Coast Region. (*Ibid.*) Power generation concerns regarding electricity demand and carbon footprint can be mitigated by using high-efficiency pumps, motors, and improved filter technology to reduce the plant's overall electrical power demands. (*Ibid.*)

~~5.3.1.7~~5.3.3.5 *Conclusion Regarding the Measures Necessary to Protect Steelhead*

Sufficient appropriate habitat must be available and accessible in order to provide appropriate conditions for Santa Ynez River steelhead to be in good condition. A critical limiting factor in providing sufficient habitat is the construction and operation of Bradbury Dam, which limits access to habitat above the dam and limits through flow modifications the amount and quality of habitat below the dam. While implementation of the 2000 Biological Opinion/Alternative 3C has improved conditions to some extent, evidence in the record indicates that implementation of the 2000 Biological Opinion/Alternative 3C is not currently keeping steelhead in good condition and there is significant uncertainty that it will do so in the future. The 2000 Biological Opinion requirements were developed to avoid jeopardy to the continued existence of the fishery and to prevent adverse modifications of designated critical habitat rather than to keep fish in good condition.

As discussed above, keeping fish in good condition will require additional measures beyond what is currently being provided in the Santa Ynez River watershed. Accordingly, this order requires Reclamation to take additional actions to protect steelhead below Bradbury Dam. Specifically, this order requires Reclamation to implement Alternative 5C, which includes the requirements of the 2000 Biological Opinion, including its flows, as well as the higher Table 2 Flows in wet and above normal years. Instream flows required by this order for fish and wildlife conservation are likely to be met through some combination of bypass flows and releases from storage. Accordingly, this order amends the authorized uses for Permits 11308 and 11310 (Applications 11311 and 11322) to expressly include fish and wildlife conservation[57]. Of the 11 tributary improvement projects required by the 2000 Biological Opinion/Alternative 3C, three have been completed, two were proposed for removal from the 2000 Biological Opinion, and six road

[57] The Santa Ynez River, including Lake Cachuma and tributaries (including Hilton Creek), will have a beneficial use designation of Fish and Wildlife Conservation.

crossing projects on Quiota Creek were in the design stage in December 2011 when the FEIR was completed. (FEIR, Vol. IV, Appendix G, Table 22.) The impacts of the Quiota Creek improvement projects have been evaluated at a programmatic-level under CEQA; however, they have not undergone a project-level review. (*Id.*, Vol. II, pp. 5.0-1 to 5.0-2.) COMB is the appropriate CEQA lead agency to conduct a project-level environmental review of any non-flow habitat enhancement measures that it is funding and implementing. (*Id.*, p. 5.0-1.) This order does not require completion of the tributary improvement projects on Quiota Creek.

In addition, this order requires Reclamation to expeditiously conduct studies on fish passage, instream flow, ~~invasive~~predators and other species of concern, stream and streamside habitat restoration, and complete a study plan. As discussed above, the evidence in the administrative record supports the finding that implementation of Alternative 5C will benefit the steelhead fishery by providing more habitat than that provided by the 2000 Biological Opinion/Alternative 3C. Maximizing habitat below Bradbury Dam is a necessary first step in trying to achieve good condition of the fishery.

Alternative 5C was developed to limit the water supply impacts from full implementation of Table 2 Flows. Specifically, the higher Table 2 Flows only apply for limited periods in wet and above normal years. Nonetheless, Alternative 5C may have water supply impacts during drought periods that will result in additional costs to the Cachuma Project Member Units and in potential environmental impacts associated with obtaining alternative supplies to compensate for water supply shortages. The State Water Board has considered these impacts carefully but finds that the potential minor reduction in the Member Units' water supplies that may result during drought conditions from implementation of Alternative 5C does not outweigh the potential benefits that may be achieved for the imperiled steelhead fishery in the Santa Ynez River from implementation of Alternative 5C. While the State Water Board acknowledges that additional measures are also needed to prevent extirpation of the steelhead fishery in the Santa Ynez River, the need for additional measures does not negate the need for flow improvements.

Given the likely water supply impacts of Table 2 Flows during drought periods, as well as past multi-year droughts in California and the potential for more frequent and severe drought conditions in the future,[58] Reclamation shall confer with the Member Units on necessary updates to the safe yield of the Cachuma Project.[59] The Board acknowledges that there is a need for adaptive implementation and further evaluation of the required flows to maximize protection for fishery resources, due to water temperature concerns, and to avoid water supply impacts where possible. As a result, this order allows for adaptive implementation of the flows and further monitoring, evaluation and reporting of the effects of the flows as well as a study done in accordance with Revised Section 3 of the Biological Assessment within a year after the conclusion of the fifth Wet or Above Normal water year.

Specifically, this order allows for changes to the schedule of the Table 2 Flows to respond to changing conditions in the watershed and real-time information, including information related to passage, temperature, dissolved oxygen, or other important factors. NMFS and CDFW may propose changes to the Table 2 flow schedule that will maximize the benefits of the additional releases to steelhead and other public trust resources while ensuring no water supply impacts in excess of those evaluated in the FEIR under the original schedule. Changes to the Table 2 flow schedule may be made if one or both fisheries agencies (NMFS and CDFW) have agreed to an accounting method with the Member Units and Reclamation that ensures no additional water supply impacts will occur as a result of the changes. This collaborative approach does not require the State Water Board's approval. However, Reclamation must notify the Board's Executive Director, who may disapprove the changes to the schedule based on information indicating that the change is not warranted. If a Member Unit or Reclamation does not agree to a proposed change to the Table 2 flow schedule, the Executive Director may require the change if the

[58] In support of the reference to past multi-year drought in California and the potential for more frequent and severe periods of drought, the State Water Board takes official notice of the Proclamation of a State of Emergency due to drought conditions issued by Governor Edmund G. Brown Jr. on January 17, 2014, and Executive Order B-37-16, issued by the Governor on May 9, 2016, which declares that urban water agencies shall have urban Water Shortage Contingency Plans that include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. These documents are publicly available on the Office of the Governor's website.

[59] The safe yield is the amount of water a project can be expected to deliver over a sustained hydrologic period – a period that is long enough to contain wet periods as well as droughts. (FEIR, Vol. II, p.2.0-3.)

Executive Director determines that the change if warranted and that it will not cause a greater water supply impact than the impact that would occur under the existing schedule. The Executive Director shall comply with the CEQA Guidelines (California Code of Regulations, title 14, division 6, chapter 3, sections 15000–15387) when making this determination.

To safeguard against conditions that could result in adverse impacts to steelhead and other public trust resources as a result of the Table 2 Flows, this order also allows for short-~~or long~~-term flow reductions of Table 2 Flows, including short-term reductions down to flow levels required by the 2000 Biological Opinion (Table 1 Flows). Nothing in this order shall be construed to allow the Executive Director to modify Reclamation's requirements under the ESA or the CESA.

This order allows the Director of CDFW or the Assistant Regional Administrator for Protected Resources in the Southwest Region of NMFS to direct Reclamation to temporarily reduce or terminate the Table 2 Flows for the remainder of any given water year if the Director or Assistant Regional Administrator determines that the flows are likely to have a detrimental effect on the steelhead fishery due to high temperatures or other factors. This order authorizes the fishery agencies to direct Reclamation to temporarily reduce or terminate the flows due to the time sensitive nature of the releases and the need to react to potential issues as quickly as possible to prevent any detrimental effects to the fishery that could occur because of temperature or other factors. This is intended to be a short-term change, not to exceed the remainder of a given water year. If a situation arises that calls for a temporary reduction or termination of the flows, the Board anticipates that NMFS and/or CDFW will work closely with Reclamation on the timing and amounts of the reductions necessary. Reclamation is required to notify the Executive Director of any direction from NMFS or CDFW to reduce or terminate the Table 2 Flows. The Executive Director has the authority to disapprove the reduction or termination if the Executive Director disagrees with the determination that the flows will harm the fishery.

~~Finally, the Executive Director may authorize a long-term reduction or termination of the Table 2 Flows if CDFW, NMFS, Reclamation, or Member Units demonstrate to the~~

~~Executive Director's satisfaction that the flows will not benefit the fishery, or are likely to harm the fishery. The Executive Director should be skeptical of any proposal to authorize a long-term reduction or termination of the flows prior to the evaluation of the results of the required study of the Table 2 Flows described below.~~

~~5.3.1.8~~5.3.3.6 *Additional Studies and Study Plan*

In light of the lack of recovery of steelhead and public trust resources in the Santa Ynez River since the 2000 Biological Opinion/Alternative 3C was implemented, the testimony from the fishery agencies identifying additional actions that are needed to protect steelhead, and an incomplete hearing record on those actions, this order requires Reclamation to complete studies sufficient to determine the measures necessary to maintain the steelhead population in good condition. The Board may require Reclamation to implement additional measures needed to keep steelhead in good condition based on the results of those studies, if the Board determines, after providing notice and an opportunity for a hearing to affected parties, that the measures are consistent with the public trust and reasonable use doctrines. (See Cal. Code of Regs., tit. 23, § 780, subd. (a).) There is sufficient information in the record to determine that Table 2 flows are necessary in the interim.

To inform implementation of the higher Table 2 Flows included in Alternative 5C and the various adaptive provisions provided by this order discussed above, as well as potential future changes to Reclamation's water right requirements for the Cachuma Project, this order requires Reclamation to evaluate the following over five wet or above normal water years:

1) The effects of Table 2 Flows on steelhead in the river and verification of the amount of additional habitat provided, including habitat below the Alisal Reach;

2) The quality of the additional habitat, taking into account temperature, dissolved oxygen, and substrate;

3) Any detrimental effects, demonstrated by clear, scientific evidence, to steelhead in the river caused by the additional flows, such as increased temperature; and

4) Whether benefits to the steelhead fishery could be maximized through an alternative flow schedule with equivalent or reduced water supply impacts.

