



— BUREAU OF —
RECLAMATION

Central Coast Water Authority Temporary Warren Act Contract

**Finding of No Significant Impact
CGB-FONSI-2022-023**

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

BUREAU OF RECLAMATION
South-Central California Area Office, Fresno, California

CGB-FONSI-2022-023

**Central Coast Water Authority Temporary Warren
Act Contract**

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Introduction

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation (Reclamation) prepared this Finding of No Significant Impact (FONSI) which is supported by Reclamation's attached Environmental Assessment (EA) CGB-EA-2022-023, *Central Coast Water Authority Temporary Warren Act Contract*, hereby incorporated by reference.

Background

Central Coast Water Authority (CCWA) is a California Joint Powers Agency that was formed in 1991 to construct necessary facilities to deliver supplemental water supplies from the State Water Project (SWP) to the communities in San Luis Obispo and Santa Barbara Counties. The SWP Coastal Branch facilities were completed in 1997.

In 1994, Reclamation released an EA that analyzed the construction of an extension of the SWP Coastal Branch that would allow the annual introduction through issuance of a long-term Warren Act Contract¹ of SWP water into the Cachuma Project facilities for delivery to CCWA's South Coast Participants². A Finding of No significant Impact was issued on January 3, 1995.

In 1995, Reclamation issued a 25-year Warren Act contract to CCWA that allowed the annual introduction, storage, and conveyance of up to 13,750 acre-feet (AF) of water acquired by or available to CCWA from or through the SWP into Cachuma Project facilities for delivery to the South Coast Participants for municipal and industrial uses. Introductions of SWP water under the 1995 Warren Act contract began in 1997.

Prior to entering Lake Cachuma, the treated water is dechlorinated at the Santa Ynez Pumping Facility located near the town of Santa Ynez. After being delivered to Lake Cachuma, CCWA water supplies are delivered to the South Coast via the Tecolote Tunnel and the South Coast Conduit. CCWA water is delivered to the Santa Ynez River Water Conservation District Improvement District No.1 (ID No.1) directly from a connection to the SWP pipeline before it reaches the Santa Ynez Pumping Facility.

CCWA's water is treated at the Polonio Pass Water Treatment Plant in San Luis Obispo County and then dechlorinated at CCWA's Santa Ynez Pumping Facility near the town of Santa Ynez using sodium bisulfite prior to its introduction into Lake Cachuma. Built-in safety systems automatically shut off the pumps of the Santa Ynez Pumping Facility if sodium bisulfite residual levels fall below 0.1 mg/L or above 1 mg/L protecting water quality in Lake Cachuma and the Lower Santa Ynez River³.

¹ A contract that allows non-Reclamation Project water to be introduced into Reclamation facilities.

² CCWA's South Coast Participants include: Carpinteria Valley Water District, the City of Santa Barbara, Goleta Water District, Montecito Water District, La Cumbre Mutual Water, Raytheon Systems Co. and Morehart Land Co.

³ A detectable concentration of Sodium Bisulfite is needed to confirm the water has been fully dechlorinated. CCWA also monitors for chlorine concentrations and its pumping plant will shut down if chlorine concentrations are detected, a further mechanism for protecting water quality in Lake Cachuma.

CCWA water has been and continues to be a much-needed supplemental water supply for the water deficient South Coast especially during drought conditions. As the existing Warren Act Contract expires in June 2022, CCWA has requested a new short-term Warren Act Contract to continue the introductions, conveyance, and storage of non-Reclamation Project water into Cachuma Project facilities for delivery to the CCWA's South Coast Participants. Reclamation and CCWA are in the process of negotiating a new long-term Warren Act Contract. In addition, Reclamation is currently in re-consultation with the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA) regarding operation and maintenance of the Cachuma Project. As negotiations for the long-term Warren Act contract and re-consultation on the Cachuma Project are not anticipated to be complete by June 2022, CCWA and Reclamation need to enter into a short-term contract to allow the continued delivery of a much-needed water supply to the South Coast Participants.

Alternatives Considered

No Action Alternative

Under the No Action Alternative Reclamation would not issue short-term Warren Act Contract(s) to CCWA for the annual introduction, conveyance, and storage of up to 13,750 AF of CCWA water within Cachuma Project facilities.

Proposed Action

Reclamation proposes to issue short-term (up to five-years) Warren Act Contract(s) to CCWA that would allow the annual introduction, conveyance, and storage of up to 13,750 AF of CCWA's water within Cachuma Project facilities.

Measures to avoid and minimize effects to the endangered Southern California steelhead Distinct Population Segment (DPS; *Oncorhynchus mykiss*) have been, and will continue to be, implemented during CCWA operations. Measures are primarily related to preventing steelhead from imprinting on CCWA water and preventing CCWA water from being released to Hilton Creek. Reclamation proposes to implement the following:

- Releases of CCWA water to the Santa Ynez River mainstem may not occur during December through May.
- Releases of CCWA water to the Santa Ynez River mainstem may only occur during Water Right (WR) 89-18 water right releases when flow is discontinuous in the mainstem, primarily between July to October.
- During June and November CCWA water may be introduced into the Lower Santa Ynez River only when: (1) *O. mykiss* are not present based on snorkel and trapping surveys conducted under WR 89-18 water rights release monitoring pursuant to technical sessions with NMFS regarding Reasonable and Prudent Measure 6 of the 2000 *Biological Opinion for the Operation and Maintenance of the Cachuma Project* (2000 BiOp) and (2) no rain is predicted for at

least 14 days. Two traps would be operated in the Lower Santa Ynez River, with one located near the confluence of Hilton Creek and the river and the other located further downstream (e.g., Meadowlark crossing). Releases of blended CCWA water to the Lower Santa Ynez River in June and November would cease immediately if any *O. mykiss* are caught in the traps, or observed during the snorkel surveys.

- CCWA water may be mixed up to 50 percent of the total rate of releases to the Lower Santa Ynez River.
- CCWA and Lake Cachuma water entering the Stilling Basin would be blended to a temperature of $\leq 18^{\circ}\text{C}$, as estimated pursuant to the Penstock Temperature Monitoring Plan.
- There is no delivery of CCWA water into Lake Cachuma via the outlet works when the Hilton Creek Emergency Backup System (EBS) is delivering water.
- There will be no delivery of CCWA water via the outlet works when the lake-based Hilton Creek Watering System Pumping Platform is in operation or the EBS is set to stand-by mode to deliver water to Hilton Creek.

CCWA water includes SWP water from the Sacramento River watershed, previously banked SWP water, and other non-SWP water supplies acquired from the Sacramento River watershed, the San Joaquin River watershed, and the San Joaquin-Sacramento Delta. CCWA's acquired non-SWP water supplies can include groundwater pumping, groundwater substitution, land fallowing, or other transfers and exchanges that are common in Reclamation's Central Valley Project and the SWP. The conveyance of non-SWP water supplies through the SWP are reviewed and approved independently by the California Department of Water Resources (DWR) prior to this water being conveyed in State facilities to CCWA's facilities. Prior to introduction into Cachuma Project facilities, CCWA's water will continue to be treated as done under baseline conditions.

Under the short-term Warren Act Contract(s), CCWA water would continue to be introduced and conveyed through Cachuma Project facilities (i.e., Bradbury Dam outlet works, Stilling Basin, Lake Cachuma, North Intake of the Tecolote Tunnel, and the South Coast Conduit) to CCWA South Coast Participants located along the South Coast Conduit.

No modifications to existing infrastructure or construction would be needed for the Proposed Action.

Mechanisms of CCWA Water Introduction to the Cachuma Project

There are two existing mechanisms for the introduction of CCWA water into Lake Cachuma: (1) a direct connection of the CCWA pipeline to the Bradbury Dam outlet works penstock; and (2) a high-density polyethylene penstock bypass pipeline (bypass pipeline) that introduces CCWA water directly into Lake Cachuma⁴. These mechanisms would remain unchanged under the proposed action.

⁴ The bypass pipeline has been routed previously in three configurations: bypass pipeline through the spillway onto the bedrock shelf (used when lake levels are low and bedrock shelf is exposed), bypass pipeline to the spillway gate threshold (used when the bedrock shelf is submerged and lake level is below the spillway gate threshold) and bypass pipeline over the top of the dam (used when lake level is above the threshold of the spillway gate).

When releases from the outlet works occur at the same time as CCWA water is being introduced through the outlet works, CCWA water mixes with water from Lake Cachuma and is released into the Stilling Basin where it flows into the Lower Santa Ynez River. This mixing of CCWA water has certain advantages to downstream entities for enhancing water quality (i.e., reduced total dissolved solids) and the Cachuma Project Member Units⁵, Santa Ynez River Water Conservation District (SYRWCD), and the City of Lompoc entered into a Settlement Agreement in September 2002 to maximize introduction of CCWA water during their Water Rights Releases⁶ from the outlet works. The 2002 Settlement Agreement has been incorporated into Cachuma Project WR Order 2019-0148 (WR 2019-0148).

