests that reviewers limit their comments to Sections 4.3 and 6.0, several other sections of the 2nd RDEIR warrant additional specific comments. Some of these specific comments overlap with NMFS' general comment above. In addition, one of these specific comments relates to a new section in the 2nd RDEIR related to climate change. NMFS requests that the State Water Board consider all of NMFS' specific comments on the 2nd RDEIR, which are presented as follows under the specific section numbers of the 2nd RDEIR.

4.7.1.1 Species Accounts – Steelhead/Rainbow Trout *(Oncorhynchus mykiss)*

In addition to citing the estimated annual run size of the steelhead population of the Santa Ynez River, the Final EIR should also note the steelhead and rainbow trout recreational fisheries associated with the Santa Ynez River. Historical records indicate there were large numbers of adult steelhead returning to the Santa Ynez River as recently as 1953 (when Bradbury Dam was completed), and the large number of returns supported a substantial recreational fishery. For example, the U.S. Fish and Wildlife Service reported[2] that in 1941, 4,375 anglers took 262,000 trout, including adult steelhead in Santa Barbara County, with the greatest number from the Santa Ynez River and the Sisquoc River (tributary to the Santa Maria).

4.7.1.3 Status of Fish Habitat

The discussion and related Table 4-36A (Stream River Miles and Percentage of Potential *0. mykiss* Habitat Quality Assessment) deal only with the Lower Santa Ynez River, and the relatively small (with the exception of Salsipuedes Creek) tributaries of the Lower Santa Ynez River watershed. Because the project for which the 2nd RDEIR has been prepared affects public trust resources, including fishery resources, above and below Bradbury Dam, this section of the

[2] U.S. Secretary of the Interior. 1948. Cachuma Unit of the Santa Barbara County Project, California. Letter from the Secretary of the Interior transmitting A Report and Finding on the Cachuma Unit of the Santa Barbara County Project, California. April 1, 1948.

2nd RDEIR should also address the status of the fish habitat above Bradbury Dam. NMFS has previously provided the State Water Board with a map of the potential steelhead spawning and rearing habitat within the Santa Ynez River watershed, along with an estimate of potential stream mileage above and below Bradbury Dam. This documentation indicates that only 29% of the potential steelhead spawning and rearing habitat exists below Bradbury Dam, while the remaining 71% exists above Bradbury Dam. It should be noted that the areas above Bradbury Dam generally provide higher quality habitat for spawning and year-round rearing, and are encompassed within the Los Padres National Forest, affording this habitat additional protection.

4.7.2 Potential Impacts of the Alternatives (Southern California Steelhead and Other Fishes)

As noted above in NMFS' general comments, these alternatives are based in whole or in part on the September 2000 biological opinion for Reclamation's Cachuma Project which requires reinitiation of consultation and issuance of a new biological opinion under the ESA. Furthermore, none of these alternatives are based upon the series of fishery related investigations NMFS previously recommended in its October 7, 2003, letter on the first Draft EIR or the February 16, 2004, Closing Brief in Phase II of the State Water Board's Cachuma Project Hearings. Therefore, NMFS is concerned that the alternatives presented in the 2nd RDEIR may not adequately address possible effects to endangered Southern California steelhead, or appropriately protect this public trust resource.

4.12 Climate Change

The 2nd RDEIR includes a new section addressing the potential impact of climate change that was not considered in earlier versions of the DEIR. However, other than a few general references to effects on streamflow and aquatic organisms in general, this section does not deal with specific impacts to steelhead or the resident form of *O. mykiss*. Projected climate change may affect *O. mykiss* in a variety of ways, varying in range and intensity, across various landscape scales and ecosystem types. The biological response is also complex, and as with many species, including Pacific anadromous salmonids, uncertain. While Southern California steelhead have evolved a suite of effective adaptations to a highly variable environment (including multiple paths for completing their life cycle), the rapid rate of projected climate change presents another challenge to their persistence. This suggests several core principles for guiding the protection and management of Southern California steelhead populations:

- Widen opportunities for fish to be opportunistic (*i.e.*, exploit a variety of habitat types)
- Maximize the connectivity of habitat (i.e., within and between habitats)
- Promote the capability of populations and metapopulations to evolve (i.e., the ability of a population to evolve novel functions, through genetic change and natural selection, that help individual populations survive and reproduce)
- Maintain the management capacity to detect and respond effectively to ecosystem changes as they occur

The over-arching recovery strategy and viability criteria outlined in the draft Southern California Steelhead Recovery Plan apply these core principles to the current climate regime, and should be applied to the projected future climate regime. For the Santa Ynez River, the restoration of ecologically meaningful passage flows and the provision of access to the upstream spawning and rearing habitats, which exhibit both the most diverse and stable habitat conditions within the Santa Ynez River watershed, appears to represent the most effective means of addressing the potential adverse effects of climate change on the anadromous and resident forms of *O. mykiss* within the Santa Ynez River.