This order requires Reclamation to conduct the study in accordance with the requirements and methodologies in Revised Section 3 of the 2000 Biological Assessment so comparable data will be available to evaluate the changes resulting from the flow regime. Further, the order requires Reclamation to submit the results of the study within a year after the conclusion of the fifth Wet or Above Normal water year. The order reserves the Board's authority to reduce or modify the Table 2 flow requirements if the results of the study demonstrate that the additional releases do not benefit the steelhead fishery or if greater than expected water supply impacts occur.

In addition to the requirement to study the Table 2 Flows, this order requires Reclamation to conduct studies to determine other measures that could be implemented to keep the steelhead fishery in good condition~~, including~~ using current scientific information on southern California steelhead recovery such as NMFS' 2012 Final Southern California Steelhead Recovery Plan, and to provide reports to the Board and fisheries agencies following completion of those studies. Specifically, this order requires Reclamation to evaluate: opportunities to provide passage of steelhead above and below Bradbury Dam; instream ~~flows determined by an IFIM,~~flow measures for the protection of steelhead and other native aquatic species in the Santa Ynez River; measures to reduce impacts of ~~invasive species,~~predation and other species on steelhead and other native aquatic species; and improvements to or restoration of stream and streamside habitat to benefit steelhead and other native aquatic species. In each study, Reclamation is required to evaluate the extent to which the measures could benefit the steelhead and other public trust resources, technical and regulatory feasibility, costs, and any potential water supply or environmental impacts. This order requires Reclamation to submit a report to the Executive Director after the completion of each study that describes the study and its results. Reclamation must also submit a summary report one year after completion of all required studies identifying specific measures that Reclamation will implement or that could be implemented to achieve good condition of the steelhead population in the Santa Ynez River.

This order requires Reclamation to prepare an overall study plan for the studies described above, including the sequence in which Reclamation proposes to complete the studies and deadlines for submitting reports that describe the studies and their results. For all draft and final plans, studies, and reports, Reclamation is required to consult with CDFW and NMFS. Each of the studies is described in more detail below.

Passage Study

During the hearing, the fisheries agencies presented substantial evidence regarding the importance of passage around Bradbury Dam to the recovery of the steelhead population. Steelhead evolved having access to the Santa Ynez River headwaters above Bradbury Dam. (R.T., October 23, 2003, p. 548:13-548:14.) Historically, steelhead used the mainstem of the Santa Ynez River as a migration corridor to reach the tributaries above Bradbury Dam to spawn and rear in the summer. (*Id.*, p. 548:20-548:24.) As stated earlier, upstream of Bradbury Dam, there are 248 miles of habitat in the tributaries, and 43 miles of habitat in the river main-stem. (NOAA-7A, NOAA-7B, NOAA-7C.) Historically, steelhead over-summered in these upper reaches, where water temperature and dissolved oxygen levels are consistently more favorable, when water temperatures in the mainstem became unfavorable or flow was nonexistent. (R.T. October 23, 2003, pp. 583:24 to 584:10; FEIR, Vol. II, p. 4.7-22.) After construction of Bradbury Dam all of this favorable upstream habitat was blocked. Experts from the fishery agencies testified that the lower Santa Ynez River will not support a robust population of steelhead and that passage to these upstream reaches is necessary for recovery of the steelhead population. (DFG-4, p. 7; R.T., March 30, 2012, p. 18:1-18:8; R.T., October 23, 2003, p. 554:7-554:13; R.T., November 12, 2003, p. 748:3-748:11.) Based on this evidence, this order requires Reclamation to study, as expeditiously as possible, the feasibility of providing passage upstream and downstream of Bradbury Dam. The study is required to conform to the *Santa Ynez River Fish Passage Feasibility Analysis* submitted by NMFS (on February 16, 2004) and CDFW (February 17, 2004) unless variations are approved by the Deputy Director.

Instream Flow Study

Passage alone may not address all of the impacts of the construction and operations of Bradbury Dam. In addition, the habitat below Bradbury Dam will need to be improved to the extent feasible, particularly given that the degree to which passage will be possible is not certain. IFIM analysis is a standard method for determining instream flow needs for fish and wildlife. (R.T., November 13, 2003, p. 921:2-921:6.) As mentioned previously, DWR completed a draft IFIM for the Santa Ynez River in 1989. However, that study may not be representative of the channel conditions that currently exist (*id.*, p. 960:6-960:9; CT-37) and the recommendations of the 1989 draft IFIM are uncertain since it was never finalized. ~~A new IFIM or similar study must be conducted to inform decisions regarding implementation and potential modification of flow requirements in the mainstem of the lower Santa Ynez River. This order directs Reclamation to complete such a~~ Additionally, an IFIM study is not specifically intended to address aspects of river flow which are pertinent to anadromous fish. As noted in NMFS December 8, 2016 comment letter, an 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. This aspect of a flow regime is particularly important for highly migratory fish species such as steelhead. Specially, IFIM analyses do not promote the elements of the natural flow regime which are important to maintaining native species, including steelhead, life history diversity and habitat conditions under which these species have evolved. (NMFS, December 8, 2016 comment letter, p. 15.)

For these reasons, this order directs Reclamation to further study what flows and other non-flow measures are necessary to ~~replace the lost habitat~~ restore and maintain the steelhead population in good condition at the individual, population, and community level. The study must evaluate steelhead life history and habitat requirements including channel morphology and water quality issues, including but not limited to sediment transport, temperature, and dissolved oxygen conditions. (See generally R.T., November 12, 2003, pp. 655:7-658:3.)

~~Exotic~~Studies to Evaluate the Effects of Predation and Other Nonnative Species ~~Studies~~

Ms. Baldrige testified that native fish populations such as steelhead may never be in good condition at the community level in the Santa Ynez River due to predation by invasive fish species and the ~~large amount of~~favorable habitat ~~that is available~~conditions for ~~them~~these invasive species in the ~~basin~~Santa Ynez River. (R.T., October 22, 2003, p. 447:12-447:17.) In addition to nonnatives, Ms. Baldrige also testified ~~the presence of~~ that native beaver and their dams ~~in the mainstem are one of the~~may create impediments to fish passage. (MU-226, p. 6.) To further evaluate these issues and potential methods to address them, this order requires Reclamation to study the effects of predation and other species on steelhead and to evaluate measures that could be implemented to reduce impacts.

Stream and Streamside Habitat Restoration

Reclamation proposed in the 1999 Biological Assessment to implement physical habitat improvement projects, including the removal of fish passage barriers on the tributaries to the Santa Ynez River, to be completed by 2005. Of the 11 tributary improvement projects required by the 2000 Biological Opinion, only three were completed, and two were eliminated. Providing additional improvements in streamside habitat such as increasing the amount of riparian vegetation should improve temperature, dissolved oxygen, and food productivity, which in turn may provide significant benefits to steelhead and other public trust resources, particularly in the summer. As stated in section 5.3.3.1.3, this order will not require the completion of the remaining tributary improvement projects on Quiota Creek. However, this order directs Reclamation to conduct a study that evaluates the potential for other stream and streamside restoration and habitat improvements to improve the quantity and quality of steelhead habitat in the lower Santa Ynez watershed.

Study Plan

This order requires Reclamation to prepare a study plan for the studies described above. 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. Two possible metrics are: population size for each of the different

steelhead life stages that would equate to good condition, or the amount of adequate and accessible habitat that would support a steelhead population in good condition. The study plan also must include the sequence in which Reclamation proposes to complete the studies (concurrently or in coordination with other studies) and the proposed deadlines for submitting reports that describe the studies and their results. ~~Based on the significant potential benefit of providing passage around Bradbury Dam, it may be possible to defer the remaining~~Upon written agreement by CDFW and NMFS, existing studies ~~pending completion of the passage study. If passage is feasible and likely to achieve good condition of the steelhead fishery, the remaining study~~ may be used to fulfill the requirements ~~may continue to be deferred pending implementation of measures that provide passage around Bradbury Dam and monitoring to determine whether good condition of the fishery is likely to be achieved.~~in this section. Reclamation is required to submit the study plan to the Deputy Director for review within 180 days from the date of this order. The Deputy Director may direct Reclamation to make any changes to the study plan necessary to ensure a timely and meaningful evaluation of the measures.

~~5.3.1.9~~5.3.3.7 *Monitoring and Reporting*

This order requires Reclamation to maintain a continuous record of the daily instream flows in the Santa Ynez River at Highway 154 and Alisal Road, or other sites the Deputy Director deems suitable and to make those records available on a publicly assessible website.

This order requires Reclamation to implement the monitoring program described in the 2000 Biological Assessment to evaluate steelhead and their habitat. And the order also directs Reclamation to consider including additional monitoring aimed at measuring progress toward recovery of California's steelhead populations, such the California Coastal Salmonid Monitoring Plan. Reclamation must implement the monitoring program regardless of which flow requirements are in effect. The Deputy Director may amend the monitoring requirements to require additional monitoring or refine existing requirements.

This order also requires Reclamation to submit annual reports to verify compliance with all permit terms, and to submit annually the document produced in accordance with the

terms and conditions that implement Reasonable and Prudent Measure No. 11 of the 2000 Biological Opinion. (FEIR, Vol. III, Appendix D. pp. 75-77.) Furthermore, if Reclamation anticipates a violation or if a violation of any of the terms or conditions in this order has occurred, Reclamation shall provide immediate written notification to the Deputy Director. Finally, within 90 days from the date of this order, Reclamation will be required to submit a plan describing the measures in place or those it will implement with specific time periods that will ensure compliance with the flow requirements. The Deputy Director may direct Reclamation to make any changes to the plan necessary to ensure compliance.

6.0 PROTECTION OF DOWNSTREAM WATER RIGHTS

One of the primary objectives of this proceeding is to protect senior downstream water rights holders from injury due to:

1) Changes in water quality resulting from operation of the Cachuma Project, including water quality effects in the Lompoc Plain Groundwater Basin that impair any senior water right holder's ability to beneficially use water under prior rights; and

2) A reduction in the quantity of water available to serve prior rights.

