



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  
May 28, 2019

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



Dear Ms. Townsend:

Re: COMMENT LETTER – Cachuma Project Revised Draft Order

Thank you for providing NOAA's National Marine Fisheries Service (NMFS) with a copy of the State Water Resources Control Board's (SWRCB) revised draft order amending Permits 11308 and 11310 for the Cachuma Project on the Santa Ynez River in Santa Barbara County, dated March 27, 2019. NMFS is submitting the enclosed comments (Attachment A) for the SWRCB's consideration in finalizing the revised draft order amending Permits 11308 and 11310 for the Cachuma Project.

As explained more fully in the enclosure, the SWRCB's revised draft order represents a significant attempt to increase the protection of the public trust interests of the endangered steelhead (*Oncorhynchus mykiss*) population in the Santa Ynez River, modifying the draft order in several respects in response to NMFS' comment letter of December 8, 2016. The provisions in the SWRCB's revised draft order (particularly those pertaining to fish passage around Bradbury Dam) have the potential to improve conditions for growth and survival of steelhead in the Santa Ynez River.

However, the revised draft order continues to rely heavily on a strategy of improving habitat conditions in the lower Santa Ynez River without properly remediating key threats to the viability of the Santa Ynez river steelhead population as a whole. Without effectively addressing threats to the viability of this steelhead population, meaningful protection of this public trust resource is not likely to be attained. These threats include but are not limited to diminution of attraction and migration flows that are critical to inducing adult steelhead to enter the river from the ocean, hydrologic discontinuity in the main-stem river, and limited or elimination of access to spawning, rearing, and refugia habitat upstream of Bradbury Dam, particularly in the tributaries. As the revised draft order recognizes, this upstream habitat not only provided the 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. The importance of restoring and maintaining this diversity is reflected in NMFS' viability criteria as described in NMFS' final 2012 Southern California Steelhead Recovery Plan (i.e., 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. However, please be aware that the analyses and conclusions of NMFS' November 28,



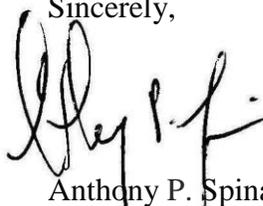
2016, draft biological opinion rely on the best scientific and commercial data available, including the most current scientific studies of Southern California steelhead, which includes the population that occurs in the Santa Ynez River. We believe the draft 2016 biological opinion represents a valuable source of information in this regard.

Although the BOR terminated the formal consultation that is the basis of the draft November 28, 2016, biological opinion, a future formal consultation with the BOR on a revised proposed action for the Cachuma Project is anticipated, though the specific timing is unknown at this time. For this reason, NMFS supports condition #29 that reserves the SWRCB's "continuing authority to modify this order for conformity with any future Biological Opinion that may be issued regarding the Santa Ynez River steelhead fishery or any modification to the 2000 Biological Opinion." Should the SWRB choose at this time to adopt the Revised Draft Order, NMFS respectfully request that it consider amending the revised draft order to incorporate the specific changes that we have proposed in the Attachment.

The SWRCB has prepared a Final Environmental Impact Report (FEIR) for the Cachuma Project, but has not certified the document and issued a Notice of Determination. Since the SWRCB issued the FEIR in December 2011, significant new and relevant information has been developed and become available regarding the steelhead resources of the Santa Ynez River. As a result, before certifying the FEIR and issuing the final order, the SWRCB must consider and evaluate relevant information that has become available since the FEIR was issued to enable the SWRCB to conduct a full and balanced analysis pursuant to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) and related regulations (Public Resource Code Sections 21167.6(e)(7) and Section 21177). 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 revised 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

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

## Attachment

### Comments of NOAA's National Marine Fisheries Service on the SWRCB's 2019 Revised Draft Order Amending Permits 11308 and 11310 held by the U.S. Bureau of Reclamation for the Cachuma Project on the Santa Barbara, California

May 29, 2019

The following are NOAA's National Marine Fisheries Service's (NMFS) comments on the State Water Resources Control Board's 2019 revised draft order for the Cachuma Project. Our general comments on the draft order are presented first. Specific comments on the draft order are presented subsequently and are arranged according to the format and headings of the draft order.

#### GENERAL COMMENTS ON THE DRAFT ORDER

NMFS understands a desired outcome of implementing the draft order is to ensure protection of public trust resources in the Santa Ynez River upstream and downstream of Bradbury Dam. Although the draft order contains many provisions that are expected to benefit resources in this regard, one conspicuous element that is absent from the draft order involves specific provisions that would ensure natural rates of egg-to-smolt survival of the anadromous form of *Oncorhynchus mykiss*. Without provisions to ensure natural rates of egg-to-smolt survival, NMFS believes the SWRCB desired outcome for the final order would not be fully achieved.

Ensuring natural rates of egg-to-smolt survival is critically important because the anadromous life history of this species is dependent on habitats within a watershed that produce large smolts (in sufficient abundance) (e.g., Ward *et al.* 1989). A watershed that produces a lesser number of predominately small smolts is not expected to result in many returns of adult steelhead. In contrast, a watershed that generously produces sizeable smolts is expected to produce a large number 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 (Bond *et al.* 2008). A large number of returning adults favors survival and recovery of the anadromous life-history form in the watershed-specific population and, more broadly, the endangered Southern California Steelhead Distinct Population Segment (DPS).

Elements of ensuring natural rates of egg-to-smolt survival includes specifying water releases that would allow juvenile steelhead to fully express life history pathways, and this is important for several reasons.

First, the variety of life-history pathways that juvenile steelhead express in nature 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. Generally, these pathways involve the different ways in which juvenile rear, grow, and survive in a watershed (e.g., Hayes *et al.* 2008). Central to these pathways is the ability of juvenile steelhead to undertake *volitional movement*, occasionally of long distance, between and among habitats within a watershed. These movements can involve departing upstream reaches, including tributaries, for downstream reaches or the estuary, and leaving the estuary or downstream reaches for upstream reaches, including tributaries (Shapovalov

and Taft 1954, Bramblett *et al.* 2002, Hayes *et al.* 2008, Hayes *et al.* 2011). Hydrologic connectivity and the related linkages between and among habitats must be present to promote these volitional movements.

Second, expression of these life-history pathways is exceedingly important because they confer a survival advantage, not only to this specific life stage, but also to smolt and adult stages. For example, investigators have found that the ability of juvenile steelhead to access seasonal habitats can confer greater growth (e.g., Bond *et al.* 2008, Hayes *et al.* 2008, Hayes *et al.* 2011) and increase the probability that individuals would reach or exceed the size threshold for marine survival (i.e., larger smolts have a better chance of surviving in the ocean and return to freshwater and spawn as an adult) (Ward *et al.* 1989, Bond *et al.* 2008).

Third, expression of these life-history pathways depends on hydrological connectivity<sup>1</sup> within a watershed; 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, Hayes *et al.* 2008, Hayes *et al.* 2011). 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 that are key to population success.