CCWA water may be introduced to Lake Cachuma or the Lower Santa Ynez River at rates ranging from 3 cubic feet per second (cfs) up to 22 cfs, as limited by the capacity of the four pumps at CCWA's Santa Ynez Pumping Facility. Three of the four pumps operate only at 100 percent, while the remaining pump has a variable frequency drive which allows for any flow rate from 3 to 22 cfs. Operation of the Santa Ynez Pumping Facility is variable, but in general the Pumping Facility operates minimally when Lake Cachuma is full and may operate at maximum capacity for extended periods of time during drought conditions.

When Reclamation is releasing water from the outlet works at Bradbury Dam, and CCWA is delivering CCWA water to Lake Cachuma, commingled water will be released to the Lower Santa Ynez River pursuant to the measures noted in Section 2.2 above. When Reclamation is releasing water from the EBS, CCWA water will not be introduced into the outlet works as the EBS is plumbed into the outlet works.

Temperature monitoring sensors and related equipment in the penstock at the Bradbury Dam outlet works and in the CCWA pipeline collect and transmit data to both CCWA and Reclamation's Supervisory Control and Data Acquisition (SCADA) System.

The system uses a flow weighted average of lake water temperature and CCWA water temperature to calculate an estimate of the blended temperature of water releases to the Stilling Basin. These calculations are done continuously using a programmable logic controller at a set frequency of once every 1-15 minutes. The Cachuma Operation and Maintenance Board (COMB) and Reclamation monitor the temperature of CCWA water and water in the penstock, and there is a SCADA alarm set to alert CCWA and Reclamation when the temperature of blended water is approaching a certain threshold below 18°C. When the temperature of blended water is approaching the 18°C-temperature limit for steelhead, Reclamation will immediately reduce or suspend delivery of CCWA water or increase delivery of Cachuma Lake water to avoid exceeding the 18°C-temperature limit.

CCWA Water Treatment

Prior to its introduction into Lake Cachuma, CCWA water is treated in CCWA's Polonio Pass Water Treatment Plant in San Luis Obispo County to applicable drinking water standards. This treatment process includes adding chloramine (a mix of chlorine and ammonia) to the water. From the

⁵ Cachuma Project Member Units include Carpinteria Water District, City of Santa Barbara, Goleta Water District, Montecito Water District, and Santa Ynez River Water Conservation District Improvement District No. 1.

⁶ Non-discretionary Water Rights Releases have occurred since the completion of Bradbury Dam. These releases are made in accordance with State Water Resources Control Board permits 11308 and 11310 issued to Reclamation for the Cachuma Project, as conditioned by WR Order 73-37, as amended by WR Order 89-18, and WR Order 2019-0148.

Polonio Pass Water Treatment Plant, CCWA's water is conveyed to the Santa Ynez Pumping Facility where it is treated with sodium bisulfite to remove the chloramine before the water is conveyed to Bradbury Dam for introduction into Cachuma Project facilities.

Built-in safety systems at the Santa Ynez Pumping Facility automatically shut off the pumps if a chlorine concentration ≥ 0.03 mg/L is detected, or if residual sodium bisulfite concentrations drop to 0.1 mg/L or rise above 1 mg/L. Slightly more sodium bisulfite is added to the water than needed to completely neutralize the chlorine, which results in a small amount of unreacted sodium bisulfite left in the water (i.e. >0.1 mg/L and ≤ 1 mg/L). Based on the chemistry of the chemical reaction between sodium bisulfite and chloramine, as long as there is a detectable sodium bisulfite concentration in the water there is no free chlorine left in the water (i.e., chlorine residual is 0 mg/L).

Free ammonia is a byproduct of the sodium bisulfite water treatment process. A study conducted by CCWA that tracked the fate of free ammonia through the eight-mile pipeline that runs from the Santa Ynez Pumping Facility to Lake Cachuma found that only small concentrations of free ammonia reach Lake Cachuma. Samples collected at the Lake Cachuma delivery point over the 12-month study period (2016 to 2017) had free ammonia concentrations ranging from 0 mg/L to 0.14 mg/L with an average concentration of 0.04 mg/L. This represents an average removal efficiency of over 90 percent from the average free ammonia concentrations measured at the outlet vault of the Santa Ynez Pumping Facility.

Comments on the EA

Reclamation provided the public with an opportunity to comment on the Draft EA between March 25, 2022 and April 22, 2022. One comment letter was received from the SYRWCD and it is included in Appendix A of the Final EA. The comment letter includes two primary assertions (1) Reclamation did not notify the SYRWCD of release of the EA or provide the biological evaluation as part of the release for public review, and (2) that the Draft EA Proposed Action included additional restrictions on the mixing of CCWA water with WR 89-18 water rights releases that are contrary to the 2002 Settlement Agreement, 2000 BiOp, WR 2019-0148, and Reclamation's water rights permits. Reclamation disagrees with both assertions.

For the first assertion, notification of the availability of the Draft EA was provided to the public on the day it was released. In addition, Section 3.2 of the Draft EA included the analysis that was included in the biological evaluation referenced in the comment letter. Further, Reclamation has ongoing biweekly coordination meetings with the Cachuma Project interested parties, including SYRWCD. Prior to release of the Draft EA, Reclamation discussed CCWA's short-term Warren Act contract, the Draft EA, and the informal consultation that would be needed for the Proposed Action during several of the coordination calls. Reclamation provided CCWA with an administrative draft of the EA prior to its release and was notified by CCWA that it was shared with its South Coast Participants and the SYRWCD prior to its release for public review.

For the second assertion, the restrictions included in the Draft EA were consistent with the 2000 BiOp and were not additional restrictions. Those restrictions were analyzed in the 2000 BiOp and

are therefore consistent with WR 2019-0148 and the 2002 Settlement Agreement which requires mixing to be consistent with the 2000 BiOp. Specifically, page 11 of the 2000 BiOp states: “Releases of CCWA water to the mainstem would only occur during water rights releases from May to October, with the bulk of releases occurring July - September.” Reclamation attempted to address previously noted confusion in mixing requirements from the 2000 BiOp to expressly state when mixing is allowed. As noted in Section 1.2 of the EA, the current CCWA long-term Warren Act Contract expires in June 2022. The short-term Warren Act Contract analyzed in the EA is a separate action not covered in the 2000 BiOp.

Since release of the Draft EA, the Proposed Action has been revised in coordination and cooperation with SYRWCD and the Cachuma Project local interests, all of whom provided helpful information to address some of the concerns expressed by SYRWCD in their comment letter. The Proposed Action was also revised in coordination with NMFS to address concerns expressed during informal consultation regarding the timing of *O. mykiss* olfactory imprinting in the Lower Santa Ynez River. The revisions are included in Section 2.2 of the Final EA and the concurrence memorandum received from NMFS for the Proposed Action (Appendix B of the Final EA).

Findings

Reclamation consulted with NMFS regarding potential impacts from the Proposed Action on the federally endangered Southern California steelhead DPS and its critical habitat. On June 13, 2022, NMFS concurred with Reclamation’s determination that the Proposed Action is *Not Likely to Adversely Affect* the endangered Southern California steelhead DPS or its designated critical habitat (Appendix B of the Final EA). Reclamation has also determined that the Proposed Action would have *No Effect* to any other proposed or listed species or critical habitat under the ESA (16 U.S.C. §1531 et seq.), and would not result in take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

Reclamation has determined that the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

In accordance with NEPA, Reclamation considered potential short-term and long-term effects of the Proposed Action, both beneficial and adverse. Following are the reasons why the impacts of the Proposed Action are not significant, with respect to the affected environment and degree of effects of the action (40 CFR 1501.3(b)).

1. The Proposed Action will not significantly affect public health or safety (40 CFR 1501.3(b)(2)(iii)).
2. The Proposed Action will not violate federal, state, tribal, or local law protecting the environment (40 CFR 1501.3(b)(2)(iv)).
3. The Proposed Action will not affect any Indian Trust Assets (512 DM 2, Policy Memorandum – July 2, 1993).
4. Implementing the Proposed Action will not disproportionately affect minorities or low-income populations and communities (EO 12898 – February 11, 1994).

5. The Proposed Action will not limit access to, and ceremonial use of, Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007 – May 24, 1996 and 512 DM 3 – June 5, 1998).



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RECLAMATION

Central Coast Water Authority Temporary Warren Act Contract

CGB-EA-2022-023

Final Environmental Assessment

Mission Statements

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1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Environmental Assessment (EA) between March 25, 2022 and April 22, 2022. One comment letter was received. The comment letter is included in Appendix A and responses are included in Section 4.2 of this EA. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

Central Coast Water Authority (CCWA) is a California Joint Powers Agency that was formed in 1991 to construct necessary facilities to deliver supplemental water supplies from the State Water Project (SWP) to the communities in San Luis Obispo and Santa Barbara Counties. The SWP Coastal Branch facilities were completed in 1997.