This section will review the Cachuma Project Settlement Agreement, discuss how the settlement agreement applies to key hearing issues, and make findings.

6.1 Cachuma Project Settlement Agreement

Cachuma Project operations caused nearly fifty years of dispute between the Member Units and the downstream parties (the City of Lompoc and SYRWCD). The December 17, 2002 Settlement Agreement between the CCRB; SYRWCD; SYRWCD, ID No. 1; and the City of Lompoc was executed by the parties to resolve all outstanding water rights and water quality issues among them, including key hearing issues 4, 5, and 6. (MU-220; MU-220A.)

The Settlement Agreement includes five basic provisions:

1) Downstream water rights releases;

2) Modified winter storm operations;[60]

3) Resolution of litigation and claims by City of Lompoc;

4) Protection of public trust resources;[61] and

5) Effective date and termination.

Provision 1 is subdivided into six subparagraphs: 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6. Of these five basic provisions, most do not require action by the State Water Board to implement and can be carried out under existing Board orders or under contractual commitments among the parties. Only subparagraphs 1.3 and 1.4 of the Settlement Agreement require action by the State Water Board to fully implement and are discussed in detail below. (MU-220; MU-220A.)

6.2 Key Issue 4 Evaluation

The following discussion evaluates how the Settlement Agreement addresses Key Hearing Issue 4:

> Has any senior, legal user of water been injured due to changes in water quality resulting from operation of the Cachuma Project?

The City of Lompoc owns and operates nine domestic water supply wells that are all located within the boundaries of the City of Lompoc and withdraws groundwater from the main zone of the upper aquifer in the eastern portion of the Lompoc Plain Groundwater Basin. The groundwater from the wells is the City of Lompoc's sole source of water

[60] During February 1998, the historic operation of Bradbury Dam (Cachuma Reservoir) changed during two large storm events to reduce downstream flow in the Santa Ynez River. The success of that operation in reducing public risk prompted the staff of Santa Barbara County Water Agency to summarize the basis for those operations so that such operations may be repeated as conditions warrant. Risk to the yield of the reservoir was also evaluated since the Cachuma Project was authorized for water conservation and was not formally authorized for flood control purposes and thus has no space dedicated to flood control. (CSB-8, p. 1.) The parties to the Settlement Agreement agreed to Reclamation's adoption and continued use of "Modified Winter Storm Operations" as described in technical memoranda cited in the Settlement Agreement, to help protect life and property along the Santa Ynez River downstream of Bradbury Dam. The Modified Winter Storm Operations provide Lompoc and its residents, as well as other entities and individuals downstream of Bradbury Dam, a level of protection and security from major flooding that did not exist before 1998. (Lompoc-1, p. 2; MU-220A, p. 6.)

[61] The parties to the Settlement Agreement agreed to mutually support the Terms and Conditions of the NMFS 2000 Biological Opinion and the Fish Management Plan as the preferred operational program for the Cachuma Project to address public trust resource issues. (MU-220A, p. 7.)

provided to approximately 39,000 people within the Santa Ynez River watershed. (Lompoc-1.)

The City of Lompoc has asserted that the historic operations of the Cachuma Project impaired the water quality in the Lompoc Plain Groundwater Basin in such a manner as to injure the city's senior downstream water rights. (Lompoc-1, p. 6.) The City of Lompoc has argued that the historical operation of the Cachuma Project increased the salinity of Santa Ynez River stream flows at the Narrows in two significant ways:

1) Evaporation from the reservoir surface increases the dissolved solids concentration in the outflow; and

2) Deliveries to the South Coast through Tecolote Tunnel and deliveries to SYRWCD, ID No. 1 through the dam's outlet works decrease the average outflow from the reservoir, which increases the relative contribution of tributary inflows between Bradbury Dam and the Narrows to the total flow at the Narrows.

(*Ibid.*)

Modeling conducted by the City of Lompoc's consulting hydrologist, Mr. Tim Durbin, principal groundwater and surface-water hydrologist, showed that historically, the operation of the Cachuma Project significantly reduced the quality of groundwater in the eastern Lompoc Plain Groundwater Basin. The dissolved solids and salinity concentrations of the recharge water in the Lompoc Plain Groundwater Basin are determined primarily by the dissolved solids and salinity concentrations at the Narrows.[62] (Lompoc-1, p. 6.)

6.2.1 Operation Under the Settlement Agreement

Pursuant to Provision 1 (Subparagraph 1.5 - Deliveries During Releases) of the Settlement Agreement, the parties to the Settlement Agreement agree that deliveries of SWP water characterized by low concentrations of TDS will be scheduled such that deliveries will be maximized during periods of Order WR 89-18 water rights releases,

[62] Salinity is determined by measuring the ability of water to conduct an electrical current. Salinity is expressed in two different ways, either as electrical conductivity (ECw) or Total Dissolved Solids (TDS).

consistent with contractual limitations and the limitations in the 2000 Biological Opinion.[63] The objective of such co-mingling operations is to lower the TDS of water right releases for the lower Santa Ynez River downstream of Bradbury Dam. (MU-220; MU-220A, pp. 5-6.) This provision is a key component of resolving water quality concerns that the City of Lompoc raised concerning Cachuma Project operations. This provision of the Settlement Agreement can be implemented without any modification of existing Board orders. (MU-220, p. 5.)

Modeling conducted by the City of Lompoc's consultants supports the conclusion that under the current operating regime of the 2000 Biological Opinion, which includes the downstream water rights releases as required in Order WR. 89-18 and the commingling of SWP water that is imported by the CCWA, the groundwater quality in the eastern portion of the Lompoc Plain Groundwater Basin will return to a no project condition, and should ensure that the Cachuma Project does not impair the City of Lompoc's senior groundwater rights. (Lompoc-1, p. 7-8.)

6.3 Key Issue 5 Evaluation

The following discussion evaluates how the Settlement Agreement addresses Key Issue 5:

> Has operation of the Cachuma Project injured any senior water right holders through reduction in the quantity of water available to serve prior rights and, if so, to what extent?

Surface water supplies potentially available in the Santa Ynez River watershed include the main stem and tributaries of the Santa Ynez River and imported water from Northern California through the SWP. Diversion works constructed on the river (i.e., Juncal Reservoir (Jameson Dam), Gibraltar Dam (Gibraltar Reservoir), and Bradbury Dam (Cachuma Reservoir) were designed to export all or most of the diverted water out of the watershed. Surface water exports have the potential to significantly affect groundwater recharge. For this reason, the State Water Board included conditions in Decision 886,

[63] The 2000 Biological Opinion limits the amount of SWP water that can be "mixed" to no more than 50 percent of the release. (MU-220, p. 6.) The FEIR summarizes other restrictions related to the delivery of SWP water. (Vol. II., p. 2.0-38.)

and Orders WR 73-37, WR 78-10 and WR 89-18, to mitigate for the potential impacts of the Cachuma Project on groundwater recharge.

According to expert testimony presented by Mr. Durbin, groundwater flow modeling indicates the historical operation of the Cachuma Reservoir has had little, if any, impact on the groundwater supply within the Lompoc Plain Groundwater Basin. According to Mr. Durbin, the reservoir's operational impact, if any, has been to increase the water supply availability during extended droughts. (Lompoc-3, p. 2.) Mr. Durbin concluded that, "the continuation of the current operating regime under Order 89-18, including the CCWA's commingling of water from the SWP, as provided for in the Settlement Agreement, should insure that the Cachuma Project does not impair Lompoc's senior groundwater rights." (*Id.*, p. 3.)

6.3.1 Provision 1 – Subparagraph 1.3 - Conjunctive Operation of the BNA

The parties to the Settlement Agreement have agreed to operate the BNA conjunctively with the Lompoc Plain Groundwater Basin. Condition 5 of Reclamation's Permits for the Cachuma Project requires the BNA to be maintained for the benefit of water users in the Lompoc Plain Groundwater Basin. Pursuant to Condition 5, some of the water stored in Cachuma Reservoir is credited to the BNA and later released and conveyed to the Narrows for purposes of groundwater recharge. Credits to the BNA are based on the difference between actual percolation below the Narrows and the estimated percolation that would have occurred if river flows were not impounded by Cachuma Reservoir. Reclamation calculates monthly "constructive" flows and percolation, and estimates the difference between actual and constructive percolation using two percolation curves. (FEIR, Vol. II, p. 2.0-9.) The two curves reflect different flow-percolation relationships based on groundwater levels in the Lompoc Plain Groundwater Basin. (*Ibid.*) Curve A has been used by Reclamation and provides a higher rate of credit accrual in the BNA than Curve B. (*Ibid.*)

For many years, a disagreement existed between Reclamation, the Member Units, the SYRWCD, and the City of Lompoc, as to the "trigger" or "triggers" to be used to switch from "Curve A" to "Curve B" for purposes of determining BNA credits as provided in

Condition 5 of the Cachuma Project Permits. (MU-220, p. 8.) The parties to the Settlement Agreement have agreed that Curve A should be used for purposes of establishing BNA credits rather than Curve B, but that a portion of the BNA credit should be allocated for the Member Units' use during dry year conditions. (*Id.*, pp. 8-10; MU-220A, p. 5; MU-220E.)

The parties to the Settlement Agreement view this compromise as a mutually beneficial solution. (DOI-5, p. 1; Solvang-1, p. 2; Lompoc-1, p. 2; SYRWCD-2, p. 3.) For the Lompoc Plain area, credits will continue to be determined based on Curve A and therefore sufficient supplies will be available for downstream users, as compared to the supplies that would be available if Curve B were employed. On the other hand, the Member Units also will be able to accumulate, during high flow years, a portion of the BNA credit for use during very dry years when it is needed most by the Member Units.