The draft order, did not prescribe the water releases that would ensure hydrologic connectivity in the Santa Ynez River downstream of Bradbury Dam, and thereby allow juvenile steelhead full expression of various life-history pathways. The revised order should specify ecologically meaningful water releases throughout a given year for the purposes of ensuring meaningful hydrologic connectivity throughout the Santa Ynez River downstream of Bradbury Dam. In our review of the effects of the ongoing operations of the Bradbury Dam on endangered steelhead, we concluded that months-specific water releases satisfying expression of life-history pathways of juvenile steelhead should range at a minimum from a low of 10 cfs during the dry season, to 18 cfs during the wet season (NMFS 2016).

## **SPECIFIC COMMENTS ON THE DRAFT ORDER**

### **1.0 INTRODUCTION**

Page 3.

Paragraph 3: The revised draft order indicates the order “reserves the Board’s authority to reduce the required stream flows” in the “unlikely event studies demonstrate that flows do not provide benefit to steelhead or are likely to harm the fishery . . .” However, other responses, such as

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<sup>1</sup> We use the term hydrologic connectivity to mean surface-water connectivity between tributary streams and the main-stem river, surface-water connectivity through the main-stem river to the estuary (and ocean), and the connectivity or interaction between groundwater and surface-water.

changing the timing, duration, or the rate of change of flows may be appropriate to address the results of flow studies. We recommend changing the word “reduce” to “modify” so as not to prejudge the appropriate action of the SWRCB.

## **2.0 FACTUAL BACKGROUND**

### **2.1 The Cachuma Project**

#### **2.1.1 Project Setting**

Page 4.

Paragraph 2: The final order should note that a majority of the open space upstream of the Cachuma Reservoir in the upper reaches of the Santa Ynez River is within the Los Padres National Forest, where the majority of historical steelhead spawning and rearing habitat remains. As described in NMFS’ recovery plan for southern California steelhead (NMFS 2012), this type of land ownership and related limited land uses affords a high degree of long-term protection of these steelhead habitats, which are essential for conservation of the species.

Page 6.

Paragraph 1: If the revised draft order is only relying on the 1999 Biological Assessment, the final order should clarify that the Bureau of Reclamation’s (BOR) 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.

#### **2.1.2 Cachuma Project Operations**

Page 6.

Paragraph 1: The abbreviation “MWD” should be spelled out, “Montecito Water District” in the same manner as the other Member Units.

#### **2.1.3 Project Release Requirements**

Page 8.

Paragraph 2: The final order should note that the “conservation” of Cachuma Project water supplies below Bradbury Dam through recharge of tributary runoff can reduce the amount and extent of river flows that initiate and promote migration of steelhead into the Santa Ynez River system from the ocean, as well as support spawning and rearing behavior of steelhead in the main stem.

### **2.2. State Water Board Decision 886 and Subsequent Orders**

Page 10.

Paragraph 2: Regarding the “percolation and conservation of inflow to the Santa Ynez River downstream from the [Bradbury] dam,” see the comment above regarding initiating and promoting migration of steelhead and sustaining spawning and rearing behavior of steelhead.

### 3.0 LEGAL BACKGROUND

#### 3.1 State Water Resources Control Board’s Authority

The revised draft order states that the SWRCB has broad authority to establish “minimum” flows and take other measures needed to protect fisheries and other public trust resources.” However, our understanding of the SWRCB’s authority indicates it is not limited to only establishing “minimum flows” for fisheries or other public trust purposes. We therefore suggest either deleting the term “minimum”, or substituting the term “appropriate”.

#### 3.5.4 Section 7 Consultation for the Cachuma Project – Biological Assessment

Page 29.

Paragraph 1: If the revised draft order is only relying on BOR’s 1999 Biological Assessment, the final order should clarify that the BOR’s 1999 Biological Assessment has been superseded by the BOR’s 2013 Biological Assessment, with amendments, and differs substantially from the 1999 Biological Assessment upon which the SWRCB’s draft order relies.

#### 3.5.7. Southern California Steelhead Recovery Plan

Pages 35-36.

Paragraphs 1 and 2: The revised draft order indicates NMFS’ Southern California Steelhead Recovery Plan (2012) is not a part of the administrative record, “but is a source of information that could be used to inform submittals required by this order.” The revised draft order relies on the characterization of NMFS’ 2009 draft Southern California Steelhead Recovery Plan found in the 2011 Final Environmental Impact Report (FEIR) prepared for the Cachuma Project. There are significant mischaracterizations of NMFS’ 2009 draft Southern California Steelhead Recovery Plan in the FEIR. These include:

Population Viability Criteria (mean annual run-size, ocean conditions, spawner density, and anadromous fraction): the mean annual run-size identified in viability criterion applies to *each individual* core population not to the Distinct population Segment (DPS) as whole (FEIR 2.0-43).

DPS-Wide Viability Criteria (population distribution and number): the Santa Ynez River is identified as one of the populations that are necessary to meet the DPS-wide viability criteria essential for recovery and ultimately delisting, *not* simply a high priority watershed (FEIR 2.0-42).

Restoring Access to upstream historic habitats: restoration of access is identified as one of two principal critical recovery actions essential for recovery of the listed endangered southern California DPS (FEIR 2.0-44).

Additionally, NMFS' draft 2009 Southern California Steelhead Recovery Plan upon which the FEIR relies differs in several respects from NMFS' final 2012 Southern California Steelhead Recovery Plan. These differences are germane to the Santa Ynez River public trust issues dealt with in the FEIR, and include:

Expanded discussion of historic steelhead sport fishing, including archaeological and historic information on the steelhead resources of the Santa Ynez River;

New section on southern California steelhead freshwater life cycle habitat use;

Changed DPS-Level recovery criteria regarding life-history diversity to specify that the diversity be exhibited and distributed across each Biogeographic Population Group (BPG), not each population; and,

Revised and standardized Recovery Actions descriptions, including those for Dams and Surface Water Diversions and critical recovery actions for the Santa Ynez River.

Critical Recovery Actions identified for the Santa Ynez River include:

“Implement operating criteria to ensure the pattern and magnitude of water releases from Bradbury, Gibraltar, and Juncal dams provide the essential habitat functions to support the life history and habitat requirements of adult and juvenile steelhead. Physically modify Bradbury, Gibraltar, Mono, and Juncal dams to allow steelhead natural rates of migration . . . to upstream spawning and rearing habitats, and passage of smolts and kelts downstream to the estuary and ocean. Identify, protect, and where necessary restore estuarine and freshwater rearing habitats.” (NMFS 2012 Southern California Steelhead Recovery Plan, Table 7-2. Critical recovery actions for Core 1 *O. mykiss* populations within the Southern California Steelhead DPS)

In summary, NMFS' final 2012 Southern California Steelhead Recovery Plan provides basic information on the biology and ecology of the species, and identifies the factors leading to the species decline, including systemic threats in individual watersheds such as the Santa Ynez River. It also provides information and guidance relevant to the conservation of the species, and for protecting the public trust interest in the steelhead resources of the Santa Ynez River by providing a recovery strategy to ensure the long-term viability of individual populations and the DPS as whole. Additionally the 2012 Recovery Plan identifies both DPS-level, and individual steelhead population viability criteria, which when met would ensure that individual populations and the DPS as a whole would be viable, and therefore eligible for delisting.