In 1994, Reclamation released an EA that analyzed the construction of an extension of the SWP Coastal Branch that would allow the annual introduction through issuance of a long-term Warren Act Contract¹ of SWP water into the Cachuma Project facilities for delivery to CCWA's South Coast Participants². A Finding of No significant Impact was issued on January 3, 1995.

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Prior to entering Lake Cachuma, the treated water is dechlorinated at the Santa Ynez Pumping Facility located near the town of Santa Ynez. After being delivered to Lake Cachuma, CCWA water supplies are delivered to the South Coast via the Tecolote Tunnel and the South Coast Conduit. CCWA water is delivered to the Santa Ynez River Water Conservation District Improvement District No.1 (ID No.1) directly from a connection to the SWP pipeline before it reaches the Santa Ynez Pumping Facility.

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0.1 mg/L or above 1 mg/L protecting water quality in Lake Cachuma and the Lower Santa Ynez River³.

1.2 Purpose and Need for the Proposed Action

CCWA water has been and continues to be a much-needed supplemental water supply for the water deficient South Coast especially during drought conditions. As the existing Warren Act Contract expires in June 2022, CCWA has requested a new short-term Warren Act Contract to continue the introductions, conveyance, and storage of non-Reclamation Project water into Cachuma Project facilities for delivery to the CCWA's South Coast Participants. Reclamation and CCWA are in the process of negotiating a new long-term Warren Act Contract. In addition, Reclamation is currently in re-consultation with the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA) regarding operation and maintenance of the Cachuma Project. As negotiations for the long-term Warren Act contract and re-consultation on the Cachuma Project are not anticipated to be complete by June 2022, CCWA and Reclamation need to enter into a short-term contract to allow the continued delivery of a much-needed water supply to the South Coast Participants.

2 Alternatives Including Proposed Action

2.1 No Action Alternative

Under the No Action Alternative Reclamation would not issue short-term Warren Act Contract(s) to CCWA for the annual introduction, conveyance, and storage of up to 13,750 AF of CCWA water within Cachuma Project facilities.

2.2 Proposed Action

Reclamation proposes to issue short-term (up to five-years) Warren Act Contract(s) to CCWA that would allow the annual introduction, conveyance, and storage of up to 13,750 AF of CCWA's water within Cachuma Project facilities.

Measures to avoid and minimize effects to the endangered Southern California steelhead Distinct Population Segment (DPS; *Oncorhynchus mykiss*) have been, and will continue to be, implemented during CCWA operations. Measures are primarily related to preventing steelhead from imprinting on CCWA water and preventing CCWA water from being released to Hilton Creek. Reclamation proposes to implement the following:

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- There will be no delivery of CCWA water via the outlet works when the lake-based Hilton Creek Watering System Pumping Platform is in operation or the EBS is set to stand-by mode to deliver water to Hilton Creek.⁴

CCWA water includes SWP water from the Sacramento River watershed, previously banked SWP water, and other non-SWP water supplies acquired from the Sacramento River watershed, the San Joaquin River watershed, and the San Joaquin-Sacramento Delta. CCWA's acquired non-SWP water supplies can include groundwater pumping, groundwater substitution, land fallowing, or other transfers and exchanges that are common in Reclamation's Central Valley Project and the SWP. The conveyance of non-SWP water supplies through the SWP are reviewed and approved independently by the California Department of Water Resources (DWR) prior to this water being conveyed in State facilities to CCWA's facilities. Prior to introduction into Cachuma Project facilities, CCWA's water will continue to be treated as done under baseline conditions.

Under the short-term Warren Act Contract(s), CCWA water would continue to be introduced and conveyed through Cachuma Project facilities (i.e., Bradbury Dam outlet works, Stilling Basin, Lake Cachuma, North Intake of the Tecolote Tunnel, and the South Coast Conduit) to CCWA South Coast Participants located along the South Coast Conduit.

⁴ EBS standby is defined as the condition of being aligned and configured to automatically initiate flow upon loss of power during pumped flow from the lake-based Hilton Creek Watering System (HCWS). The system may be available for use at other times (e.g. during gravity flow from the lake-based HCWS); however, standby *only* occurs when the lake-based HCWS is delivering pumped flow and the EBS is only triggered to start automatically when there is a loss of power.

No modifications to existing infrastructure or construction would be needed for the Proposed Action.

2.2.1 Mechanisms of CCWA Water Introduction to the Cachuma Project

There are two existing mechanisms for the introduction of CCWA water into Lake Cachuma: (1) a direct connection of the CCWA pipeline to the Bradbury Dam outlet works penstock; and (2) a high-density polyethylene penstock bypass pipeline (bypass pipeline) that introduces CCWA water directly into Lake Cachuma⁵. These mechanisms would remain unchanged under the proposed action.

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⁶ Cachuma Project Member Units include Carpinteria Water District, City of Santa Barbara, Goleta Water District, Montecito Water District, and Santa Ynez River Water Conservation District Improvement District No. 1.

⁷ Non-discretionary Water Rights Releases have occurred since the completion of Bradbury Dam. These releases are made in accordance with State Water Resources Control Board permits 11308 and 11310 issued to Reclamation for the Cachuma Project, as conditioned by WR Order 73-37, as amended by WR Order 89-18, and WR Order 2019-0148.

The system uses a flow weighted average of lake water temperature and CCWA water temperature to calculate an estimate of the blended temperature of water releases to the Stilling Basin. These calculations are done continuously using a programmable logic controller at a set frequency of once every 1-15 minutes. The Cachuma Operation and Maintenance Board (COMB) and Reclamation monitor the temperature of CCWA water and water in the penstock, and there is a SCADA alarm set to alert CCWA and Reclamation when the temperature of blended water is approaching a certain threshold below 18°C (J. Brady, CCWA, personal communication, 3/21/2022). When the temperature of blended water is approaching the 18°C-temperature limit for steelhead, Reclamation will immediately reduce or suspend delivery of CCWA water or increase delivery of Cachuma Lake water to avoid exceeding the 18°C-temperature limit.

2.2.2 CCWA Water Treatment

Prior to its introduction into Lake Cachuma, CCWA water is treated in CCWA's Polonio Pass Water Treatment Plant in San Luis Obispo County to applicable drinking water standards. This treatment process includes adding chloramine (a mix of chlorine and ammonia) to the water. From the Polonio Pass Water Treatment Plant, CCWA's water is conveyed to the Santa Ynez Pumping Facility where it is treated with sodium bisulfite to remove the chloramine before the water is conveyed to Bradbury Dam for introduction into Cachuma Project facilities.

Built-in safety systems at the Santa Ynez Pumping Facility automatically shut off the pumps if a chlorine concentration ≥ 0.03 mg/L is detected, or if residual sodium bisulfite concentrations drop to 0.1 mg/L or rise above 1 mg/L. Slightly more sodium bisulfite is added to the water than needed to completely neutralize the chlorine, which results in a small amount of unreacted sodium bisulfite left in the water (i.e. >0.1 mg/L and ≤ 1 mg/L). Based on the chemistry of the chemical reaction between sodium bisulfite and chloramine, as long as there is a detectable sodium bisulfite concentration in the water there is no free chlorine left in the water (i.e., chlorine residual is 0 mg/L).

Free ammonia is a byproduct of the sodium bisulfite water treatment process. A study conducted by CCWA that tracked the fate of free ammonia through the eight-mile pipeline that runs from the Santa Ynez Pumping Facility to Lake Cachuma found that only small concentrations of free ammonia reach Lake Cachuma. Samples collected at the Lake Cachuma delivery point over the 12-month study period (2016 to 2017) had free ammonia concentrations ranging from 0 mg/L to 0.14 mg/L with an average concentration of 0.04 mg/L (CCWA 2021). This represents an average removal efficiency of over 90 percent from the average free ammonia concentrations measured at the outlet vault of the Santa Ynez Pumping Facility.

3 Affected Environment and Environmental Consequences

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action does not have the potential to cause adverse effects to the following resources:

3.1.1 Air Quality

There will be no impacts to air quality as there would be no change in baseline conditions.

3.1.2 Climate Change

The Proposed Action does not include construction of new facilities or modification to existing facilities that would impact greenhouse gas emissions. Pumping to deliver CCWA water to Lake Cachuma would be similar to what has been done in the past and is part of baseline conditions and would not result in emissions that would impact climate change. Cachuma Project operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operational flexibility.

3.1.3 Cultural Resources

There would be no impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

3.1.4 Environmental Justice

Executive Order 12898 requires each federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.