Similarly, the record does not contain any evidence that the continued operation of the Cachuma Project in accordance with the Settlement Agreement will result in any significant effect on the Above Narrows Alluvial Groundwater Basin. The Settlement Agreement is supported by the Cities of Solvang, Buellton, and Lompoc, all of which are located within SYRWCD.[64] (Solvang-1, p. 2; SYRWCD-2.) The SYRWCD "wholeheartedly support[s] the Settlement Agreement as the appropriate means to protect the downstream water rights interests...." (SYRWCD-2, p. 2.) According to testimony by SYRWCD's witness, Dr. Bruce A. Wales, General Manager, "it is essential that the State Water Board make the relatively minor revisions to WR 89-18 required to provide for downstream water rights releases under WR 89-18 as modified by the Settlement Agreement." (*Id.* p. 1.) Dr. Wales also stated that the Board of Directors of the SYRWCD and its landowners or residents request that the State Water Board "adopt WR 89-18 as amended by the Settlement Agreement...." (*Id.*, p. 2.)

[64] Groundwater occurs within the SYRWCD primarily from the younger alluvial deposits of the Santa Ynez River and Lompoc Plain. Groundwater production within the SYRWCD is for domestic, municipal, industrial, and agricultural purposes.

6.4 Key Issue 6 Evaluation

The following discussion evaluates how the Settlement Agreement addresses Key Issue 6:

> Should Reclamation's water right permits be modified in accordance with the Settlement Agreement Between Cachuma Conservation Release Board, Santa Ynez River Water Conservation District, Santa Ynez River Water Conservation District, Improvement District No. 1, and the City of Lompoc Relating to the Operation of the Cachuma Project? Specifically, should Reclamation's water right permits be modified in accordance with the two enclosures submitted to the [Board] by Reclamation under cover of letter dated February 26, 2003, entitled "Proposed Modifications to WR 73-37 as amended by WR 89-18 Pertaining to Permits 11308 and 11310 (Applications 11331 and 11332)" and "Revised USBR Exhibit 1, February 1, 2003"?

6.4.1 Provision 1 – Subparagraph 1.4 - Technical Amendments to Permits 11308 and 11310

Pursuant to subparagraph 1.4 of the Settlement Agreement, the parties have agreed to support "technical amendments" to Conditions 5 and 6 of the Permits. The technical amendments are set forth in Exhibit C to the Settlement Agreement. (MU-220A, Exhibit C.)

As discussed above, Condition 5 of the Permits establishes the BNA. Condition 5 also establishes the ANA for the benefit of downstream water users between Bradbury Dam and the Lompoc Narrows. Water is credited to the ANA and later released to replenish the groundwater basin in the Above Narrows area. Inflow into Cachuma Reservoir is credited to the ANA when there is no visible flow (live stream) at designated locations in the river from Bradbury Dam to Floradale Avenue in the Lompoc Valley. Condition 6 of the Permits requires Reclamation to conduct field investigations and studies, and install necessary measuring facilities, to determine the amount, timing, and rates of releases of water into the Santa Ynez River below Bradbury Dam that are required pursuant to Condition 5.

For all of the provisions of the Settlement Agreement to become effective, the State Water Board must make the technical amendments to Conditions 5 and 6 of the Permits, in accordance with the Settlement Agreement. (MU-220A, p. 7.) Specifically, the

Settlement Agreement provides that subparagraphs 1.2 (Conjunctive Operation with Fish Releases),[65] 1.3 (Conjunctive Operation of the BNA), and 1.4 (Technical Amendments to WR 89-18) shall not become effective until the State Water Board adopts an order amending the terms and conditions of Reclamation's Permits confirming that downstream water rights releases will continue to be made consistent with Order WR 89-18, as modified by the technical amendments enumerated in Exhibit C of the agreement, without any material change. (*Ibid.*) In addition, the agreement may be terminated if the State Water Board does not adopt an order amending the terms and conditions of Reclamation's Permits in accordance with the agreement. (*Id.*, pp. 7-8.)

Although Reclamation is not a signatory to the Settlement Agreement, Reclamation supports the agreement, and has agreed to the technical amendments proposed by the parties to the agreement. (DOI-5, p. 11; DOI-10.) By letter dated March 21, 2003, Reclamation submitted two enclosures that set forth proposed modifications to its Permits consistent with the technical amendments proposed by the Settlement Agreement.[66] (DOI-10; Staff Exhibit 12.) Enclosure 1 is entitled "Proposed Modifications to Order WR 73-37, as amended by Order WR 89-18, Pertaining to Permits 11308 and 11310 (Applications 11331 and 11332)" and Enclosure 2 is entitled "Revised USBR Exhibit 1, February 1, 2003." Enclosure 2 contains technical information incorporated by reference in Conditions 5 and 6 of the Permits.

The technical amendments fall into three general categories, identified in Exhibit C to the Settlement Agreement as Technical Amendment 1, 2, and 3. These changes generally provide for:

1) An alternative measurement location for the "live-stream" determination at San Lucas Bridge (Highway 154) for purposes of determining credits to the ANA, in light of fish water releases that have been routinely made and have been present at that location since 1993;

[65] The parties to the Settlement Agreement agreed that downstream water rights releases will be scheduled in a manner to ensure that such water right releases in the future are similar to the historical practices, so that these releases operate conjunctively with the releases required to meet rearing flows described in the 2000 Biological Opinion. (MU-220A, p. 3.)

[66] Key hearing issue 6 incorrectly states that the enclosures were submitted by letter dated February 26, 2003.

2) Implementation of the conjunctive operation of the BNA and the application of Curve A and Curve B in determining BNA credits; and

3) Additional measurements to be carried out with respect to deliveries of SWP water.

(MU-220A, Exhibit C.)

6.4.1.1 Technical Amendment 1

This amendment sets the measuring location for the "live-stream" determination for the purposes of determining credits to the ANA. Since 1993, Cachuma Reservoir has released water to study and maintain fish habitat in the upper part of the Santa Ynez River downstream of Bradbury Dam. As a result of the releases, live stream flow conditions attributed to regular releases from Bradbury Dam have been created in the Santa Ynez River at San Lucas Bridge (Highway 154 Bridge) and at Floradale Avenue (Lompoc Narrows). (MU-220, p. 11; MU-220A, Exhibit C, pp. 1-3.) Accordingly, Reclamation has been making live-stream observations near the Highway 154 crossing on San Lucas Creek. San Lucas Creek is the main tributary to the Santa Ynez River immediately upstream of the San Lucas Bridge (Highway 154 Crossing) and the parties consider it the appropriate location to make the live-stream observations required by Condition 5. (MU-220, p. 11; MU-220A, Exhibit C, pp. 1-3; see also DOI-10, Enclosure 1, Enclosure 2, Attachment H, p. 2.)

6.4.1.2 Technical Amendment 2

This amendment addresses the implementation of the conjunctive operation of the BNA as described in section 6.3.1, above. The conjunctive operation with the BNA continues the use of Curve A for the purposes of establishing BNA credits, but under certain conditions sets aside a portion of the BNA credits for the Cachuma Member Units to utilize when most needed during dry conditions. (MU-220A, Exhibit C, p. 4; see also DOI-10, Enclosure 1, Enclosure 2, Attachments E & F.)

6.4.1.3 Technical Amendment 3

Since the State Water Board last revised Reclamation's Permits in 1989, additional flow and water quality measurement devices have been installed and maintained by the U.S. Geological Survey. By letter dated March 21, 2003, Reclamation submitted its

request to the State Water Board that these additional measurement devices be reflected by updating Condition 6 of its Permits and USBR Exhibit 1. (DOI-10.) Enclosed with Reclamation's letter are the proposed modifications to the terms and conditions in Permits 11308 and 11310, determined by the parties to the Settlement Agreement and agreed to by Reclamation to be necessary to protect water rights on the Santa Ynez River, downstream of Bradbury Dam. These technical amendments, as well as related changes for Technical Amendments 1 and 2, are consistent with those technical amendments set forth at Exhibit C of the Settlement Agreement. (DOI-10, p. 2; MU 220a, sec. 1.4, p. 5; see Exhibit C, Page 5.) Technical Amendment 3 concerns the measurement of the delivery of SWP water into Cachuma Reservoir. Consistent with the measurements performed for the SWP deliveries, the parties have agreed to, and Reclamation has proposed, two technical amendments to Condition 6 of the Permits. (MU-220A, Exhibit C, p. 5; see also DOI-10, Enclosure 1.)

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

The record supports the conclusion that operation of the Cachuma Project in accordance with the Settlement Agreement will protect senior downstream water right holders from injury due to either changes in water quality or a reduction in the quantity of water available to serve prior rights. The Settlement Agreement resolved long-standing water right and water quality issues between the Member Units, SYRWCD, and the City of Lompoc, and is supported by Reclamation. Following review, analysis, discussion, and negotiation, Reclamation and the parties also agree that the State Water Board should adopt the technical amendments described above.

Therefore, the State Water Board finds that Reclamation should operate the Cachuma Project pursuant to the new accounting, monitoring, and operating procedure set forth in the Settlement Agreement, and the Permits should be amended as proposed by Reclamation and agreed to by the parties to the agreement. The Board recognizes, however, that the Settlement Agreement was predicated on the assumption that the terms of the 2000 Biological Opinion/Alternative 3C would be adequate to protect public trust

resources. As such, accounting methodologies for the ANA and BNA may need to be adjusted again in light of implementation of the higher fish flows called for by this order.

Condition 7 of the Permits required the Board to commence a hearing by December 1, 2000, concerning proper and adequate releases from Bradbury Dam for downstream use and groundwater recharge. Condition 7 also reserved authority to amend the Permits until long-term permit conditions were set to protect downstream water right holders. This order updates condition 7 to reserve authority to make any changes to the release requirements for downstream water rights that may be necessary based on any changes to the Settlement Agreement.