See additional comments in NMFS' May 27, 2011 letter regarding the SWRCB's Second Revised Draft Environmental Impact Report (April 2011).

#### **4.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE**

Pages 36-37.

Paragraphs 1 and 2: The SWRCB has prepared an FEIR for the Cachuma Project, but has not certified the document and issued a Notice of Determination (NOD). Before certifying the FEIR and issuing the final order, the SWRCB must consider and evaluate relevant information that has become available since the FEIR was issued to enable the SWRCB to conduct a full and balanced analysis pursuant to the requirements of the California Environmental Quality Act (CEQA) and related regulations. (Public Resources Code Sections 21000 et seq.)

#### 4.1 Environmental Impact Report Prepared for the Proposed Project

Page 37.

Paragraph 1: Since the SWRCB issued the FEIR in December 2011, significant new and relevant information has been developed and become available regarding the steelhead resources of the Santa Ynez River. Pursuant to the California Code of Regulations, a party has a right to submit evidence and comments up until the FEIR is certified and a NOD is issued for the FEIR; the SWRCB must take into consideration this information in its review and approval of the BOR request to amend its water right permits 11308 and 11310. (Public Resource Code Sections 21167.6(e)(7) and Section 21177).

This new information includes scientifically peer-reviewed published studies on the Santa Ynez River steelhead fishery, a Final Southern California Steelhead Recovery Plan (2012), the findings of NMFS' effects analyses undertaken as part of the reinitiated formal consultation for the Cachuma Project (NMFS 2016), and a revised 2013 BOR Biological Assessment (with amendments), that bear directly on the issues addressed in the SWRCB revised draft order.

These new information includes, but is not limited to, the following:

Adadia-Cardoso, A., D. E. Pearse, S. Jacobson, J. Marshall, D. Dalrymple, F. Kawasaki, G. Ruiz-Campos, and J. C. Garza. 2016. Population genetic structure and ancestry of steelhead/rainbow trout (*Oncorhynchus mykiss*) at the extreme southern edge of their range in North America. *Conservation Genetics* DOI 10.1007/s10592-016-0814-9.

Alagona, P. S., S. D. Cooper, M. H. Capelli, M. Stoecker, Peggy Beedle. 2012. The History of the Steelhead and Rainbow Trout (*Oncorhynchus mykiss*) in the Santa Ynez River Watershed, Santa Barbara County, California. *Bulletin of the Southern Academy of Sciences*. 111(3):163-222.

Boughton, D. A., L. R. Harrison, A. S. Pike, J. L. Arriaza, Marc Mangel. 2015. Thermal Potential for Steelhead Life History Expression in a Southern California Alluvial [Santa Ynez] River. *Transactions of the American Fisheries Society*. 144(2): 258-273.

National Marine Fisheries Service. 2012. Southern California Steelhead Recovery Plan. Southwest Regional Office, National Marine Fisheries Service, Long Beach, CA.

National Marine Fisheries Service. 2016. South-Central/Southern California Coast Steelhead Recovery Planning Domain. 5-Year Review: Summary and Evaluation of

Southern California Steelhead Distinct Population Segment. West Coast Region. California Coastal Office, Long Beach California.

Pearse, D. D., E. M. R. Miller, A. Abadia-Cardoso, and J. C. Garza. 2014. Rapid parallel evolution of standing variation in a single, complex genomic region is associated with life history in steelhead/rainbow trout. *Proceedings of the Royal Society B-Biological Sciences* [online serial] 281: article 2014.0012.

Sloat, M. R. and Anne-Marie Osterback. 2012. Maximum stream temperatures and the occurrence, abundance, and behavior of steelhead trout (*Oncorhynchus mykiss*) in a southern California stream. *Canadian Journal of Fisheries Aquatic Sciences*. 70:64-73.

U.S. Bureau of Reclamation. 2013. Biological Assessment. Bureau of Reclamation Operation and Maintenance of the Cachuma Project on the Santa Ynez River in Santa Barbara County, California. Bureau of Reclamation, South-Central California Area Office.

## 5.0 PROTECTION OF PUBLIC TRUST RESOURCES

### 5.3.1.3 Southern California Evolutionary Significant Unit of Steelhead Trout

#### 5.3.1.3.1 Steelhead Lifecycle and Habitat

Pages 43-44.

Paragraph 1: Three basic life strategies for *O. mykiss* are identified (resident, lagoon-anadromous and fluvial anadromous; these are the life strategies that are described in NMFS 2006 Technical Memorandum “Steelhead of the southcentral/southern California coast: population characterization for recovery planning. (NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-394). The explanation of these life strategies that follows, however, describes four life strategies (by splitting anadromous and fluvial anadromous into two separate life strategies). There is no separate “anadromous” and “fluvial anadromous” in this scheme. The description provided for “anadromous” is actually for “the fluvial anadromous” life strategy, and should be re-named “fluvial anadromous”; the mischaracterization of the “Fluvial anadromous” life strategy (i.e. “steelhead reared as juveniles in a riverine environment”) should be deleted. We would note, however, that there is an adfluvial population of native *O. mykiss* with original steelhead lineage in the upper Santa Ynez River above Juncal Dam (Pearse *et al.* 2014)

Page 45.

Paragraph 3: The revised draft order indicates that the southern California steelhead are “presumed to be more tolerant of warm water” than steelhead from more northern watersheds. This characteristic has been documented empirically through field studies of southern California steelhead populations, which are published in the peer-reviewed ecological literature. See for example:

Spina, A. P. 2007. Thermal ecology of juvenile steelhead in a warm-water environment. *Environmental Biology of Fishes* 80:23-34.

Boughton, D., M. Gibson, R. Yedor, and E. Kelly. 2007. Stream temperature and the potential growth and survival of juvenile *Oncorhynchus mykiss* in a southern California creek. *Freshwater Biology* 52:1353-1364.

Sloat, M. R. and Anne-Marie Osterback. 2012. Maximum stream temperatures and the occurrence, abundance, and behavior of steelhead trout (*Oncorhynchus mykiss*) in a southern California stream. *Canadian Journal of Fisheries Aquatic Sciences*. 70:64-73.

Boughton, D. A., L. R. Harrison, A. S. Pike, J. L. Arriaza, Marc Mangel. 2015. Thermal Potential for Steelhead Life History Expression in a Southern California Alluvial [Santa Ynez] River. *Transactions of the American Fisheries Society*. 144(2): 258-273.

Pages 44 -48.

Paragraphs 3 through 8: The revised draft order provides a reasonably concise general description of the lifecycle of steelhead. However, because of the arrangement of paragraphs, it does not clearly convey the differences in stream conditions relevant to adult migrating steelhead from those relevant to the rearing juveniles. This can be simply corrected by moving the six paragraphs dealing with the freshwater rearing phase (beginning with “Differences in water velocity . . . “ [p. 44] and ending with “Food resources, an important . . .” [p.46]) to the end of the paragraph beginning “After one or two years when juveniles . . . “ (p. 48). Thus the description of the steelhead lifecycle begins with the return of adults from the ocean and entry into freshwater and concludes with the more detailed description of stream conditions relevant to the multi-year freshwater rearing phase of the species.