4.13 Relationship to Other Plans

4.13.1.1 Bureau of Reclamation - Cachuma Lake Resource Management Plan

The 2nd RDEIR indicates that the fish-stocking program for Cachuma Lake will comply with the requirements of the NMFS Recovery Plan Outline for Southern California Coast Steelhead, and the subsequent Recovery Plan. Neither the Recovery Plan Outline (2007) nor the Draft Recovery Plan are regulatory documents, and neither of these documents provide detailed
guidance on fish-stocking practices. However, the Draft Recovery Plan identifies the stocking of non-native fishes (including non-indigenous hatchery reared *O. mykiss)* in coastal watersheds as a potential threat to native steelhead and related resident *O. mykiss;* this threat stems from potential competition and transmission of diseases. Non-native trout that are stocked above dams, such as Bradbury Dam, which present an impassable barrier to upstream migrating fish, can nevertheless pass downstream during periods when the reservoir is spilling, or in some cases when water is released. As a result, the fish-stocking program for Cachuma Lake has the potential to introduce non-native fishes into currently anadromous waters, as well as mix non- native fishes with residualized steelhead existing in tributaries to Cachuma Lake.

4.13.2.1 California Department of Fish and Game

The 2nd RDEIR does not discuss the Steelhead Restoration and Management Plan for California (1996). This plan emphasizes the importance of the steelhead fishery of the Santa Ynez River and included the following statements relevant to the proposed action:

- *DFG will seek a permanent flow regime from Bradbury Dam to restore the steelhead resource to a reasonable level and maintain it in good condition. This includes adequate streamflows for adult and juvenile migration, and mainstem spawning and rearing habitat. USER recontracting, and [State Water Board] continued jurisdiction hearings ... may present good opportunities to rectify past actions which have resulted in the near extirpation of the Santa Ynez River steelhead and diminishment of public trust resources. ... steelhead runs have been nearly eliminated by water development and actions to restore this public trust resource need to be implemented.*
- *The feasibility of providing adult and juvenile passage around Bradbury Dam should be investigated and implemented accordingly. Nearly all historic spawning and rearing habitat is located upstream of Bradbury Dam ...*

Additionally, the 2°d RDEIR made no reference to the California Fish and Game Code sections, which are relevant to the 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. Although NMFS does not presume to speak for the California Department of Fish and Game on this subject, NMFS believes that these sections include, but are not limited to, California Fish and Game Codes 5937 (release of water below a dam to maintain fish in good condition), 1601-1603 (diversion or obstruction of natural flows), and 6900-6903.5 (Salmon, Steelhead Trout, and Anadromous Fisheries Program Act).

6.3. Environmentally Superior Alternative

The conclusions regarding the environmentally superior alternative are based on the critical assumption that the September 2000 biological opinion provides a level of protection adequate to protect the public trust interests in the Santa Ynez River steelhead resources. As previously discussed in the general comments, the September 2000 biological opinion is currently subject to reinitiated consultation, and the Southern California Steelhead Recovery Plan process is not complete yet. Both of these processes will provide information that the State Water Board should consider in the Final EIR to protect the public trust interests in the Santa Ynez River steelhead resources.

In summary, NMFS believes that the State Water Board should address all of the issues identified in this letter before the Final EIR is entered into the record for the State Water Board's 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).

Should you have a question regarding this letter, please contact Darren Brumback at (562) 980-4060.

Sincerely,

Penny Ruvelas
Southern California Office Supervisor
for Protected Resources Division

cc: Michael Jackson, U.S. Bureau of Reclamation
Kate Rees, Cachuma Operations and Maintenance Board
Edmund Pert, CA Department of Fish and Game
Mary Larson, CA Department of Fish and Game Roger Root, U.S. Fish and Wildlife Service
Administrative file: 151422SWR2010PR00316

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the National Marine Fisheries Service's comments regarding the for the State Water Resources Control Board's (SWRCB's) consideration in finalizing the SWRCB's draft order amending Permits 11308 and 11310 for the Cachuma Project on the Santa Ynez River and this Certificate of Service by electronic filing to Ms. Jeanine Townsend, Clerk of the Board, Executive Office, State Water Resources Control Board, CalEPA Headquarters and by first class or electronic mail upon each person designated on the official service list compiled by the State Water Resources Control Board in the above-captioned proceeding.

Dated this 8th day of December, 2016

Sophia A. Bernal