7.0 Change Petition

7.1 Evaluation of Change Petition

As described in section 2.3, Reclamation filed a petition to change the place of use and purposes of use for its Permits. The proposed change in the authorized place of use for the Cachuma Project is to make the existing place of use boundary coincident with the Cachuma Project Member Units' water service area boundaries.[67] (MU-2, p. 1; DOI-1, p. 4.) The Member Units have integrated distribution systems that commingle Cachuma Project water with their other separate water sources. (MU-2, p. 2.) Evidence of intent to serve water to lands presently excluded from the permitted place of use is the Goleta West and Solvang-Santa Ynez Conduits, which are part of the integrated delivery system and part of the original design for the Cachuma Project. (*Ibid.*) Additional evidence includes the area outside the City of Santa Barbara's authorized place of use, which has been part of the City's water service area since the 1910s and 1920s. (*Ibid.*)

Reclamation's petition also seeks to consolidate the purposes of use for its Permits so that both Permits authorize the following purposes of use: irrigation, municipal, industrial, domestic, salinity control, incidental recreation, and stock watering. (DOI-2b; DOI-4, p. 4.)

[67] Under this petition, Reclamation sought to increase the place of use under both Permits from a gross area of 175,000 acres. (DOI-2b.) The proposed modified place of use includes an additional 17,506 acres near Santa Barbara and Lake Cachuma.

The requested change to the purposes of use is to consolidate the purposes of the two water right permits to make them consistent and uniform with one another. This is an administrative action that will not result in any change to Project operations, nor will it increase the amount of water that can be diverted from the Cachuma Project. (*Ibid.*)

7.2 Evaluation of Protest by City of Lompoc

As discussed under section 6.2, the City of Lompoc owns and operates nine domestic water supply wells that are all located within its service area and withdraws groundwater from the main zone of the upper aquifer in the eastern portion of the Lompoc Plain to serve approximately 39,000 people within the Santa Ynez River watershed. (Lompoc-1.) However, pursuant to the Settlement Agreement's Provision 3 (*Resolution of Litigation and Claims by City of Lompoc*), the City of Lompoc has:

1) Waived and forever discharged Reclamation and the parties to the Settlement Agreement from all of its existing financial damage claims relative to impacts of the operation of the Cachuma Project upon the City of Lompoc's water rights and upon water quality in the Lompoc Plain Groundwater Basin, and

2) Withdrawn its protest to the Cachuma Project Petition to Change in Place and Purpose of Use in connection with Phase 1 of the Order WR 94-5 water right hearing.

(MU-220A, p.7)

While the Cachuma Project was originally designed and authorized with a safe yield of approximately 32,000 acre-feet per year, that amount has diminished over the many years to approximately 25,700 acre-feet per year due to siltation in the reservoir and use of a longer hydrologic period that incorporates a key drought period, 1946-51. (DOI-1, p. 5; FEIR, Vol. II, p. 2.0-3.) The safe yield is that amount of water that can reasonably and beneficially be used each year by the Member Units and still ensure water is available in drought years. The 1996 Master Contract (Contract No. I75r-1802R) between Santa Barbara County Water Agency and Reclamation is a water service contract that states that "...due to the reduced capacity of Cachuma Reservoir, the sustained annual yield of the Cachuma Project has been reduced to approximately 25,700 acre-feet..." to be delivered to the five Member Units. (DOI-1c, p. 5.) The Cachuma Project provides only about 65 percent of the total water supply of the Member Units, and is not sufficient to

meet demand even within the existing place of use. (MU-2, p.1.) The Master Contract states that the parties agree that the Cachuma Project shall continue to be operated to provide for the protection of prior downstream rights holders and public trust resources. (DOI-1, p. 5.) The Member Units submit an annual water schedule to Reclamation for review and approval each year. (*Ibid.*)

The Member Units testified that they contract for a maximum entitlement of water from the Cachuma Project, and no additional or greater amount of water would or can be made available as a result of a change in the authorized place of use. (MU-2, p. 8.) Member Units' witness Ms. Rees testified that the entire project yield is put to beneficial use within the permitted place of use, and the requested change in place of use is not associated with, and will not create, an increase in yield from the Cachuma Project. Because Project yield is fully subscribed within the existing place of use, incorporating the added area into the permitted place of use results in the same amount of Cachuma Project water being applied to a larger area without any increase in Cachuma Project water demand or decrease in the water available for downstream flows. (MU-2, p. 1.) Member Units' and Reclamation's witnesses testified that no changes in project operations will occur as a result of approving the petitions. (R.T., November 6, 2000, pp. 40:12-40:18, 41:3-41:10, 78:3-78:25; MU-2, p. 8.) The City of Lompoc did not offer any contrary evidence that water deliveries would increase if the petition is approved.

Ms. Rees testified that granting or denying the change petition would have no bearing on the quantity, timing, or rate at which water will be released downstream pursuant to State Water Board orders and the 2000 Biological Opinion. (MU-2, p. 1, 8.) The Cachuma Project Master Contract is subordinate to Orders WR 89-18 and WR 94-5. Thus, the available supply of Cachuma Project water available for diversion to the Member Units is the net amount available after calculating and reserving, as credits in Lake Cachuma, the amount of water required to protect public trust resources and downstream interests as determined by those orders. (*Ibid.*) It is anticipated that flows downstream of the dam may increase as a result of the 2000 Biological Opinion and the Fish Management Plan; however, no reductions in flow are anticipated as a result of the petitions. (R.T., November 6, 2000, pp. 155:4-155:25, 156:1.)

Reclamation's witness, Mr. Michael Jackson, Deputy Area Manager for South Central California Office, explained that Reclamation passes water through the dam to meet its downstream release requirements prior to delivering water to its water supply contractors. Thus, downstream releases are not affected by contract delivery obligations. (R.T., November 6, 2000, pp. 37:9-37:21, 38:2-38:10; DOI-1, p. 5.) Mr. Jackson stated that the downstream release requirements and the contractual deliveries to the water supply contractors would not be modified as a result of approving the petition. For this reason, the petition would not result in any reduction in river flows. (R.T., November 6, 2000, pp. 37:9-37:21, 38:2-38:10, 40:12-40:25, 41:1; DOI-1, p. 8.) Reclamation's Chief of Operations for the Cachuma Project, Mr. Antonio Buelna, also testified that project operations would not change, there would be no changes to river flow downstream of Bradbury Dam, and reservoir spills would not change, as a result of approving the change petition. (R.T., November 6, 2000, pp. 40:12-40:25, 41:1, 78:20-78:25.)

7.3 Conclusion

The State Water Board finds that there will be no reduction in the flow regime downstream of the dam as a result of approving the change petition. Reclamation and the Member Units have submitted substantial factual evidence that shows that approval of the change petitions will not affect Cachuma Project operations or flows in the Santa Ynez River. No party, including the City of Lompoc, introduced any contrary evidence.

7.4 CEQA Compliance

COMB prepared a Negative Declaration for the petition to add 17,506 acres to the permitted place of use and to consolidate the purposes of use for the Cachuma Project. (Staff Exhibit 3.) The Negative Declaration reflects the fact that the majority of the land annexations described in the petition occurred prior to the effective date of CEQA. The document analyzes whether all of the Cachuma Project water could have been utilized in the permitted place of use, and concludes that all of the project water could have been used in the authorized place of use. No mitigation measures are identified in the Negative Declaration.

COMB adopted the Negative Declaration on November 2, 1998, and filed a Notice of Determination with the State Clearing House. (Staff Exhibit 3.) Pursuant to California Code of Regulations, title 14, section 15096, subdivision (f), the State Water Board has considered the environmental effects of the change petition as shown in the negative declaration.

8.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS

Before approving a project for which an EIR has been prepared, a public agency must make one or more of the following findings for each of the significant effects of the project identified in the EIR:

1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the EIR.

2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

3) Specific economic, legal, social, technological, or other considerations... make infeasible the mitigation measures or project alternatives identified in the EIR.

(Cal. Code Regs., tit. 14, § 15091, subd. (a)(1-3).)

8.1 Findings Regarding Impacts to Water Supply

Under baseline conditions and all of the alternatives analyzed in the FEIR, the Member Units' water supplies would not fully meet projected demand in a critically dry year such as 1951 or during a three-year critical drought period such as 1949-1951. Under Alternative 5C, in a critically dry year, the Member Units' water supply shortage, assuming projected demand in the 2020/2030 period, could increase by 1511 af, relative to 2000 Biological Opinion/Alternative 3C. (FEIR, Vol. II, p. 4.3-18.) During a three-year critical drought period, the Member Units' water supply shortage could increase by 3,881 af relative to 2000 Biological Opinion/Alternative 3C. (*Id.*, p. 4.3-25.)

Potential water supply shortages in dry years or periods under Alternative 5C could require new sources of water, such as groundwater, temporary water transfers, or desalinated water, implemented where feasible, which could result in significant and unavoidable impacts. (FEIR, Vol. II, p.4.3-36.)

Increased groundwater pumping during droughts could have a detrimental effect on groundwater quality by increasing the flux of water from poorer water quality areas in the absence of fresh water recharge. In addition, depending on how long overdraft conditions persist, wells may go dry or operate with reduced yields and increased pumping lifts. (FEIR, Vol. II, p. 4.3-32.) Additional groundwater pumping in some areas along the coast could cause an increase in saltwater intrusion. An increase in the total concentration of soluble salts in groundwater could reduce agricultural crop yield. (*Ibid.*) It may require expensive treatments, such as reverse osmosis, if the water is used for municipal and industrial purposes. (*Ibid.*) In addition, an increase in the concentration of soluble salts could contribute to the increased production of halogenated (organochlorinated) compounds such as trihalomethanes, which may be carcinogenic. (*Ibid.*)

A second potential new source of supply is a temporary transfer from another SWP contractor. Should the transfer initiate north of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta), some environmental impacts to the Bay-Delta could occur due to pumping extra additional water through the DWR Harvey Banks pumping plant. (FEIR, Vol. II, p. 4.3-32.)