#### 5.3.1.3.1 Steelhead Conditions Prior to Bradbury Dam

Page 49.

Paragraph 1: The revised draft order states, “Historically, the mainstem of the Santa Ynez River was primarily only used as a migratory corridor to the upper reaches.” This statement does not apply to the entire mainstem (which is over 90 miles long), though on occasion, depending on certain environmental conditions, select reaches of the lower mainstem, many miles downstream of Bradbury Dam, may have transiently served primarily, though not exclusively, as a migration corridor. NMFS’ recovery plan (2012) references the value of mainstems, not only as historical migration corridors for steelhead, but as areas promoting growth and survival of juvenile steelhead as well. We therefore recommend a revision to the final order that accurately reflects the variable character and functions of the mainstem of the Santa Ynez River. Specifically, it should recognize that the lower reaches have a shallower gradient and a more uniform channel morphology, fed by fewer perennial tributaries, while the upper reaches have a steeper gradient with more diverse channel morphology, and are fed directly by more perennial tributaries.

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

Page 49.

Paragraph 1: See NMFS's December 8, 2016 comment letter on the SWRCB's 2017 draft order for a fuller description of the impacts stemming from the construction, operation and maintenance of Bradbury Dam.

Page. 52.

Paragraph 1: We suggest inserting "beaver" between "100" and "dams".

#### 5.3.1.3.4 Determining Sufficient Steelhead Conditions Post Construction of Bradbury Dam

##### Population Level

Pages 55-56.

Paragraphs 3 and 4: As noted in the revised draft order, NMFS' recovery plan for the Southern California Steelhead must include objective, measurable criteria for the recovery of the species. (p. 35) The specific issue of the size of a viable steelhead population was raised at the SWRCB's 2013 Phase 2 Hearings (as described in the revised draft order, pp. 55- 56), but without benefit of NMFS clarification on what the 4,150 annual run-size referred to (i.e., individual population, Biogeographic Population Group, or entire DPS). NMFS has identified two types of objective measurable population viability criteria for Southern California Steelhead DPS (which includes the Santa Ynez River): performance-based population criteria and prescriptive-based population criteria. These viability criteria are described in both NMFS 2007 Technical Memorandum, Viability Criteria for Steelhead of the South-Central and Southern California Coast, and in NMFS's final 2012 Southern California Steelhead Recovery Plan.

The draft order provides a generally accurate description of the performance-based population criteria ("steelhead run size needs to be sufficient to result in an extinction risk of less than 5 percent within a 100 years"), but did not clearly or accurately characterize the prescriptive-based population criteria ("estimated at 4,150 spawning adult per year for the Southern California DPS"). The prescriptive-based population viability criteria developed by NMFS' Technical Recovery Team and set forth in NMFS 2007 Technical Memorandum and 2012 Southern California Steelhead Recovery Plan, is 4,150 spawning adults in each of the core watersheds; the Santa Ynez is one of the core watersheds identified in both of these documents, and this specific watershed must meet this population viability criteria of 4,150 spawning adult steelhead to be considered viable.

Had NMFS' testimony regarding NMFS Southern California steelhead Recovery Plan and its relationship to the FEIR been presented at the SWRCB's 2012 Cachuma water rights hearing, this issue could have been clarified. The revised draft order predicates its analysis on what constitutes "good condition" of the steelhead population in the Santa Ynez River. NMFS listing of the Southern California Steelhead DPS as endangered and its recovery criteria as described in NMFS' final 2012 Southern California Steelhead Recovery Plan, are directly pertinent to the FEIR, as well as the Phase 2 water rights hearing for the Cachuma Project and the SWRCB's related revised draft order. These objective, measurable viability criteria were first published in a scientifically peer

reviewed NMFS Technical memorandum in 2007, and have been publically and freely available on the NMFS Southwest Fisheries Science Center's Santa Cruz Laboratory website since their publication:

Boughton, D., P. Adams, E. Anderson, C. Fusaro, E. Keller, E. Kelley, L. Lentsch, J. Neilsen, K. Perry, H. Regan, J. Smith, C. Swift, L. Thompson, and Watson. 2007. *Viability Criteria for Steelhead of the South-Central and Southern California Coast*. NOAA Technical Memorandum NMFS-SWFSC TM-407.

See additional comments in NMFS' December 8, 2016, letter regarding the SWRCB's 2016 draft order.

### Community Level

Page 57.

Paragraph 1: We suggest substituting "persisted" for "lived".

#### 5.3.3.1.2 Rearing and Passage Flows

The discussion of various flow regimes is focused largely on stream flow characteristics pertinent to the rearing of juvenile *O. mykiss* following the successful spawning of steelhead. While these flows are an important component in the freshwater phase of steelhead life-history, they do not directly address the flows that are necessary to induce adult steelhead into the freshwater environment from the ocean, or the emigration of steelhead smolts from freshwater to the ocean.

Peak flows provide one of the most important cues triggering the migratory behavior of steelhead, both into freshwater from the marine environment, and from the freshwater into the marine environment. They are also important in promoting migration to upstream habitat that is suitable for spawning, incubation, and the rearing of juveniles. These flows (timing, peak and receding magnitudes, and duration) provide hydrologic cues immediately relevant to fish migration, but also to flows conditions that may prevail later in the hydrologic cycle (including summer and base flow conditions) during subsequent lifecycle phases, including redd construction, spawning, rearing and out-migration of smolts. Steelhead have evolved to exploit natural flow patterns, and exhibit migratory behavior, which allows them to successfully exploit these flow for reproductive purposes. The question of fish passage therefore cannot be limited to the question of what flows may theoretically allow individuals to move between one location and another, but also what flows initiates and promotes that movement that is result of the fishes' evolved behavior. Additionally, flows are important in facilitating geomorphic processes that maintain complex in-channel habitats (e.g. pools, runs, riffles, glides, etc.) that that steelhead have evolved, over ecological time, in response to and are essential to promoting their reproductive potential, growth in freshwater, and emigration as smolts to the estuary and ocean.

As part of NMFS' ongoing analysis of the effects of the Cachuma Project on the steelhead of the Santa Ynez River, it has identified a water release schedule from Bradbury Dam that reflects the ecological needs of the species, including river-estuary-ocean connectivity, adult migration,

spawning, juvenile incubation, juvenile (smolt) migration, and expression of juvenile life-history pathways. Additionally, NMFS has identified the need to develop a study plan to assist in the developing a high magnitude water release plan to facilitate geomorphic response in the river channel necessary to establish and maintain physical or biological features of critical habitat designated for steelhead in the lower Santa Ynez River below Bradbury Dam (NMFS 2016).

See additional comments in NMFS' December 8, 2016, letter regarding the SWRCB's 2016 draft order.

#### 5.3.3.2.2 Evaluation of Alternative 5C

Page 70-80.

Paragraphs 1 through 19: See comment above regarding rearing and passage flows.

#### 5.3.3.4 Water Supply Impacts of Alternative 3C and 5C with Potential Future Sources of Supply

Page 85-89.