3.1.5 Indian Sacred Sites

Executive Order 13007 (May 24, 1996) requires that federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of such sacred sites. The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

3.1.6 Indian Trust Assets

Indian Trust Assets are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the Proposed Action area. The nearest Indian Trust Asset is a public domain allotment which is about five miles to the south of the Proposed Action area. The Proposed Action does not have a potential to affect Indian Trust Assets.

3.2 Biological Resources

3.2.1 Affected Environment

The Proposed Action Area includes Lake Cachuma, the Lower Santa Ynez River below Bradbury Dam, conveyance facilities used to deliver CCWA water (i.e., Tecolote Tunnel, South Coast Conduit), and the South Coast Participant service areas where CCWA water would ultimately be delivered.

On March 18, 2022, Reclamation obtained an official species list from the United States Fish and Wildlife Service (Service) via the Service’s website, <http://ecos.fws.gov/ipac>, (Project Code: 2022-0021550). On March 18, 2022, Reclamation also obtained a species list from NMFS using the species list tool from the now unavailable National Oceanic and Atmospheric Administration’s West Coast Region website, https://archive.fisheries.noaa.gov/wcr/maps_data/california_species_list_tools.html. The species lists cover the Proposed Action Area described above. The California Department of Fish and Wildlife’s California Natural Diversity Database (CNDDDB) was also queried for records of protected species within the vicinity of the Proposed Action area (CNDDDB 2022). The species lists and the best available data were combined to determine the likelihood of protected species occurrence within the Proposed Action Area (Table 1).

Table 1. Federally Listed Threatened and Endangered Species

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination ³
Amphibians			
Arroyo Toad <i>Anaxyrus californicus</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
California red-legged frog <i>Rana draytonii</i>	T, X	NE	Present. There are CNDDDB records of this species in the Lower Santa Ynez River, and within portions of the CCWA South Coast Participants’ service area. Designated critical habitat for this species is not present within the Proposed Action Area. The Proposed Action does not involve any construction, land use changes, or conversion of suitable habitat. The Proposed Project would not alter the amount of water released to the Lower Santa Ynez River, and releases of CCWA’s Warren Act water would be subject to temperature and water quality requirements. There would be <i>No Effect</i> to this species from the Proposed Action.

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination ³
California tiger salamander <i>Ambystoma californiense</i>	T, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Birds			
California condor <i>Gymnogyps californianus</i>	E, X	NE	Possible. This species may forage in portions of the Proposed Action Area. Designated critical habitat for this species does not occur within the Proposed Action Area. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. There would be <i>No Effect</i> to this species from the Proposed Action.
California least tern <i>Sterna antillarum browni</i>	E	NE	Present. There are CNDDDB records of this species near the Lower Santa Ynez River estuary. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River, and would therefore have no effect on estuarine habitat. There would be <i>No Effect</i> to this species from the Proposed Action.
Least Bell's vireo <i>Vireo bellii pusillus</i>	E, X	NE	Present. There is a CNDDDB record of this species in riparian habitat along the Lower Santa Ynez River. Designated critical habitat for this species does not occur within the Proposed Action Area. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River, and would therefore have no effect on this species habitat. There would be <i>No Effect</i> to this species from the Proposed Action.
Light-footed clapper rail <i>Rallus longirostris</i>	E	NE	Present. There are CNDDDB records of this species in portions of the CCWA South Coast Participants' service area. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. There would be <i>No Effect</i> to this species from the Proposed Action.
Marbled murrelet <i>Brachyramphus marmoratus</i>	T, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i>	E	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	E, X	NE	Present. There are CNDDDB records of this species along the Lower Santa Ynez River and designated critical habitat for this species is present along the Lower Santa Ynez River. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River. There would be <i>No Effect</i> to this species or its critical habitat from the Proposed Action.
Western snowy plover	T, X	NE	Present. There are CNDDDB records of this species near the Lower Santa Ynez River estuary and within portions of the

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination ³
<i>Charadrius nivosus nivosus</i>			CCWA South Coast Participants' service area. Designated critical habitat for this species is present within one CCWA South Coast Participants' service areas. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River and would not involve any construction, land use changes, or conversion of suitable habitat. There would be <i>No Effect</i> to this species from the Proposed Action.
Crustaceans			
Riverside fairy shrimp <i>Streptocephalus wootoni</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T, X	NE	Possible. There are no records of this species within the Proposed Action Area; however, designated critical habitat for this species occurs within one of the CCWA South Coast Participants' service areas. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. The Proposed Action would have <i>No Effect</i> to this species or its designated critical habitat.
Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	E, X	NE	Present. This species is present in the Lower Santa Ynez River estuary, and in estuaries of streams within the CCWA South Coast Participants' service areas on the South Coast. Designated critical habitat for this species is present in the estuaries of some streams on the South Coast. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River. Furthermore, any SWP Water released to the Lower Santa Ynez River would be subject to water quality and temperature requirements. The Proposed Action does not involve any release of water to streams on the South Coast. The Proposed Action would have <i>No Effect</i> to this species or its designated critical habitat.
Southern California steelhead Distinct Population Segment (DPS) <i>Oncorhynchus mykiss</i>	E, X	NLAA	Present. This species, and designated critical habitat for this species, are present within the Lower Santa Ynez River and in streams within the CCWA South Coast Participants' service areas on the South Coast. The Proposed Action would not alter the amount of water released to the Lower Santa Ynez River. The requirements described in Section 2.2 for introduction of this water would be implemented to avoid potential negative effects to water quality or the imprinting of juvenile <i>Oncorhynchus mykiss</i> . The Proposed Action does not involve any release of water to streams on the South Coast. With the implementation of these requirements, the Proposed Action is <i>Not Likely to Adversely Affect</i> the Southern California steelhead DPS or designated critical habitat for this species.

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination ³
Insects			
Monarch Butterfly <i>Danaus plexippus</i>	C	NE	Possible. There are records of this species adjacent to the Santa Ynez River near the estuary. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. The Proposed Action would have <i>No Effect</i> to this species.
Mammals			
Southern sea otter <i>Enhydra lutris nereis</i>	T, MMPA	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Plants			
Beach Layia <i>Layia carnosa</i>	E	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
California Orcutt grass <i>Orcuttia californica</i>	E	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Contra Costa goldfields <i>Lasthenia conjugens</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Gambel's watercress <i>Rorippa gambellii</i>	E	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Gaviota tarplant <i>Deinandra increscens</i> ssp. <i>villosa</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
La Graciosa thistle <i>Cirsium loncholepis</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Lompoc yerba santa <i>Eriodictyon capitatum</i>	E, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Marsh sandwort <i>Arenaria paludicola</i>	E	NE	Absent. This species does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Salt marsh bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	E	NE	Present. There are records of this species within one of the CCWA South Coast Participants' service areas on the South Coast. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. There would be <i>No Effect</i> to this species from the Proposed Action.

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination ³
Spreading Navarretia <i>Navarretia fossalis</i>	T, X	NE	Absent. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species from the Proposed Action.
Vandenberg monkeyflower <i>Diplacus vandenbergensis</i>	E, X	NE	Absent. This species may be present adjacent to the Lower Santa Ynez River, but does not occur within the Proposed Action Area. There would be <i>No Effect</i> to this species or its designated Critical Habitat from the Proposed Action.
Ventura marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	E, X	NE	Possible. There are no records of this species within the Proposed Action Area; however, designated critical habitat for this species occurs within one of the CCWA South Coast Participants' service areas. The Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. The Proposed Action would have <i>No Effect</i> to this species or its designated critical habitat.

¹ Status = Status of federally protected species protected under the ESA

E: Listed as Endangered

T: Listed as Threatened

C: Candidate for listing

X: Critical Habitat designated for this species

MMPA: Species protected under the Marine Mammal Protection Act

² Effects = ESA Effect determination

NE: No Effect anticipated from the Proposed Action to federally listed species or designated critical habitat

NLAA: The Proposed Action is Not Likely to Adversely Affect federally listed species or designated critical habitat

³ Definition of Occurrence Indicators

Present: Species recorded in area and suitable habitat present

Possible: Species recorded in area and habitat suboptimal

Absent: Species not recorded in study area and suitable habitat absent

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, Reclamation would not allow CCWA to introduce, store and convey up to 13,750 acre-feet of CCWA water in Cachuma Project facilities. The amount of water released to the Lower Santa Ynez River would not change from current baseline conditions (when CCWA's 1995 Warren Act Contract was implemented); however, upon expiration of the existing Warren Act Contract, only Santa Ynez River water from Lake Cachuma would be released from the dam. There would be *No Effect* to proposed or listed species or Critical Habitat, and no take of migratory birds.