A third potential new source of supply is desalination. There is no evidence in the record indicating whether or when the City of Santa Barbara's desalination facility will become operational. However, section 5.3.3.4, above, indicates that the additional 3,125 afa of projected potential yield of the desalination plant (FEIR, Vol. II, p. 4.3-33), would eliminate the modelled water supply impacts of Alternative 3C and Alternative 5C. (See Adjusted Table 4-17and Table 4-25a in section 5.3.3.4.)

The desalination process may adversely affect water quality. The desalination process generates significant levels of liquid wastes, including disinfectants (chlorine and biocides), de-fouling agents, and brine effluent. (FEIR, Vol. II, p. 4.3-35.) Solid wastes

or toxic metals may also be generated in lesser quantities. Liquid or solid waste may be discharged directly into the ocean, combined with sewage treatment plant wastewater or with power plant cooling water before being discharged into the ocean, or dried and disposed of in landfills. (*Ibid.*) Typically, brine effluent is carried offshore through an outfall pipe and discharged directly into the ocean or estuary from the end of the pipe or through a diffuser that accelerates the diffusion and mixing process. (*Ibid.*)

The desalination process also requires additional power generation, which has environmental consequences. A 3,000 afa seawater desalination plant would require roughly two megawatts of generating capacity continuously. (FEIR, Vol. II, p. 4.3-35.) If the electricity were produced from existing thermal power plants, it could result in impacts to air quality from air emissions and water quality impacts from the cooling system. (*Ibid.*) Much of the electricity used in California is generated through use of fossil fuels. These power plants, operating on natural gas or coal, produce nitrogen oxides (NO_x), particulate matter, reactive organic gases (ROGs), and in some cases, sulfur dioxide (SO_2). (*Ibid.*) Coal-fired generation is almost exclusively out-of-state, and the energy is brought to California through the high voltage transmission system. (*Ibid.*) Coal-fired power plants produce more air pollutant emissions than gas-fired plants, including sulfur, particulates, and carbon dioxide. Assuming that new load from the desalination facility is only met through an efficient natural gas-fired power plant using the best available emissions reduction technology, a 3,000 afa facility using two megawatts of electricity would result in 1,053 pounds of NO_x, 93 pounds of SO_2, 693 pounds of particulate matter less than 10 micrometers in diameter (PM10), 693 pounds of ROG, 2,000 pounds of carbon monoxide, and 2,000 tons of carbon per year. (*Ibid.*) This assumes that the desalination facility operates continuously.

For the foregoing reasons, the State Water Board finds that information on the status of potential new sources of supply would better inform the Board's continuing oversight of the Cachuma Project.

8.1.1 Mitigation Measures for the New Sources of Water

There are several possible sources of new supplies. While, some of these possible sources may not be available at all times, these potential sources of new supply could be implemented when feasible.

Conservation

The Member Units already have implemented conservation measures, but it may be possible to implement additional measures to make up for a temporary water supply shortage in a critical drought year or period. Section 210 of the Reclamation Reform Act of 1982 (43 U.S.C. § 390jj(b)) requires water districts that have entered into repayment or water service contracts pursuant to federal reclamation law to develop water conservation plans. The 1996 master repayment and water service contract between Reclamation and SBCWA on behalf of the Member Units includes an acknowledgement that SBCWA and the Member Units have developed and are implementing water conservation plans as required by federal law. (DOI-1c, p. 38.) The contract also requires SBCWA to submit to Reclamation any revisions to the conservation plans and to report annually on the status of implementation of the plans. (*Id.*, pp. 38-39.)

As described in the FEIR, the Member Units also have prepared urban water management plans pursuant to the Urban Water Management Planning Act (Wat. Code, §§ 10610-10656). (FEIR, Vol. II, pp. 4.3-36 to 4.3-37.) Among other things, urban water management plans must identify and quantify available water supply sources; quantify past, current, and projected water use; and describe water demand management measures. (Wat. Code, § 10631, subds. (b), (e) & (f).) In addition, urban water management plans must include an urban water shortage contingency analysis. (*Id.*, § 10632.) The analysis must identify actions to be taken in response to water supply shortages, including mandatory prohibitions against specific water use practices, methods to reduce water consumption during the most restrictive stages of a shortage, and penalties or charges for excessive use. (*Id.*, § 10632, subds. (a)(4)-(6).) The FEIR identified implementation of the drought contingency measures identified as part of the Member Units' urban water shortage contingency analyses as a mitigation measure for

the water supply related impacts of water shortages under Alternative 5C. (FEIR, Vol. II, p. 4.3-37.)

Surcharges can be imposed by DWR

If a water transfer is initiated north of the Bay-Delta, DWR can mitigate any adverse effects using water surcharges. (FEIR, Vol. II, p. 4.3-33.) These additional water surcharges range from 20 percent to 50 percent of the transferred water, depending on year type and current hydrologic conditions. (*Ibid.*) The water surcharges augment Bay-Delta outflow and serve to combat water quality problems that can occur in the central and south Bay-Delta as pumping is increased to move the transferred water. (*Ibid.*)

New projects, such as transfers, will be studied by the prospective project proponent in compliance with CEQA as necessary once such projects are actually proposed. Some water transfers may require State Water Board approval of a transfer petition. The Board may impose any conditions of approval necessary to ensure that a transfer will not injure third party water right holders or unreasonably affect fish, wildlife, or other instream beneficial uses. (See Wat. Code, § 1725.) Accordingly, the Board can mitigate for the environmental impacts of any transfers that require its approval.

Desalination

The additional power generation associated with desalination could be mitigated in part if the desalination plant is designed so that it can be shut down during peak power demand periods, thereby taking advantage of unused power capacity in off-peak times. (FEIR, Vol. II, p.4.3-35.)

Any potential water quality impacts associated with discharge due to desalination are mitigable to less than significant levels through compliance with a national pollutant discharge elimination system (NPDES) permit issued by the Regional Water Quality Control Board, Central Coast Region (Regional Water Board). The NPDES permit will ensure that the beneficial uses of receiving waters are protected.

No mitigation measures for the potential impacts attributable to groundwater pumping are identified in the FEIR, but local agencies can and should adopt groundwater management

plans that limit pumping to the extent necessary to prevent overdraft. Effective January 1, 2015, groundwater resources must be managed in accordance with the Sustainable Groundwater Management Act (SGMA) (Wat. Code, § 10720 et seq.) SGMA prioritizes groundwater basins that are currently overdrafted and sets the following timeline for implementation:

1) Local groundwater management agencies must be identified by 2017, (Wat. Code, § 10735.2, subd. (a)(1));

2) High and medium priority groundwater basins that are subject to critical conditions of overdraft must have sustainability plans by 2020, (*id.*, §§ 10720.7, subd. (a)(1), 10735.2, subd. (a)(2));

3) Other high and medium priority basins must have sustainability plans by 2022, (*id.*, §§ 10720.7, subd. (a)(2), 10735.2, subds. (a)(3)-(4)); and

4) All high and medium priority groundwater basins must achieve sustainability within 20 years of plan implementation (*id.*, § 10727.2, subd. (b)(1)).

8.1.2 Findings

Section 15091, subdivision (a)(1) Finding

Pursuant to California Code of Regulations, title 14, section 15091, subdivision (a)(1), the State Water Board finds as follows.

The Board cannot require the Member Units to implement conservation measures pursuant to this order, and Reclamation does not have the ability to implement conservation measures directly. However, the Board has adopted emergency conservation regulations that apply to the Member Units, and could do so again in the future if conditions warrant. (See also generally Wat. Code, § 1058.5.) In addition, Reclamation has the authority to require conservation measures to be implemented pursuant to its contracts. Accordingly, the State Water Board will require Reclamation to require the Member Units to implement the demand management measures identified as part of the urban water shortage contingency analyses contained in the Member Units' urban water management plans. In the event that Reclamation does not succeed in amending its contracts by December 31, 2020, this order reserves authority for the Deputy Director to modify Reclamation's permits to achieve comparable water use reductions to the Member Units' water demand management measures and delegates

that authority to the Deputy Director. The fact that the Member Units identified these measures in their plans indicates that they are feasible and that requiring the measures be implemented is reasonable. Moreover, it may not be necessary to amend Reclamation's current contract with SBCWA, which already requires implementation of conservation plans. Presumably, the Member Units' urban water management plans constitute the conservation plans required by the contract.

Although implementation of the water demand management measures should serve to reduce the environmental effects of water supply shortages under Alternative 5C, it is possible that the effects will not be avoided altogether or reduced to less than significant levels. Additionally, Reclamation could consider temporary transfers from another SWP contractor and desalination to reduce the environmental effects of water supply shortages under Alternative 5C.

Section 15091(a)(2) Findings

Pursuant to California Code of Regulations, title 14, section 15091, subdivision (a)(2), the State Water Board finds as follows. With respect to temporary transfers initiated north of the Bay-Delta that do not require the Board's approval, surcharges to augment Bay-Delta outflow are within the responsibility and jurisdiction of DWR and not the State Water Board. Such surcharges can and should be adopted by DWR.

The issuance of a NPDES permit for a desalination plant is the responsibility of the Regional Water Board, and review of that action is the responsibility of the State Water Board. The Regional Water Board can and should mitigate the environmental impacts of a desalination plant through the exercise of its NPDES permitting authority, should a desalination plant be proposed. The State Water Board may exercise its oversight authority, if necessary.

With respect to local regulation of groundwater pumping, Reclamation shall require the Member Units to implement the demand management measures identified as part of the urban water shortage contingency analyses contained in the Member Units' urban water management plans. The Deputy Director may modify Reclamation's permits to achieve

comparable water use reductions to the Member Units' water demand management measures if Reclamation does not require them.