Paragraphs: 1 through 7: The draft order should be revised to provide a complete and accurate discussion regarding the City of Santa Barbara's Charles E. Meyer Desalination Facility, as described in greater detail below.

The City of Santa Barbara's desalination facility was originally permitted in 1991 and constructed and began operation in 1992. After operating for only a few months, the facility was closed and placed in standby mode. After a number of years of deactivation, the facility was refurbished and recommissioned. The currently operating facility received a NPDES waste discharge permit to operate by the Central Coast Regional Water Quality Control Board in 2015, as well as a Coastal Development Permit from the California Coastal Commission in 2015 (Central Coast Regional Water Quality Control Board, Amended Order No. R3-2019-0011, NPDES No. CA0048143, El Estero Wastewater Treatment Plant and Charles E. Meyer Desalination Facility, City of Santa Barbara, February 10, 2015; and California Coastal Commission, Coastal Staff Report and Development Permit 9-14-1731, Recommissioning Intakes for the City of Santa Barbara's Charles E. Meyer Desalination Facility, on the beach and offshore of City of Santa Barbara, County of Santa Barbara, February 11, 2015).

The desalination facility has been operating continuously since 2017. Under the lowest projected operational level, the desalination facility can produce an average of 3,125 acre feet of water per year, and meet 30% of the City's total water demand. The reactivated desalination facility uses high efficient pumps, motors and filtering technology, reducing the energy use of the original facility by 40%, and thus reducing its electrical demand and carbon footprint (City of Santa Barbara, Public Works Department, Charles E. Meyer Desalination Plant, 2019).

The City of Santa Barbara's adopted Long Term Water Supply Plan (LTWSP) identified the desalination facility as part of the City's long-term water portfolio (City of Santa Barbara Long-

Term Water Supply Plan, 2011). The LTWSP identified four main operating scenarios in which the facility would produce between 3,125 and 10,000 acre-feet of water per year under various drought or water supply conditions:

Scenario 1: Intermittent operation (i.e., during periods of drought) at a level up to 3,125 acre-feet per year to meet the City's drought water supply needs.

Scenario 2: Intermittent operations at up to 7,500 acre-feet per year to meet regional drought water supply needs of the City of Santa Barbara and of the Goleta and Montecito Water Districts.

Scenario 3: Baseload operation (i.e., during both drought and non-drought periods) at up to 7,500 acre feet per year to meet regional needs during droughty and to produce water for exchange with other water purveyors during non-drought periods.

Scenario 4: Intermittent operations up to 10,000 acre feet per year for maximum plant capacity to meet drought water supply needs.

See additional comments in the NMFS' September 28, 2007 letter regarding the SWRB's 2007 Revised Draft Environmental Impact Report.

#### 5.3.3.5 Conclusion Regarding the Measures Necessary to Protect Steelhead

Page 89-92.

Paragraphs 1 through 9: The measures proposed in the revised draft order directly address improving juvenile steelhead rearing habitat below Bradbury Dam in the mainstem of the Santa Ynez River. While it acknowledges there are other limiting factors preventing the recovery of the steelhead population in the Santa Ynez River, these are addressed largely through future studies (e.g., fish passage, instream flow, non-native aquatic predator, etc.) intended to better define the limiting factors, as well as identify effective means of addressing them. However, we believe that deferring any effort to resolve one or more of these additional limiting factors to a largely undefined future study, with no guarantee that the study findings would be acted upon, creates considerable uncertainty regarding the proper protection of this public trust resource. Information is currently available that would reasonably inform the SWRCB's duty to more fully protect this public trust resource, including abating the existing ongoing limiting factors. This information includes the findings of NMFS' effects analyses undertaken as part of the reinitiated formal consultation for the Cachuma Project (NMFS 2016). Although the BOR terminated the consultation, the draft biological opinion contains pertinent information that could assist the SWRCB's efforts to address in a more timely way the remaining limiting factors, in a manner that is ecologically meaningful to the life history and habitat requirements of endangered steelhead. See also comments below regarding Term and Condition #24.

Page 91.

Paragraph 2: In the sentence beginning “If a Member Unit or Reclamation . . .”, we recommend replacing “if” with “is” in the phrase “Executive Director determines that the change . . .”.

Page 92.

Paragraph 3: Change the reference to “Assistant Regional Administrator for Protected Resources in the Southwest Region” to “Chief, Southern California Branch, California Coastal Office”.

Page 93.

Paragraph 3: The BOR’s 1999 Biological Assessment has been superseded by the BOR 2013 Biological Assessment, with amendments. The reference to “2000 Biological Assessment” should be corrected and changed to “2013 Biological Assessment with amendments”.

See additional comments in NMFS’ December 8, 2016, letter regarding the SWRCB’s 2016 draft order.

### Study Plan

Page 97.

Paragraph 1: The revised draft order stipulates that the study plan “must specify the 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 levels.” From the discussion of “good condition” in the revised draft order, the terms “population and community levels” appears to comport with NMFS viability criteria for individual populations and either an Evolutionary Significant Unit (ESU) or a Distinct Population Segment (DPS), respectively.

As noted in NMFS December 9, 2016 comment letter on the SWRCB’s 2016 draft order, this requirement in effect directs the BOR to develop viability criteria for a federally listed endangered species for which they are not the designated responsible federal agency. It is the responsibility of the listing agency, in this case, NMFS, to develop such criteria in the context of any listed ESU or 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’s final 2012 Southern California Steelhead Recovery Plan. These viability criteria reflect the needs of the entire listed species, not simply an individual watershed where the species occurs. To avoid the confusion that would result from having competing metrics, we recommend the SWRCB add clarifying language to the final order, noting that the study plan metrics dealing with individual, population and community levels be defined based on NMFS’ viability criteria as described in NMFS Final Southern California Steelhead Recovery Plan (2012).

We note that the amount of suitable and accessible steelhead habitat is not itself a metric of the condition of a fishery, though the effectiveness of conservation measures to restore either habitat quality or quantity can be evaluated by monitoring the type, number and condition of fish making use of such habitats.

See additional comments below regarding the California Coastal Salmonid Monitoring Plan.

#### 5.3.3.7 Monitoring and Reporting

Page 97.

Paragraph 2: See comments above regarding the NMFS 2000 biological opinion.

Page 98.

Paragraph 1: Monitoring the effectiveness of the various elements of the SWRB's revised order, particularly flow and passage provisions, is critical to the protection of the public trust interests in the steelhead of the Santa Ynez River.

NMFS in cooperation with its co-manager the CDFW have developed a California Coastal Salmonid Monitoring Plan (CMP) (Adams *et al.* 2011). The CMP is based on NMFS' Viable Salmonid Population conceptual framework referred to (p. 24) in the revised draft order (McElhany *et al.* 2000).

The CMP identifies statistically appropriate and reliable methods for measuring the four general key characteristics of an anadromous salmonid population such as steelhead: abundance, productivity, spatial structure, and diversity. The purpose of the CMP is to collect statistically valid, ecologically meaningful data on the status of salmonid fishes inhabiting California's coastal watersheds.