3.2.2.2 Proposed Action

Under the Proposed Action, CCWA would continue to introduce, store and convey CCWA water in Cachuma Project facilities. The amount of water released to the Lower Santa Ynez River below Bradbury Dam would not change as releases of this water to the river are subject to the requirements described in Section 2.2. The Proposed Action would not involve any construction,

land use changes, or conversion of habitat that may be suitable for listed species. The Proposed Action does not involve the release of any water to streams on the South Coast.

As noted in Section 1, CCWA's water is treated at the Polonio Pass Water Treatment Plant in San Luis Obispo County and then dechlorinated at CCWA's Santa Ynez Pumping Facility using sodium bisulfite prior to its introduction into Lake Cachuma. Built-in safety systems automatically shut off the pumps of the Santa Ynez Pumping Facility if chlorine is detected (≥ 0.03 mg/L) or if the sodium bisulfite concentration falls below 0.1 mg/L or rises above 1 mg/L, which prevents treated water from reaching Cachuma Project facilities or the Lower Santa Ynez River. Based on the chemistry of the chemical reaction between sodium bisulfite and chloramine, as long as there is a detectable sodium bisulfite concentration in the water there is no free chlorine left in the water (i.e., chlorine residual is 0 mg/L).

Although sodium bisulfite in higher concentrations (i.e. ≥ 39 mg/L) can deplete dissolved oxygen levels in water resulting in fish mortality, it is non-toxic to aquatic life at lower concentrations (Basu & Dorner, 2010). CCWA water enters Cachuma Project facilities with a residual sodium bisulfite concentration of ≥ 0.1 mg/L and < 1 mg/L, which is considered non-toxic; this residual concentration of sodium bisulfite is further reduced as CCWA water is diluted at least 50 percent with Cachuma Project water.

Ammonia is also a byproduct of the sodium bisulfite treatment process. In higher concentrations, ammonia can be toxic to fish and other aquatic life; however, the small amount of ammonia remaining in CCWA's water (0.00 mg/L to 0.14 mg/L) falls well below the Environmental Protection Agency's (EPA) current ammonia water quality criteria for the protection of aquatic life⁸ (EPA, 2013). Furthermore, CCWA's water is diluted by at least 50% with Cachuma Project water which would further reduce ammonia concentrations before this water reaches the Lower Santa Ynez River.

CCWA water has been and would continue to be blended with Cachuma Project water in the proportion needed to meet the temperature requirement of 18°C or less prior to introduction into the Stilling Basin/Lower Santa Ynez River. This is confirmed through SCADA monitoring within the SWP facilities that convey CCWA's water as well as by Reclamation and COMB at Bradbury Dam. Therefore, the introduction of CCWA water into the Lower Santa Ynez River is not expected to have any negative effects on water quality in the river that could affect biological resources.

Under the Proposed Action, blended CCWA water may be released into the Lower Santa Ynez River where Southern California steelhead (*O. mykiss*) and its designated critical habitat are present. Juvenile *O. mykiss* imprint on chemical odors in their natal stream which later guide their upstream homing migration as adults. *O. mykiss* undergo olfactory imprinting primarily during smoltification and downstream migration to the ocean, and potentially as alevins and emergent fry (Dittman et al., 1995; Nevitt & Dittman, 1999; Carruth et. al. 2002; Salmenkova, 2017; Bett & Hinch, 2015); In the Action Area, this may occur as early as November and extend as late as June in some years. Releasing CCWA water to the Lower Santa Ynez River could potentially cause incorrect imprinting and interfere with upstream adult migration back to their natal river. The Proposed Action avoids or

⁸ The EPA's *Freshwater Ammonia Aquatic Life Ambient Water Quality Criteria* are: Acute 1-hour average of 17 mg/L total ammonia and a chronic 30-day rolling average⁸ of 1.9 mg/L total ammonia at a pH of 7.0 and a temperature of 20°C (EPA, 2013).

minimizes the risk of incorrect olfactory imprinting from the release of CCWA water to the Lower Santa Ynez River by avoiding releases of this water to the river from December through May and by only allowing the release of CCWA water to the river in June and November when steelhead are not present.

Releases of blended CCWA water supplies to the Lower Santa Ynez River do not occur when there is surface water connectivity with the ocean. Releases of CCWA water to the Lower Santa Ynez River would only occur during WR 89-18 water rights releases. WR 89-18 water rights releases are made such that flows do not go past the H-Street Bridge in Lompoc, resulting in no streamflow connectivity to the lagoon and ocean.

With the implementation of the conservation measures restricting the timing and rate of release of CCWA's water to the river, the Proposed Action is highly unlikely to disrupt the olfactory imprinting of juvenile *O. mykiss*. Furthermore, with the use of automatic safety shut-off systems at the Santa Ynez Pumping Facility and the continued implementation of water temperature requirements, the Proposed Action is not expected to have any negative effects on water quality. With the Conservation Measures listed in 2.2, Reclamation has determined that the Proposed Action is *Not Likely to Adversely Affect* the endangered Southern California steelhead DPS or designated critical habitat for this species. On June 2, 2022, Reclamation requested written concurrence from NMFS that the Proposed Action is *Not Likely to Adversely Affect* the Southern California steelhead DPS or critical habitat for this species. NMFS concurred with the *Not Likely to Adversely Affect* determination for the Proposed Action on June 13, 2022.

Reclamation has also determined that the Proposed Action would have *No Effect* to any other proposed or listed species or critical habitat under the ESA (16 U.S.C. §1531 et seq.), and would not result in take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

3.3 Water Resources

3.3.1 Affected Environment

The affected environment is located in Santa Barbara County, California and includes Cachuma Project facilities (i.e., Bradbury Dam and Lake Cachuma, Tecolote Tunnel, and the South Coast Conduit), the Lower Santa Ynez River below Bradbury Dam, and the service areas on the South Coast where CCWA water would ultimately be delivered.

3.3.1.1 Cachuma Project

The Cachuma Project consists of Bradbury Dam, Lake Cachuma, the Tecolote Tunnel, the South Coast Conduit, four regulating reservoirs (Glen Anne Reservoir, Lauro Reservoir, Ortega Reservoir, and Carpinteria Reservoir) and appurtenant facilities in Santa Barbara County. Reclamation diverts, stores, and delivers Santa Ynez River water pursuant to permits issued by the State Water Resources Control Board.

Pursuant to a contract with Santa Barbara County (County), Reclamation makes available up to 25,714 acre-feet/per year of Cachuma Project water to the County for subsequent beneficial use by the Cachuma Project Member Units. Cachuma Project water is delivered to the South Coast Cachuma Member Units via the Tecolote Tunnel and South Coast Conduit system and is made

available to ID No.1 pursuant to an exchange agreement between ID No. 1 and the South Coast Member Units.

3.3.1.2 Lower Santa Ynez River

The Lower Santa Ynez River runs for approximately 48.7 river miles between Bradbury Dam and the Pacific Ocean. Below Bradbury Dam, the river passes south of the town of Santa Ynez and then flows through the broad section of the Santa Ynez Valley, near Buellton. West of Buellton, near the City of Lompoc, the river flows through a narrow section referred to as “the Narrows” and emerges onto the broad, flat Lompoc Plain. From there the river travels approximately 13 miles, transitioning to the Santa Ynez River estuary on Vandenberg Air Force Base and then directly into the Pacific Ocean at Surf Beach.

3.3.1.3 Lake Cachuma Water Quality

Raw lake water quality is measured monthly at Lake Cachuma for key constituents related to water treatment processes. The annual average concentrations measured for specific conductivity, total dissolved solids, total organic carbon, turbidity, and sulfate concentrations for Lake Cachuma and CCWA water between 2015 and 2020 are provided in Table 2.

Table 2. CCWA Water Quality and Lake Cachuma Water Quality Annual Results

Year	Specific Conductivity (mmhos/cm)		Total Dissolved Solids (mg/L)		Total Organic Carbon (mg/L)		Turbidity (NTU)		Sulfate (mg/L)	
	CCWA	Cachuma	CCWA	Cachuma*	CCWA	Cachuma	CCWA	Cachuma	CCWA	Cachuma
2015	781	963	437	626	2.5	4.7	0.17	12.11	97	263
2016	609	1027	346	668	2.3	4.2	0.11	12.98	100	272
2017	306	825	165	536	2.0	5.7	0.18	3.74	30	110
2018	481	876	220	569	2.1	5.5	0.13	8.33	55	236
2019	403	836	260	543	1.9	4.6	0.10	3.83	46	217
2020	503	918	280	597	2.0	4.9	0.12	2.75	63	90
Average	514	908	285	590	2.1	4.9	0.14	7.29	65	198

*Specific Conductance multiplied by 0.65 conversion factor

Sources: CCWA Polonio Pass Treatment Plant Water Quality Tables 2016 to 2020 <http://www.ccwa.com/archives.html>;
City of Santa Barbara Public Works Department Water Resources Laboratory - Lake Cachuma Monthly Monitoring 2015 to 2020

3.3.1.4 SWP Water Quality

CCWA monitors water quality within CCWA’s facilities. Average annual water quality data is included in Table 2 for the past five years. Water in the CCWA system prior to delivery to Lake Cachuma had consistently lower concentrations of total dissolved solids, total organic carbon, turbidity, and sulfates than the water in Lake Cachuma.