Section 15091, subdivision (a)(3) Finding

Pursuant to California Code of Regulations, title 14, section 15091, subdivision (a)(3), the State Water Board finds that, to the extent water supply impacts will not be mitigated by the Board, DWR, the Regional Water Board, or local agencies, the FEIR does not identify any additional mitigation measures, and specific economic, legal, social, technological, and other considerations make the alternatives infeasible. As discussed above, the Board has authority to mitigate for the impacts of any future transfers that are subject to its jurisdiction, but any such mitigation measures would have to be imposed as conditions of approval of future transfers.

Alternatives 2, 3C, and 4B would avoid the significant and otherwise unavoidable impacts attributable to water supply shortages under Alternative 5C, but those alternatives are infeasible because they do not meet the State Water Board's objective of protecting the Santa Ynez River steelhead and other public trust resources to the extent feasible and in the public interest, consistent with the reasonable use and public trust doctrines. As has been discussed in this order, the Santa Ynez River steelhead fishery is not in good condition.

In addition, Alternative 2, which represents environmental conditions in 2000, is no longer representative of existing conditions due to Reclamation's implementation of operational and other changes since 2000 to comply with the 2000 Biological Opinion, including the 3.0-foot surcharge. Those operational and other changes essentially render Alternative 2 obsolete. Under Alternative 4B, releases from Bradbury Dam to recharge the Lompoc Plain Groundwater Basin would be exchanged for SWP water discharged into the Santa Ynez River in the vicinity of the Lompoc Forebay. The City of Lompoc has taken the position that Alternative 4B is infeasible because city residents have rejected SWP water as a new water supply. (FEIR, Vol. II, p. 3.0-19.)

8.2 Findings Regarding Impacts to Oak Trees

Surcharging Cachuma Reservoir under Alternatives 3C and 5C inundates the oak trees growing at the margins of the reservoir. The oak woodlands at the margins of the reservoir are recognized as a significant plant community by both Santa Barbara County and the State. Surcharge to 3.0 feet was implemented in 2009, therefore, impacts to the oak trees associated with the 3.0-foot surcharge under Alternatives 3C and 5C have already occurred. Of the 3,147 acres of lakeshore margin impacted by the surcharge, approximately 24.1 percent supported oak woodlands. (FEIR, Vol. II, p. 4.8-12.)

The EIR identified the impacts to oak trees under Alternatives 3C and 5C along the margins of Cachuma Reservoir as a significant, unmitigable impact. Reclamation will compensate for the loss of approximately 755 acres of oak woodlands by the implementation of an integrated Oak Woodland Restoration Plan that at a minimum achieves a 2:1 replacement ratio of each oak lost after 20 years. (FEIR, Vol. II, p. 4.8-12.) When the replacement trees become established and self-sustaining, the loss of oak trees under Alternatives 3C and 5C will be considered a significant but mitigable impact.

8.2.1 Findings

Section 15091(a)(1) Finding

Pursuant to California Code of Regulations, title 14, section 15091, subdivision (a)(1), the State Water Board finds that the long-term impacts to oak trees will be mitigated by requiring Reclamation to implement the Integrated Oak Woodland Restoration Plan as a condition of the Permits.

Section 15091(a)(3) Finding

Pursuant to California Code of Regulations, title 14, section 15091, subdivision (a)(3), the State Water Board finds that specific economic, legal, social, technological, and other considerations make mitigation for the short-term impact to the oak trees during restoration infeasible. The FEIR did not identify any mitigation measures for this impact. The impact would have been avoided under the No Project Alternative, and the impact would have been reduced under Alternatives 3B, 4B, and 5B, which assumed that a

1.8-foot surcharge would be implemented. Those alternatives are infeasible, however, because a 3.0-foot surcharge has already been implemented.

8.3 Findings Regarding Impacts to Cultural Resources

There are at least 18 documented archaeological surveys or excavations within the area surrounding Cachuma Reservoir on file at the Central Coast Information Center housed at the University of California, Santa Barbara. (FEIR, Vol. II, p. 4.11-7.) The EIR found that surcharging Cachuma Reservoir by 1.8 feet under Alternatives 3B and 5B, and 3.0 feet under Alternatives 3C, 4B and 5C, could have a significant but mitigable impact to cultural resources, specifically two archeological sites located along the margins of the reservoir. (FEIR, Vol. II, p. 4.11-15.) The 3.0-foot surcharge to Cachuma Reservoir was completed in 2009, therefore the potential for impacts has already occurred.

The EIR found that the implementation of three mitigation measures would reduce the impacts under Alternatives 3B, 3C, 4B, 5B and 5C to a less than significant level. (FEIR, Vol. II, pp. 4.11-16 to 4.11-17.) The three mitigation measures are:

1) Data recovery excavation conducted on a representative sample of the features and artifacts contained within those portions of certain archeological sites impacted by surcharging,

2) Implementation by Reclamation of a Memorandum of Agreement regarding additional surcharging, and

3) Evaluation by a professional archeologist if unknown archeological materials are identified.

(FEIR, Vol. II, pp. 4.11-16 to 4.11-17.)

8.3.1 Findings

<u>Section 15091(a)(1) Finding</u>

The mitigation measures referenced above were implemented. (FEIR, Vol. II, p. 4.11-17.) Therefore, in accordance with California Code of Regulations, title 14, section 15091, subdivision (a)(1), and with section 21082.3 of the Public Resources Code, the State Water Board finds that mitigation measures have been incorporated into the project that

avoided or substantially lessened the significant environmental effect identified in the FEIR.

8.4 Statement of Overriding Considerations

CEQA requires an agency to balance the economic, legal, social, technological, or other benefits of a project against the significant unavoidable environmental impacts when determining whether to approve the project. (Cal. Code Regs., tit. 14, § 15093, subd. (a).) In this case, the benefits of modifying Reclamation's Permits as proposed outweigh the significant unavoidable environmental impacts for the following reasons. There is overwhelming evidence in the record that the steelhead in the Santa Ynez River are not in good condition and that the requirements of the 2000 Biological Opinion, reflected in Alternative 3C, are unlikely to restore the steelhead population to good condition on their own. Evidence in the hearing record clearly indicates that habitat, and, in particular, juvenile rearing habitat, is the primary limiting factor preventing the Santa Ynez River steelhead fishery from being in good condition. (FEIR, Vol. III, Appendix C, 1999 Biological Assessment, p. 2-3; DFG-2, pp. 7-9; CT-90, p. 4, NOAA-2; p. 5, MU-226, p. 6; R.T. October 23, 2003, pp. 506:25-507:20; R.T. November 12, 2003, pp.645:22-646:2.) The record also supports the finding that the Alternative 5C will provide the endangered steelhead with additional habitat, rearing habitat in particular, and should lead to an improvement in the condition of the species. Based on the application of a standard of good condition, this order directs Reclamation to take immediate action, in combination with monitoring plans and long-term studies, to help restore the steelhead population to good condition.

This action is consistent with the State Water Board's responsibility to protect public trust resources to the extent feasible. Although all of the efforts to improve water supplies for the Member Units are unclear, there is evidence in the record sufficient to support the possibility that improvements are possible. Therefore, the benefits of Alternative 5C outweigh any significant and unavoidable environmental impacts attributable to water supply shortages that may result from this action. The State Water Board makes this statement of overriding considerations without considering the information presented in section 5.3.3.4.

It is unnecessary to make a statement of overriding considerations with respect to the short-term impact to oak trees due to surcharging Cachuma Reservoir because Reclamation has already implemented the surcharge, and the impacts have occurred irrespective of this order.

8.5 Mitigation, Monitoring, and Reporting Program

When an agency finds that a significant environmental impact of a project will be avoided or substantially lessened, the agency must adopt a program for monitoring or reporting on the changes that the agency has either required in the project or made a condition of approval in order to mitigate the impact. (Cal. Code, Regs., tit. 14, § 15091, subd. (d).)

This order requires Reclamation to amend its water service contract with SBCWA to the extent necessary to require the Member Units to implement the water demand management measures identified as part of the urban water shortage contingency analysis contained in their urban water management plans.[68] In the event that Reclamation does not succeed in amending its contract with SBCWA by December 31, 2020, this order reserves authority to amend Permits 11308 and 11310 (Applications 11331 and 11332) in order to achieve comparable water use reductions. Further, this order requires Reclamation to provide annual status updates on conservation efforts and efforts to make new water supplies and conserved water available to the Member Units. This order also requires Reclamation to implement the Oak Woodland Restoration Plan that will achieve a 2:1 replacement ratio 20 years after the first Cachuma surcharge event. The State Water Board will require Reclamation to report to the Deputy Director by

[68] Reclamation's comment letter on the draft order contends that the State Water Board lacks authority to require Reclamation to amend its water service contract with SBCWA. (U.S. Bureau of Reclamation, December 9, 2016 comment letter, pp. 2-3.) Section 8 of the Reclamation Act of 1902, codified at 43 U.S.C. § 383, requires that "the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with" state law "relating to the control, appropriation, use, or distribution of water used in irrigation." (See also *California v. United States* (1978) 438 U.S. 645, 675.) The Board acknowledges Reclamation's discretion when deciding whether to proceed with carrying out the provisions of the Reclamation Act. (See also 43 U.S.C. §§ 373, 373a, 390b.) Once Reclamation has decided to carry them out, Congress has made clear that Reclamation shall do so in conformity with state law. (See also generally Wat. Code, §§ 183, 275, 1051, subd. (c), 1052, subd. (a); 1200–1202, 1250, 1252, 1252.5, 1831, subd. (d)(2).)

December 31 of each year regarding the compliance with all permit terms, including the terms requiring that these mitigation measures be implemented.

9.0 Compliance with State Water Board Order WR 94-5

In Phase 1 of the hearing, the State Water Board received evidence and arguments from the parties on the issue of whether Reclamation adequately complied with Order WR 94-5. In Order WR 94-5, the State Water Board determined that additional information was needed before the State Water Board could take final action addressing the measures needed to protect downstream water rights and public trust resources, including fishery resources. Order WR 94-5 required Reclamation to submit specified documents and information no later than February 1, 2000.