For anadromous steelhead, abundance is best measured in terms of annually returning adults from the ocean. In southern California where abundance of returning steelhead has been severely depressed, and the episodic nature of the stream flows makes it difficult to work in the channel when upstream migration of adults is most likely to occur, monitoring adults can be challenging and the results statistically inconclusive. To address the special steelhead monitoring challenges in southern California, NMFS and the CDFW have developed an updated strategy for Salmonid Viability Monitoring in the Southern Coastal Area (Monterey to the U.S.-Mexico border). This update expands the original approach for the Southern Coastal Area; more closely integrates the monitoring plan with the Federal steelhead recovery plans; and identifies a wider variety of methodologies to be used for monitoring under a range of circumstances (Boughton and Nelson 2019).

As the revised draft order recognizes (p. 54), the challenge of monitoring *O. mykiss* populations in southern California is compounded by the need to distinguish the relatively rare and endangered anadromous forms from the more common resident forms of *O. mykiss*. One approach to assessing the status of existing runs of anadromous steelhead (and also measuring the effectiveness of management measures such as regulated flow releases, or other conservation measures) is to tag and monitor movement of emigrating juvenile *O. mykiss* (smolts). Monitoring emigrating smolts as a proxy for returning adults can be a useful metric, if accompanied with appropriate statistical analysis, until more robust adult steelhead monitoring programs are established. This approach can

also be a practical and cost-effective interim substitute for adult monitoring until adult steelhead run-sizes are increased to a level where statistically valid monitoring of adults is tractable.

See additional comments below under Section 8.5 Mitigation, Monitoring, and Reporting Program.

## **6.0 PROTECTION OF DOWNSTREAM WATER RIGHTS**

### 6.4.1.1 Technical Amendment 1

Page 106.

Paragraph 1: The revised draft order indicates that the BOR and Member Units consider live-stream measurements at San Lucas Creek immediately upstream of the Highway 154 crossing to be the most appropriate location for the purpose of meeting Condition 5. The final order should include information to corroborate this claim, including a description about how the correlation between the flow in San Lucas Creek and the lower mainstem of the Santa Ynez River below Bradbury Dam was determined.

### 6.5 Finding Regarding Protection of Downstream Water Rights Pursuant to the Settlement Agreement

Page 108.

Paragraph 2: The SWRCB's revised 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. The analysis in NMFS 2000 biological opinion has undergone substantial review and revision as a result of the re-initiation of consultation in 2016 with the BOR. The analyses and conclusions of NMFS' most recent 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 expects to recommence consultation with the BOR on the Cachuma project as soon as NMFS receives a revised project description from the BOR. . Should the SWRB choose at this time to adopt the Revised Draft Order, NMFS respectfully request that it consider amending the revised draft order to incorporate the specific changes that we have proposed in this Attachment.

## **8.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDING**

Page 112.

Paragraph 1: As noted above, while the SWRCB has prepared a FEIR for the Cachuma Project, it has not certified the document and issued a NOD. Before certifying the FEIR and issuing the final order, the SWRCB must consider and evaluate relevant information that has become publically available since the FEIR was issued to enable the SWRCB to conduct a full and balanced analysis pursuant to the requirements of CEQA and related regulations. (Public Resources Code Sections 21000 et seq.) Since the SWRCB issued the FEIR in December 2011, significant new and relevant

information has been developed and become available regarding the steelhead resources of the Santa Ynez River. Pursuant to the California Code of Regulations, a party has a right to submit evidence and comments up until the FEIR is certified and a NOD is issued for the FEIR. (Public Resource Code Sections 21167.6(e)(7) and Section 21177). This comment letter includes additional information relevant (and related references) to the public trust interests in the steelhead resources of the Santa Ynez River. NMFS requests that the SWRCB take into consideration this information in its review and approval of the BOR request to amend its water right permits 11308 and 11310.

See additional comments in NMFS' May 27, 2011 letter regarding the SWRCB's Second Revised Draft Environmental Impact Report (April 2011).

## 8.1 Findings Regarding Impacts to Water Supply

Pages 113-115.

Paragraphs 1 through 8: See the comments above under 5.3.3.4 Water Supply Impacts of Alternative 3C and 5C with Potential Future Sources of Supply; particularly those regarding the water production capacity of the City of Santa Barbara's Charles E. Meyer Desalination Facility.

### 8.1.1 Mitigation Measures for the New Sources of Water Supply

#### Desalination

Pages 116-117.

Paragraphs 3 and 4: See the comments above under 5.3.3.4 Water Supply Impacts of Alternative 3C and 5C with Potential Future Sources of Supply; particularly those regarding the water production capacity of the City of Santa Barbara's Charles E. Meyer Desalination Facility.

### 8.1.2 Findings

#### Section 15091(a)(2) Findings

Pages 118-119.

Paragraph 2: The Central Coast Regional Water Quality Control Board has issued a NPDES permit for the City of Santa Barbara's Charles E. Meyer Desalination Facility. See, Central Coast Regional Water Quality Control Board, Amended Order No. R3-2019-0011, NPDES No. CA0048143, El Estero Wastewater Treatment Plant and Charles E. Meyer Desalination Facility, City of Santa Barbara, February 10, 2015.

#### Section 15091, subdivision (a)(3) Finding

Page 119.

Paragraph 1: Insert “that” after “considerations”.

## 8.5 Mitigation, Monitoring, and Reporting Program

Page 123.

Paragraph 1: See comments above under 5.3.3.7 Monitoring and Reporting regarding monitoring of steelhead.

## 10.0 Conclusion

Pages 125-126.

Paragraph 3: The study of increased flows on rearing juvenile *O. mykiss* involves a number of distinct aspects of the fishes’ biology and ecology. In addition to determining growth and survival rates, and overall health of the population (disease, mortality due to predation by non-native aquatic species, so forth), it is also important to understand the effects of rearing conditions on the life-history pathways of rearing *O. mykiss* (e.g., anadromous or freshwater resident), and in particular how they are affected by prescribed flows, as well as other management actions. As the revised draft order recognizes, “resident and anadromous life forms are difficult to distinguish based on visual observation, particularly at the juvenile stage.” (p. 54).

However, smolt production as a function of specific habitats (and habitat conditions controlled by conservation measures such as prescribed flows) can now be estimated in river systems because of advances in electronic-tagging technology. Tagging juvenile *O. mykiss* and subsequently estimating smolt production from tagged fish that have migrated downstream towards the estuary and the ocean, past a set of tag-reading stations on the river can, with an appropriate sample design, be used to estimate smolt production as a function of some common variables of interest to managers (e.g., habitat conditions, growth and survival rates, genetics, etc.). This monitoring method provides a tool for determining if the anadromous fraction of an *O. mykiss* population (i.e., the form listed as endangered in southern California) is responding (and to what degree) to management activities. It can also inform management decisions that can promote one life-history pathway over another. Since it is the anadromous form of *O. mykiss* that is rare and endangered in southern California, not the resident form, it is important to understand the dynamics of rearing juvenile *O. mykiss*. (See, Boughton, D. A. 2010. Estimating the Size of Steelhead Runs by Tagging Juveniles and Monitoring Migrants. *North American Journal of Fisheries Management*. 30:89-110). The final order should specify that a monitoring program be developed in cooperation with NMFS and the CDFW to monitor the production, growth, and emigration rates of *O. mykiss* smolts.