3.3.1.5 Central Coast Water Authority

As noted previously, CCWA is a public entity that was organized to construct, operate, and maintain South Coast facilities in order to bring supplemental water supply to its member agencies. CCWA has a SWP water contract for 45,486 acre-feet per year. Between 2016 and 2020, CCWA has delivered a total of 43,187 AF to the CCWA South Coast Participants (Table 3). Since 1997, an average of approximately 2,040 AF per year has been exchanged for Cachuma Project water through

the Santa Ynez Exchange Agreement, with a low of 0 AF in 2016 and a high of 3,155 AF in 2003 (CCWA 2021). The water delivered to Lake Cachuma by CCWA has been used for supplemental water supplies especially during drought years. In the most recent drought, CCWA water was the primary source of water being introduced into Lake Cachuma.

Table 3. South Coast Cachuma Member Units Total Water Supplies over the Last Five Years in Acre-Feet

Water Supply	2016	2017	2018	2019	2020
Cachuma Project	8,216	3,584	5,070	10,704	17,895
CCWA Water	14,427	12,547	13,751	1,460	1,002

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action, supplemental water supplies would no longer be available to the CCWA South Coast Participants. This could cause shortages in water supplies for their customers especially during drought years. As shown in Table 3 above, during the recent critical drought, CCWA water was crucial for the South Coast being as high as 3.5 times the amount of Cachuma Project water supplies, which occurred in 2017. Not having this water supply available would substantially negatively affect the South Coast water supply.

3.3.2.2 Proposed Action

The Proposed Action would continue to allow up to 13,750 acre-feet/year of CCWA water to continue to be introduced, stored, and conveyed through Cachuma Project facilities when excess capacity is available. The introduction, storage and conveyance of CCWA water would not increase or change operations in the Sacramento-San Joaquin River Delta. The additional water would be used by CCWA South Coast Participants to meet existing municipal and industrial demands. In general, CCWA water delivered to Lake Cachuma is used first by the CCWA South Coast Participants in order to carry over (store) their Cachuma Project water allocations for later use to better manage all available water supplies to meet existing demands. There would be no change in district boundaries or growth associated with use of this water. As shown in Table 3, this water is critical for the CCWA South Coast Participants to meet their existing demands, especially during drought years. As noted previously, there would be no modification of facilities in order to convey or deliver this water. The Proposed Action would be beneficial to water supplies within the Action area and would not adversely impact Cachuma Project operations.

As noted in Section 2.2, CCWA water would not be introduced into Lake Cachuma during spill events, i.e. when water is released from the dam to prevent overtopping. If any CCWA water is stored in Cachuma during these periods of time, this amount would be miniscule compared to water in the Lake. Any release of CCWA water from Lake Cachuma to the Lower Santa Ynez River is required to be mixed with Cachuma Project water up to 50 percent and subject to temperature and seasonal requirements as set forth in the 2000 biological opinion for Cachuma Project operations. As this water is mixed and flows over natural substrates in the river, its water chemistry is modified until it becomes indistinguishable from natural river water, and would, therefore, have no adverse impacts to water quality or beneficial uses in the Lower Santa Ynez River.

3.4 Cumulative Impacts

In the Council on Environmental Quality's (CEQ's) July 16, 2020 "Update to Regulations Implementing the Procedural Provisions of the National Environmental Policy Act" (85 FR 43304) the definition of cumulative impacts provided in 40 CFR 1508.7 was repealed. The CEQ conveyed the position that the analysis of cumulative effects, as defined in the 1978 regulations, is not required under NEPA. This regulation update does not preclude the analysis of cumulative effects, but identifies that all analyses of environmental effects, including cumulative effects, should focus on those effects that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action.

Reclamation has made the determination that the effects of the Proposed Action evaluated in this EA, combined with other reasonably foreseeable projects, would not result in cumulative impacts to any of the resources described above. Cachuma Project operations would not be impacted as there would be no change from baseline conditions and the Proposed Action would be subject to all applicable environmental, operational, and regulatory requirements associated with operation of the Cachuma Project.

4 Consultation and Coordination

4.1 Agencies and Persons Consulted

Reclamation consulted and coordinated with CCWA, Cachuma Operation and Maintenance Board, and NMFS in the preparation of this EA.

4.2 Public Involvement

Reclamation provided the public with an opportunity to comment on the Draft EA between March 25, 2022 and April 22, 2022. One comment letter was received from the SYRWCD and it is included in Appendix A. The comment letter includes two primary assertions (1) Reclamation did not notify the SYRWCD of release of the EA or provide the biological evaluation as part of the release for public review, and (2) that the Draft EA Proposed Action included additional restrictions on the mixing of CCWA water with WR 89-18 Water Rights Releases that are contrary to the 2002 Settlement Agreement, 2000 BiOp, WR 2019-0148, and Reclamation's water rights permits. Reclamation disagrees with both assertions.

For the first assertion, notification of the availability of the Draft EA was provided to the public on the day it was released. In addition, Section 3.2 of the Draft EA included the analysis that was included in the biological evaluation referenced in the comment letter. Further, Reclamation has ongoing biweekly coordination meetings with the Cachuma Project interested parties, including SYRWCD. Prior to release of the Draft EA, Reclamation discussed CCWA's short-term Warren Act contract, the Draft EA, and the informal consultation that would be needed for the Proposed

Action during several of the coordination calls. Reclamation provided CCWA with an administrative draft of the EA prior to its release and was notified by CCWA that it was shared with its South Coast Participants and the SYRWCD prior to its release for public review.

For the second assertion, the restrictions included in the Draft EA were consistent with the 2000 BiOp and were not additional restrictions. Those restrictions were analyzed in the 2000 BiOp and are therefore consistent with WR 2019-0148 and the 2002 Settlement Agreement which requires mixing to be consistent with the 2000 BiOp. Specifically, page 11 of the 2000 BiOp states: “Releases of CCWA water to the mainstem would only occur during water rights releases from May to October, with the bulk of releases occurring July - September.” Reclamation attempted to address previously noted confusion in mixing requirements from the 2000 BiOp to expressly state when mixing is allowed. As noted in Section 1.2, the current CCWA long-term Warren Act Contract expires in June 2022. The short-term Warren Act Contract analyzed in this EA is a separate action not covered in the 2000 BiOp.

Since release of the Draft EA, the Proposed Action has been revised in coordination and cooperation with SYRWCD and the Cachuma Project local interests, all of whom provided helpful information to address some of the concerns expressed by SYRWCD in their comment letter. The Proposed Action was also revised in coordination with NMFS to address concerns expressed during informal consultation regarding the timing of *O. mykiss* olfactory imprinting in the Lower Santa Ynez River. The revisions are included in Section 2.2 of this Final EA and the concurrence memorandum received from NMFS for the Proposed Action (Appendix B).

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation consulted with NMFS regarding potential impacts from the Proposed Action on the federally endangered Southern California steelhead DPS and its critical habitat. On June 13, 2022, NMFS concurred with Reclamation’s determination that the Proposed Action is *Not Likely to Adversely Affect* the endangered Southern California steelhead DPS or its designated critical habitat (Appendix B).

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Appendix A: Comment Letter on Draft Environmental Assessment

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April 22, 2022

Via Mail and Email

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Re: Parent District Comments on Draft Environmental Assessment (EA) for Central Coast Water Authority (CCWA) Temporary Warren Act Contract [CGB-EA-2022-023]

The Santa Ynez River Water Conservation District (Parent District) submits the following comments on the above-referenced EA for the CCWA Temporary Warren Act Contract (Project). The Parent District just learned of this EA and associated Biological Evaluation (BE) yesterday as they were included as part of CCWA's Board Packet¹ for its April 28, 2022 Board meeting. The Parent District is disappointed that it was not advised of the EA being out for public review and comment by the United States Bureau of Reclamation (Reclamation), and also notes that the BE is not referred to in the EA and has not been made publicly available by Reclamation during the EA comment period or otherwise. Be that as it may, as explained below, the Project appears to include additional restrictions on the mixing of CCWA's SWP supplies with downstream water rights releases contrary to the 2002 Settlement Agreement, the 2000 Biological Opinion

¹ Available at: <https://www.ccwa.com/files/acb8a110f/BoardPacket04282022.pdf>.