Order WR 94-5 also required the Chief of the Division to determine, by March 1, 2000, what additional environmental documentation, if any, was required by CEQA in connection with the State Water Board's consideration of modifications to Reclamation's Permits to protect downstream water rights and public trust resources. Order WR 94-5 required Reclamation to prepare any such additional environmental documentation and to submit a draft to the Division Chief by July 31, 2000. By letter dated April 23, 1998, the Division Chief directed Reclamation to prepare an administrative draft EIR. Order WR 94-5 required the State Water Board to commence a hearing to determine the releases from Bradbury Dam necessary to satisfy downstream rights by December 1, 2000. The scope of the hearing was to include consideration of the requirements to carry out the Board's continuing authority to protect public trust uses and prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water.

The record supports the finding that Reclamation adequately complied with the submittal requirements. Reclamation did not fully comply with Order WR 94-5 because it did not complete the administrative draft EIR in connection with the State Water Board's consideration of modifications to Reclamation's Permits by the March 1, 2000 deadline established in Order WR 94-5. Enforcement of this requirement is no longer necessary, however, because an administrative draft EIR was completed.

10.0 Conclusion

The hearing record does not support the conclusion that the steelhead fishery in the Santa Ynez River is in good condition within the meaning of the public trust doctrine or as expressed in Fish and Game Code section 5937. The construction and operation of the Cachuma Project has had a substantial impact on the Southern California DPS of steelhead and was a major factor that lead to the DPS being listed as endangered under the federal ESA. The flows required pursuant to the 2000 Biological Opinion for the project and the partial completion of the tributary passage improvements are benefitting the steelhead fishery. However, evidence in the record establishes that steelhead remain in poor condition at the population and community levels despite the fact the 2000 Biological Opinion has been in effect for several years. Moreover, there is no indication that the condition of the fishery will improve unless additional measures are implemented to increase the amount of suitable habitat available for spawning and rearing.

Scientific knowledge of the biological needs of Santa Ynez River steelhead is currently inadequate for the Board to make a definitive decision on how best to protect Santa Ynez River steelhead. However, the hearing record supports the conclusion that Alternative 5C can provide additional steelhead rearing and spawning habitat which helps address an important limiting factor for steelhead populations in the Santa Ynez River. Therefore, this order requires Reclamation to release additional water to provide higher instream flows in the lower Santa Ynez River during wet and above normal years to increase the amount of steelhead habitat downstream of Bradbury Dam. Although the higher flow requirement may reduce stored water for human use in critically dry years or periods, the Member Units' need for the water does not outweigh the need to protect the steelhead fishery by increasing the habitat available below Bradbury Dam.

The Board acknowledges that uncertainty exists concerning the full extent of the benefits of the higher flows under Alternative 5C. Therefore, Reclamation will be required to study the effects of the increased flows on steelhead and verify the utility of the additional amount of habitat created given temperature, dissolved oxygen, and substrate conditions. The Board will reserve authority to reduce or modify the flow requirement if the results of the study demonstrate that the flows do not provide the anticipated benefits to the

steelhead fishery, or if greater water supply impacts are discovered. Also, with oversight from the Executive Director, NMFS or CDFW can direct Reclamation to temporarily terminate or reduce the requirement to meet the increased flows to prevent any detrimental effects to the steelhead. Additionally, to maximize benefits to the fishery, an adaptive management approach 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.

To improve the state of knowledge concerning the protection of the steelhead fishery, this order also 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. This order requires Reclamation to study the feasibility of additional measures that may be necessary to restore the fishery to good condition, including passage around Bradbury Dam, modified instream flows, and measures to address ~~invasive~~predators and other species with a potential to negatively affect steelhead. The Board will reserve authority to determine the adequacy of the studies and, after satisfactory completion of the studies, to determine whether any additional measures should be implemented consistent with the Public Trust Doctrine to restore steelhead to good condition. If greater habitat gains can be achieved through improvement projects that result in achieving good condition of the steelhead fishery, the Board may require implementation of these projects in lieu of increased flow requirements.

For the protection of downstream rights, this order amends terms 5 and 6 of Reclamation's Permits, as modified by Order WR 73-37 and amended by Order WR 89-18, in accordance with the technical amendments proposed by the parties to the Settlement Agreement, dated December 17, 2002, and agreed to by Reclamation. The technical amendments generally provide for:

1) An alternative measurement location for the "live-stream" determination at San Lucas Bridge (Highway 154) in light of fish water releases that are routinely made and present at that location and have been since 1993;

2) Implementation of the conjunctive operation of the BNA, with respect to determining the application of Curve A and Curve B in determining the BNA credits; and

3) Recognition of additional measurements to be carried out with respect to water flows and quality.

The Board recognizes that the parties may need to negotiate changes to the Settlement Agreement in light of the releases for steelhead required by this order, and will reserve authority to make any amendments to Reclamation's Permits that may be necessary based on any changes to the agreement.

Finally, this order grants Reclamation's 1983 petition to change the place and purpose of use authorized under its Permits. Accordingly, the Permits will be amended to include within the authorized place of use all lands within the Cachuma Member Units' service areas, and a net of 40,250 irrigable acres within a gross area of 205,376 acres, as shown on specified maps. The Permits will also be amended to authorize the following purposes of use: "Irrigation, Municipal, Domestic, Industrial, Salinity Control, Incidental Recreation, ~~and~~ Stockwatering, and Fish and Wildlife Conservation."

ORDER

Permits 11308 and 11310 shall be replaced with amended permits that contain all current terms and conditions set forth in the original permits, the applicable terms and conditions adopted pursuant to subsequent decisions and orders, and the terms, conditions, and changes specified herein. In addition, the amended permits shall be updated to include current mandatory terms and conditions. Specific term and condition numbers and corresponding references to those specific terms and conditions may be updated upon issuance of amended permits.

IT IS HEREBY ORDERED that the United States Bureau of Reclamation's[69] petition to change Permits 11308 and 11310 (Applications 11331 and 11332) is approved.

[69] The term "right holder" in the following permit terms refers to the Permittee, the U.S. Bureau of Reclamation.

1. The authorized purpose of use under Permits 11308 and 11310 shall be:

   Irrigation, Municipal, Domestic, Industrial, Salinity Control, Incidental Recreation, ~~and~~ Stockwatering, and Fish and Wildlife Conservation.

2. The authorized place of use under Permits 11308 and 11310 shall be:

   The Santa Ynez River including Lake Cachuma and tributaries (including Hilton Creek) for Fish and Wildlife Conservation. All lands included within existing boundaries (205,376 acres) including the areas of service within the political boundaries of the Cachuma Member Units: the Carpinteria Valley Water District, the City of Santa Barbara, the Goleta Water District, the Montecito Water District, and the Santa Ynez River Water Conservation District, Improvement District No. 1, and a net irrigable acres of 40,250 acres within a gross area of 205,376 acres, as shown on maps filed with the State Water Board. Recreational use at Cachuma Reservoir.

IT IS FURTHER ORDERED that Permits 11308 and 11310 shall be amended to reflect the modifications to existing conditions and the addition of new conditions required below, and amended permits shall be issued that are consistent with the current permit template used by the Division of Water Rights.

3. Permits 11308 and 11310 shall be amended to include mandatory permit terms A through Q. Mandatory permit term E shall replace existing permit terms 3 and 11, and mandatory permit term O shall replace existing permit term 4 of Permits 11308 and 11310.

4. Standard permit terms ~~5A~~5F and 5R shall replace existing permit terms 1 and 2 respectively of Permits 11308 and 11310.

5. For the protection of downstream rights, existing permit terms 5 and 6 of Permits 11308 and 11310, as modified by Order WR 73-37 and amended by Order WR 89-18, shall be amended in accordance with the technical amendments proposed by

the parties to a settlement agreement dated December 17, 2002, and agreed to by right holder, and attached to and incorporated herein by reference (Appendix 2).

All other sections, paragraphs or subparagraphs of existing permit terms 5 and 6 of Permits 11308 and 11310, as modified by Order WR 73-37 and amended by Order WR 89-18, not specifically amended by the December 17, 2002 agreement or this Order are intended to and shall remain in full force and effect.

6. Existing permit term 7 of Permits 11308 and 11310, as modified by Order WR 73-37 and amended by Order WR 89-18, shall be amended to read as follows:

> The State Water Board reserves authority to make any amendments to Permits 11308 and 11310, as may be required concerning proper and adequate releases of water for downstream use, and recharge of groundwater, in satisfaction of downstream rights, based on any changes to the December 17, 2002 settlement agreement between the Cachuma Conservation Release Board; the Santa Ynez River Water Conservation District, Improvement District No. 1; the Santa Ynez River Water Conservation District; and the City of Lompoc, following notice and opportunity for hearing.

7. Existing Permit terms 9, 10, 12, and 13 of Permits 11308 and 11310, shall remain unchanged.

8. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.) Civil liability may be imposed administratively by the State Water Board pursuant to Wat. Code, § 1055, or may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums. (Wat. Code, § 1846.)

9. Right holder shall comply with the measuring and monitoring requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment or probationary designation. The more stringent requirement shall control in each instance where there is a conflict or inconsistency between the requirements. Right holder shall comply with the measuring and monitoring requirements of chapter 2.8, title 23, California Code of Regulations.

10. Right holder shall measure the amount of water beneficially used under this right using devices and/or methods satisfactory to the Deputy Director.

    In order to demonstrate compliance with the beneficial use monitoring requirements of this right, right holder shall provide evidence that the devices and/or methods are functioning properly, in a manner satisfactory to the Deputy Director, within thirty days of first use of the device or method, with the reports required by chapter 2.7, title 23, California Code of Regulations, and whenever requested by the Division of Water Rights.

11. Right holder shall comply with the reporting requirements of chapter 2.7, title 23, California Code of Regulations. Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and beneficial use under this right.

12. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.) An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. This term will be implemented in conjunction with term 34.

13. Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water