Page 12.

Paragraph 2: The revised draft order “requires Reclamation to specify one or more metrics that can be used to quantify what would constitute good condition of the fishery at the individual, population, and community levels.” As noted above, southern California steelhead is a federally listed species under the Federal Endangered Species Act, and NMFS is specifically charged by Congress with the responsibility for recovery of this species, including developing a recovery plan

for the species. As the revised order notes, recovery plans must include, among other elements, “Objective, measurable criteria for the recovery of the species that would allow determinations that the species were recovered and therefore eligible for removal from the list of endangered or threatened species”.

As noted above and in NMFS’ December 9, 2016 comment letter on the SWRCB’s 2016 draft order, this requirement in effect directs the BOR to develop viability criteria for a federally listed endangered species for which they are not the designated responsible federal agency. It is the responsibility of the listing agency, in this case NMFS, to develop such criteria in the context of any listed ESU or 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’s final 2012 Southern California Steelhead Recovery Plan. These viability criteria reflect the needs of the entire listed species, not simply an individual watershed where the species occurs. We recommend adding clarifying language to the revised order, noting that the study plan metrics dealing with individual, population and community levels be defined based on NMFS recommendations to avoid the confusion that would result from having competing metrics.

See additional comments in NMFS’ December 8, 2016 letter regarding the SWRCB’s 2016 draft order.

## **ORDER**

Page 131.

### **Term and Condition #15**

Paragraph 1: The revised order refers to “National Marine Fisheries Service’s (NMFS) Biological Opinion” but does not specify which biological opinion is being referred to. See comments above regarding the findings of NMFS’ effects analyses undertaken as part of the reinitiated formal consultation for the Cachuma Project (NMFS 2016), and the revised 2013 BOR Biological Assessment (with amendments).

Page 132.

Paragraph 1: NMFS generally concurs with the provision of the revised draft order that “To prevent any conflicting requirements upon issuance of any new Biological Opinion, the State Water Resources control Board’s Executive Director (Executive Director) may modify this term upon request of [the] right holder after receiving the approval of NMFS.” However, it is unclear what procedure the SWRCB would follow should NMFS issue a new biological opinion and BOR fail to notify the SWRCB, or delay notification to the SWRCB.

To address this potential situation, NMFS recommends that the Term and Condition #15 be modified to include the following language: “The right holder shall notify the Executive Director of the issuance of any new biological opinion, or modification of an existing biological opinion, no later than 30 days of the date of the final biological opinion.”

Table 1 Mainstem Rearing Flows

Page 132.

See comment above regarding NMFS' review of the effects of the ongoing operations of the Bradbury Dam on endangered steelhead and the water releases necessary to support expression of the variety of life-history pathways of juvenile steelhead (NMFS 2016).

Footnote c: Because the anadromous and non-anadromous form of juvenile *O. mykiss* are occasionally difficult to distinguish, we recommend that the scientific name which refers to both forms, be used instead of the lay term, "steelhead".

Page 134.

Term and Condition #16c

Paragraph 1: To ensure coordination between CDFW and NMFS we suggest that any changes to reduce or stop releases to meet Table 2 flows require authorization from both agencies.

Page 137-138.

Term and Condition #19

Paragraph 1 and sub-paragraphs (1) through (5): See comments above under 5.3.3.7 monitoring and Reporting regarding monitoring of steelhead, and under 8.5 Mitigation, Monitoring, and Reporting Program.

Page 138.

Term and Condition #20

Paragraph 2: Regarding "the appropriate metrics to be used to evaluate to what extent a given measure will restore steelhead to good condition", see comments under 10.0 Conclusion, Page 125, Paragraph 3 and Page 126, Paragraph 2.

Page 139.

Term and Condition #24

Paragraph 1: See comments under 3.5.7. Southern California Steelhead Recovery Plan, and under 5.3.1.3.4 Determining Sufficient Steelhead Conditions Post Construction of Bradbury Dam.

Page 139-140.

Term and Condition #24

Paragraph 1a: The requirement to study and evaluate options for providing long-term steelhead passage of adults and smolts around Bradbury Dam should also consider interim passage measures. These could include, but be not limited to, moving juvenile *O. mykiss* that currently exist above Bradbury Dam in the mainstem and tributaries of the Santa Ynez River, and which exhibit smolting characteristics (including emigration downstream towards the estuary and ocean). Such interim passage measures would help inform a long-term passage program for both adult and juvenile steelhead. See additional comment under 8.5 Mitigation, Monitoring, and Reporting Program.

Page 140.

#### Term and Condition #24

Paragraph b and sub-sections (1), (2), (3), (4), (5), and (6): As noted above, the discussion of various flow regimes is centered largely on stream flow characteristics pertinent to the rearing of juvenile *O. mykiss* following the successful spawning of steelhead. While these flows are an important component in the freshwater phase of steelhead life-history, they do not directly address the flows that are necessary to induce adult steelhead into the freshwater environment from the ocean, or the emigration of smolts from freshwater to the ocean. As the revised draft order recognizes the IFIM stream flow methodology commonly used in fishery management, “deals primarily with water conditions important to sustaining existing standing crop of fish residing in a river or stream, but does not specifically address flow necessary to induce or facilitate migration of fish, either from or to the ocean. This aspect of a flow regime is particularly important for highly migratory fish species such as steelhead.” (pp. 95-96) See additional comment above under 5.3.3.1.2 Rearing and Passage Flows.

Page 141.

#### Term and Condition #26

Paragraph 1: The reference to the 2000 Biological Assessment should be to the 2013 Biological Assessment with amendments. As noted above, the final order should specify that a monitoring program be developed in cooperation with NMFS and the CDFW to monitor the production, growth, and emigration rates of *O. mykiss* smolts.

See comments above regarding the California Coastal Monitoring Plan under 5.3.3.7 Monitoring and Reporting,

Page 141-141.

#### Term and Condition #27

Paragraph 1: Regarding the reference to NMFS 2000 Biological Opinion see comments above.

Page 143.

Term and Condition #28c

Paragraph 1: This provision reserving the SWRCB Executive Director right to authorize modify flows identified in Table upon a good showing of the right holder, NMFS and CDFW provides an appropriate mechanism to modify flow releases to better protect the public trust interests in the steelhead of the Santa Ynez River.

Term and Condition #29

Paragraph 1: NMFS supports the SWRCB's "continuing authority to modify this order for conformity with any future Biological Opinion that may be issued regarding the Santa Ynez River steelhead fishery or any modification to the 2000 Biological Opinion."

Page 144.

Term and Condition #35

Paragraph 1: Regarding the City of Santa Barbara's Charles E. Meyer Desalination Facility, see comments under 5.3.3.4 Water Supply Impacts of Alternative 3C and 5C with Potential Future Sources of Supply, 8.1 Findings Regarding Impacts to Water Supply, and 8.1.2 Findings.