(Biological Opinion), WRO 2019-0148², and Reclamation's Cachuma Project water rights permits. As you know, mixing is critical to ensuring that the Cachuma Project is not impairing downstream water quality. There is no evidence that exclusion of November from the months in which mixing can occur – even when the flow is discontinuous in the mainstem, among other restrictions, is warranted³, and imposing such additional restrictions through the EA does not follow required procedures. Any modification to the Biological Opinion to add restrictions on mixing should be evaluated as part of the ongoing formal reinitiation of consultation – not by de facto amendment.⁴ If further pursued, any additional unmitigated restrictions on mixing should be discussed with relevant stakeholders and evaluated as part of the ongoing consultation before being approved or implemented.

The Parent District covers approximately 180,000 acres, principally downstream of the Cachuma Project. The Parent District's constituents rely upon regular water rights releases being made from the Project's Bradbury Dam of sufficient quality and quantity to serve downstream beneficial uses, which include agricultural and domestic users of Santa Ynez River water. Such releases replenish downstream alluvial aquifers and groundwater basins. The Parent District's constituents include Santa Ynez River Water Conservation District, Improvement District No. 1, the cities of Solvang, Buellton and Lompoc, and various communities. The City of Lompoc, in particular, consists of various disadvantaged communities, who rely on Santa Ynez River releases as their sole source of supply and replenishment. The City of Lompoc previously raised claims with the State Water Resources Control Board (State Water Board) regarding the Cachuma Project's impairment of downstream water quality.

On December 17, 2002, the Cachuma Conservation Release Board (CCRB), the Parent District, Improvement District No. 1 and the City of Lompoc entered into a Settlement Agreement relating to the operation of the Cachuma Project (Cachuma Project Settlement Agreement). The Cachuma Project Settlement Agreement resolved 50 years of disputes relative to operation of the Project, including litigation and claims regarding downstream water quality impacts raised by the City of Lompoc. The Cachuma Project Settlement Agreement's provisions are incorporated by reference, discussed in, and attached as Appendix 2 to the State Water Board's WR Order 2019-0148 (WRO 2019-1048 or Order) In the Matter of Permits 11308 and 11310 (Applications 11331 and 11332) held by the United States, Bureau of Reclamation for the Cachuma Project on the Santa Ynez River. (Order, §§ 6.1-6.5, pp. 100-110.)

As explained in WRO 2019-0148 (Order, § 6.2.1, pp. 102-103), the following recited provision (Subparagraph 1.5 – Deliveries During Releases) of the Settlement Agreement, which

² Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/cachuma/docs/wro2019_0148_withagreement_final.pdf

³ In fact, the EA indicates that per the draft 2016 biological opinion additional restrictions on mixing do not appear to be necessary: “*the effects of...Central Coast Water Authority state water project deliveries and releases are expected to be avoided by measures that are currently in place and are expected to continue.*” (Board Packet, pdf p. 106; BE, p. 12.)

⁴ U.S. Fish & Wildlife Service and NMFS, Consultation Handbook (March 1998 Final), p. 4-63, 64; 50 CFR §402.16.

provides for commingling of SWP water imported by CCWA, is a key component of resolving the City of Lompoc's Cachuma Project water quality concerns, returning the groundwater quality in the Lompoc Plain Groundwater Basin to a no project condition, and avoiding impairment to senior groundwater rights:

“The parties to this Agreement will, as provided in Exhibit D, make best efforts to maximize the delivery by ... [CCWA of SWP] water with lower concentrations of total dissolved solids ('TDS') into the outlet works at Bradbury Dam during WR 89-18 water rights releases consistent with the NMFS BO. This will be accomplished through the commingling of SWP water with WR 89-18 water rights releases in the Outlet Works at Bradbury Dam when downstream water rights releases are being made. Generally, SWP deliveries by CCWA are of lower TDS concentrations compared to water releases from Lake Cachuma under WR 89-18. The objective of such commingling operations is to maximize the delivery of SWP Water to lower the TDS in the lower Santa Ynez River and at the Narrows. Such coordinated program shall be carried out as set forth in Exhibit “D” hereto.” (Emphasis added.)

Reclamation approved of and supported the Cachuma Project Settlement Agreement in the WRO 2019-0148 proceedings as a way of resolving 50 years of disputes between the Cachuma Project Member Units and the downstream parties, including the Parent District and the City of Lompoc, with respect to the operation of the Project. This included disputes relating to water rights and water quality issues among them, including key hearing issues 4, 5 and 6, and resolution of the City of Lompoc's litigation and claims regarding the Project's injury to its senior water rights including water quality impairment caused by the Project. (Order, p. 100.)

Key Hearing Issue 4 was:

“Has any senior, legal user of water been injured due to changes in water quality resulting from the operation of the Cachuma Project? (Order p. 101.)”

According to the Order, the City of Lompoc owns 9 domestic wells providing the sole source of water to 39,000 people including disadvantaged communities. (*Ibid.*) Lompoc asserted that historic operation of the Cachuma Project impaired the water quality in the groundwater basin in such a manner as to injure the city's senior downstream water rights. (*Ibid.*) In WRO 2019-0148, the State Water Board concluded that under the current operating regime under the **2000 Biological Opinion**, “which includes the **downstream water rights releases as required by 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.” (Order, pp. 102-103, emphasis added.)

The State Water Board found that “operation of the Cachuma Project in accordance with the Settlement Agreement will protect senior 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.” (Order, p.

109, emphasis added.) The State Water Board further found 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.” (*Ibid.*) In making these findings, the State Water Board recognized that the 2000 Biological Opinion (Biological Opinion) limited the amount of SWP water that can be “mixed” and referenced the only other restrictions related to the delivery of SWP water as stated in the Final EIR for the Order, as follows:

“2.4.4.3 Restrictions of State Water Project Releases

The Biological Assessment described restrictions on the delivery of SWP water to the reservoir. SWP water will not exceed 50 percent of the amount of water released from Bradbury Dam at any given time. In addition, SWP water will not enter the stilling basis with a temperature over 18 degrees Celsius. Finally, the Biological Opinion requires that releases of SWP water to the mainstem in conjunction with water rights and fish enhancement releases shall not occur during the migration period of **December through June, unless flow in the mainstem is discontinuous**. This requirement has been met since 2001. (Order, p. 102, fn. 65; FEIR, Vol. II⁵, p. 2.0-38, emphasis added.)

In contrast to the above, the Project adds significant additional restrictions on mixing of SWP deliveries with downstream water rights releases. In particular, the EA adds the following restrictions on CCWA deliveries through the Bradbury Dam outlet works:

“Releases of CCWA water to the mainstem only occurs during water right releases from **May to October**, with the bulk of releases occurring July through September;” (EA, p. 4, emphasis added.)

These additional restrictions are not part of the Biological Opinion’s reasonable and prudent measures, and they are not referenced in the Settlement Agreement or WRO 2019-0148. Neither the EA nor any other relevant document, to our knowledge, evaluates the need for such additional restrictions on mixing. Presently, there is no limit on mixing during any particular months whatsoever when the mainstem flow is discontinuous, and when it is not discontinuous mixing can still occur in **November**, as is sometimes necessary and as may be necessary more often in the future due to climate change.

The Parent District was not consulted regarding the need for these additional unmitigated mixing restrictions, which represent a significant departure from the baseline and will cause water quality impacts to the Parent District’s constituents, including the City of Lompoc and its disadvantaged citizens. These additional restrictions are conflict with the Biological Opinion and WRO 2019-0148, including its underlying environmental review and the State Water Board’s

⁵ Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/cachuma/feir/cachuma_feir_vol2.pdf.

conclusions regarding water quality impacts of the Project meant to be addressed by the Cachuma Project Settlement Agreement.

If these additional restrictions are not removed the Project, they represent a new impairment to water quality and possible injury to downstream water rights. To our knowledge, no evaluation whatsoever of the environmental impacts of adding such additional restrictions and making associated changes to Project's release operations has been performed, as would be necessary for the Project to comply with NEPA and CEQA, as applicable. CCWA's approval of the Project, along with the significant new additional unmitigated restrictions on mixing, would represent a substantial change to existing conditions and constitute a Project as defined by CEQA that may result in significant water quality impacts to downstream resources including groundwater in the Lompoc Plain Groundwater Basin; thus, a mitigated negative declaration or environmental impact report (or subsequent or supplemental EIR) would be required prior to consideration of Project approval. (Public Resources Code, § 21065; Cal Code Regs, § 15064.)