See additional comments in NMFS' December 8, 2016 letter regarding the SWRCB's 2016 draft order.

**Cachuma Hearing Project – Possible Drought Off-Ramp Alternatives (Alternative 1 and 2)**

NMFS concurs with the rationale outlined in the SWRCB's March 27, 2019 notice for not proposing drought off-ramps at this time, given ". . . the degraded condition of fishery resources on the Santa Ynez River, and the fact that alternative supplies are available for water users of Cachuma Reservoir . . .". (p.2)

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- Shapovalov, L., and A. C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri gairdneri*) and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. *Fish Bulletin* 98. California Department of Fish and Game.
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State of California  
State Water Resource Control Board

National Marine Fisheries Service  
Statement of Service

The undersigned representative of the National Marine Fisheries Service hereby certifies that, on this day, I have caused to be sent to each of persons on the attached Service List, by applicable methods indicated in the Service List, the National Marine Fisheries Service's is submitting the enclosed comments for the State Water Resource Control Board's consideration in finalizing the revised draft order amending Permits 11308 and 11310 for the Cachuma Project on the Santa Ynez River in Santa Barbara County.

Date: May 28, 2019

A handwritten signature in black ink, appearing to read 'C. Charles', written over a horizontal line.

Chuck Charles  
National Marine Fisheries Service  
West Coast Region  
501 W. Ocean Blvd, Ste. 4200  
Long Beach, CA 90802

Attach: Service List

Cachuma Project Evidentiary Hearing

**UPDATED SERVICE LIST**

(March 26, 2019)

Corrected for typographical errors

**The parties whose email addresses are listed below agreed to accept electronic service, pursuant to the rules specified in the hearing notice.**

<p>Cachuma Conservation Release Board Mr. Kevin O'Brien Downey Brand LLP 621 Capitol Mall, Floor 18 Sacramento, CA 95814 <a href="mailto:kobrien@downeybrand.com">kobrien@downeybrand.com</a> <a href="mailto:nbigley@downeybrand.com">nbigley@downeybrand.com</a> <a href="mailto:pcantle@ccrb-board.org">pcantle@ccrb-board.org</a></p> <p><i>updated 02/25/2019</i></p>	<p>City of Solvang Mr. Christopher L. Campbell Baker, Manock &amp; Jensen 5260 N. Palm Avenue, Suite 421 Fresno, CA 93704 <a href="mailto:ccampbell@bakermanock.com">ccampbell@bakermanock.com</a></p> <p><i>updated 07/29/2011</i></p>
<p>Santa Ynez River Water Conservation District, Improvement District No. 1 Mr. Paeter Garcia 3622 Sagunto St. Santa Ynez, CA 93460 <a href="mailto:pgarcia@syrwd.org">pgarcia@syrwd.org</a></p> <p>Mr. Steve M. Anderson Best Best &amp; Krieger LLP 3390 University Avenue, 5<sup>th</sup> Floor Riverside, CA 92501 <a href="mailto:steve.anderson@bbklaw.com">steve.anderson@bbklaw.com</a></p> <p><i>updated 03/09/2018</i></p>	<p>City of Lompoc Mr. Nicholas A. Jacobs Somach, Simmons &amp; Dunn 500 Capitol Mall Suite 1000 Sacramento CA 95814 <a href="mailto:njacobs@somachlaw.com">njacobs@somachlaw.com</a></p> <p><i>updated 01/06/2014</i></p>
<p>Santa Ynez River Water Conservation District Mr. Steven M. Torigiani Law Offices of Young Wooldridge, LLP 1800 30<sup>th</sup> Street, 4<sup>th</sup> Floor Bakersfield, CA 93301 <a href="mailto:storigiani@youngwooldridge.com">storigiani@youngwooldridge.com</a></p> <p><i>updated 02/26/19</i></p>	<p>California Trout, Inc. Ms. Linda Krop Ms. Maggie Hall Ms. Tara Messing Environmental Defense Center 906 Garden Street Santa Barbara, CA 93101 <a href="mailto:lkrop@environmentaldefensecenter.org">lkrop@environmentaldefensecenter.org</a> <a href="mailto:mhall@environmentaldefensecenter.org">mhall@environmentaldefensecenter.org</a> <a href="mailto:tmessing@environmentaldefensecenter.org">tmessing@environmentaldefensecenter.org</a></p> <p><i>updated 03/08/2018</i></p>

Cachuma Project Evidentiary Hearing

**UPDATED SERVICE LIST**

(March 26, 2019)

Corrected for typographical errors

**The parties whose email addresses are listed below agreed to accept electronic service, pursuant to the rules specified in the hearing notice.**

<p>County of Santa Barbara Mr. Michael C. Ghizzoni, County Counsel Ms. Johannah Hartley, Deputy 105 E. Anapamu Street Santa Barbara, CA 93101 <a href="mailto:jhartley@co.santa-barbara.ca.us">jhartley@co.santa-barbara.ca.us</a></p> <p><i>updated 03/09/2018</i></p>	<p>U.S Bureau of Reclamation Ms. Amy Aufdemberge 2800 Cottage Way, Room E-1712 Sacramento, CA 95825 Fax (916) 978-5694 <a href="mailto:AMY.AUFDEMBERGE@sol.doi.gov">AMY.AUFDEMBERGE@sol.doi.gov</a></p> <p><i>updated 08/12/16</i></p>
<p>California Department of Fish and Wildlife Ms. Nancee Murray Senior Staff Counsel 1416 Ninth Street, 12<sup>th</sup> Floor Sacramento, CA 95814 <a href="mailto:Nancee.Murray@wildlife.ca.gov">Nancee.Murray@wildlife.ca.gov</a></p> <p><i>updated 08/15/2016</i></p>	<p>Bureau of Reclamation, Mid-Pacific Region Mr. Michael Jackson Area Manager South-Central California Area Office 1243 N Street Fresno, CA 93721-1813 <a href="mailto:mjackson@usbr.gov">mjackson@usbr.gov</a></p>
<p>Montecito Water District Mr. Robert E. Donlan Ellison, Schneider &amp; Harris L.L.P. 2600 Capitol Avenue, Suite 400 Sacramento, CA 95816 <a href="mailto:red@eslawfirm.com">red@eslawfirm.com</a></p>	<p>Santa Barbara County CEO's Office Ms. Terri Maus-Nisich, Assistant CEO 105 E. Anapuma Street, 4<sup>th</sup> Floor Santa Barbara, CA 93101 <a href="mailto:tmaus@co.santa-barbara.ca.us">tmaus@co.santa-barbara.ca.us</a></p> <p><i>updated 09/07/2016</i></p>

**The parties listed below did not agree to accept electronic service, pursuant to the rules specified by this hearing notice.**

<p>NOAA Office of General Counsel Southwest Region Mr. Dan Hytrek 501 West Ocean Blvd., Suite 4470 Long Beach, CA 90802-4213 <a href="mailto:Dan.Hytrek@noaa.gov">Dan.Hytrek@noaa.gov</a></p> <p><i>updated 05/13/2011</i></p>	
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