For the above reasons, the Parent District urges that Reclamation delete the additional restrictions on mixing from the Project. The Parent District does not support the Project with such additional restrictions for the reasons expressed herein. These additional restrictions will likely degrade water quality conditions downstream, without any environmental analysis (or mitigation) and at the worst possible time – during a multi-year drought emergency. All the while, downstream GSAs have to comply with SGMA including avoidance of undesirable results including significant and unreasonable degraded water quality. The Parent District also fears that modifying Cachuma Project operations so as to impair downstream water quality and possibly injure downstream water rights, contrary to the Cachuma Project Settlement Agreement, the Biological Opinion, WRO 2019-1048 and **Reclamation's water rights permits**, presents a significant risk of resumption of litigation and/or regulatory or administrative proceedings regarding the Project's impact on downstream water quality and water rights. This would be very unfortunate after decades were spent resolving disputes regarding Cachuma Project operations and on development of appropriate downstream release permits terms and conditions.

The Parent District recognizes the importance of and supports CCWA obtaining a temporary Warren Act Contract and has no desire to obstruct, complicate or delay that worthy endeavor. The simple solution here is to delete the additional restrictions on mixing from the Project, and if Reclamation desires to pursue them further, they should be considered and evaluated as part of the ongoing reinitiation of consultation as required by the federal Endangered Species Act.

Sincerely,



Kevin Walsh
General Manager

Ms. Rain L. Emerson, M.S.

April 22, 2022

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Appendix B: Concurrence Letter from National Marine Fisheries Service



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4250

June 13, 2022

Refer to NMFS No:
WCRO-2022-00071

Michael Jackson
U.S. Bureau of Reclamation
1243 N. Street
Fresno, California 93721-1813

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter for the Proposed Issuance of a Temporary Warren Act Contract to the Central Coast Water Authority

Dear Mr. Jackson:

On June 2, 2022, NOAA's National Marine Fisheries Service (NMFS) received the U.S. Bureau of Reclamation's (Reclamation) request for written concurrence that proposed issuance of a temporary (not to exceed five years) Warren Act contract to the Central Coast Water Authority (CCWA) is not likely to adversely affect the endangered Southern California Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*) and critical habitat for the species designated under the Endangered Species Act (ESA). This response to Reclamation's request was prepared by NMFS pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available within two weeks at the Environmental Consultation Organizer [<https://eco.fisheries.noaa.gov>]. A complete record of this consultation is on file at the Southern California Branch of the California Coastal Office in Long Beach, California.

Consultation History

The proposed action is associated with Reclamation's Cachuma Project, specifically Bradbury Dam and Cachuma Reservoir on the Santa Ynez River. NMFS analyzed the potential effects of CCWA delivery of out-of-basin water from the State Water Project into Cachuma Reservoir and



the Santa Ynez River in a September 8, 2000, biological opinion (BiOp).¹ Potential incorrect olfactory imprinting in juvenile steelhead was identified as the principal potential adverse effect if out-of-basin water was released directly into the Santa Ynez River during the likely period of olfactory imprinting (i.e., November through June) when juvenile steelhead are preparing for or undertaking seaward migration. However, NMFS concluded risk of incorrect olfactory imprinting was remote because release of out-of-basin water into the Santa Ynez River was expected to generally avoid the principal period when juvenile steelhead undergo parr-smolt transformation and imprint on their natal river.

On June 26, 2020, Reclamation requested informal consultation regarding issuance of a temporary (five years) Warren Act contract for CCWA to continue delivery and distribution of State Water Project water under the presumption the existing 25-year contract would expire on July 25, 2020. NMFS concluded consultation with issuance of a letter on July 14, 2020, concurring with Reclamation's determination that the proposed action was not likely to adversely affect the Southern California DPS of steelhead and critical habitat designated for this species. However, on July 15, 2020, CCWA withdrew its request for a temporary contract upon realizing the existing contract with Reclamation would not expire until June 24, 2022, and instead requested that Reclamation focus on developing another 25-year contract. Negotiations for issuing a 25-year contract between CCWA and Reclamation remain incomplete.

Although Reclamation has reinitiated ESA section 7 consultation with NMFS on the operation and maintenance of the Cachuma Project, that consultation will not be completed before the existing Warren Act contract with CCWA expires on June 24, 2022.² Therefore, on March 30, 2022, Reclamation requested informal consultation regarding issuance of a temporary Warren Act contract for CCWA to continue delivery and distribution of State Water Project water into Cachuma Project facilities for up to five years.

Subsequent to the March 30, 2022, consultation request, Reclamation modified the proposed action based on their collaboration with local water purveyors associated with the Cachuma Project. Furthermore, during informal consultation our review of the scientific literature regarding olfactory imprinting in juvenile steelhead revealed information that does not support Reclamation's March 30, 2022, request for concurrence. We shared that information with Reclamation, which subsequently revised the proposed action and then sent us a new request dated June 2, 2022.

Proposed Action and Action Area

Reclamation proposes to issue a temporary Warren Act contract to CCWA, not to exceed five years. Under the terms of the contract, CCWA would introduce, store and convey up to 13,750

¹ A sub-element of Reclamation's proposed operation and maintenance of the Cachuma Project was annual delivery of up to 12,545 acre-feet of State Water Project water per year at a rate not to exceed 22 cfs into Cachuma Reservoir and the Santa Ynez River via the Bradbury Dam outlet works. The delivery of State Water Project water was under a Warren Act contract issued by Reclamation to CCWA in July 1995.

² NMFS is currently providing Reclamation technical assistance in discussions to assist Reclamation in developing a consultation request package with sufficient information to begin formal ESA consultation.

acre-feet of State Water Project water in Cachuma Project facilities at a rate of no more than 22 cubic feet per second. See Central Coast Water Authority Temporary Warren Act Contract—Biological Evaluation (Reclamation June 2, 2022) for a complete description of the proposed action.

Because State Water Project water released into the Santa Ynez River under the proposed action may flow from Bradbury Dam to the City of Lompoc (approximately 35 miles), the action area includes that 35-mile reach of the Santa Ynez River, as well as Cachuma Reservoir.

Additionally, the transmission system for delivering water from Cachuma Reservoir for residential, agricultural and industrial purposes (i.e., Tecolote Tunnel and South Coast Conduit) is part of the action area. However, the existence, operation, and maintenance of this water-transmission system will continue regardless of the proposed action.

Release of State Water Project water into the Santa Ynez River below Bradbury Dam would only occur during June through November and only when Reclamation is releasing water from Bradbury Dam to support downstream water-right holders under the Water Resources Control Board's Water Order WR 89-18 and when surface water is discontinuous between the dam and the Santa Ynez River Lagoon. Because steelhead may be undergoing olfactory imprinting during June and November and exposure to out-of-basin water could result in incorrect olfactory imprinting, the proposed action precludes discharge of State Water Project water into the river during June and November if steelhead are observed to be present. Any State Water Project water released directly into the Santa Ynez River below Bradbury Dam would be mixed (diluted) with an equal or greater amount of water released from Cachuma Reservoir and the release would be conducted in a manner to ensure released water does not exceed 18°C.

Prior to discharge into Cachuma Reservoir or the Santa Ynez River, the water is chlorinated at the Polonio Pass Water Treatment Plant in San Luis Obispo and then dechlorinated at CCWA's Santa Ynez Pumping Facility using sodium bisulfite. The Santa Ynez Pumping Facility automatically halts water transmission if chlorine concentration exceeds 0.03 mg/L or residual sodium bisulfite concentration is ≤ 0.1 mg/L or > 1.0 mg/L. The purpose for retaining residual sodium bisulfite is to ensure no residual chlorine remains in CCWA water before it is discharged into Cachuma Reservoir or the Santa Ynez River.

We considered under the ESA whether the proposed action would cause any other activities and determined that it would not.

Background and Action Agency's Effects Determination

Reclamation determined the proposed action is not likely to adversely affect the endangered Southern California DPS of steelhead (71 FR 834; January 5, 2006) or critical habitat designated for this species (70 FR 52488; September 2, 2005). In general, the physical or biological features of designated critical habitat relevant to the action area are freshwater spawning sites, freshwater rearing sites, and freshwater migration corridors. Reclamation's determination was based on: (1) restricting the release of State Water Project water into the Santa Ynez River to times when steelhead are unlikely to be undergoing olfactory imprinting or otherwise not present, thus avoiding or minimizing potential for incorrect olfactory imprinting, and (2)

measures to ensure potential discharge of residual sodium bisulfite and ammonia would be at concentrations that would not adversely affect aquatic life including endangered steelhead.

Effects of the Action

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (50 CFR 402.02). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b). When evaluating whether the proposed action is not likely to adversely affect listed species or critical habitat, NMFS considers whether the effects are expected to be completely beneficial, insignificant, or discountable. Completely beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Effects are considered discountable³ if they are extremely unlikely to occur.

The proposed action is similar to an action consulted on as part of the operation and maintenance of the Cachuma Project, which resulted in the September 8, 2000, BiOp and July 14, 2020, letter of concurrence that the proposed action may affect, but is not likely to adversely affect the endangered Southern California DPS of steelhead or critical habitat designated for this species. That is, CCWA would introduce, store, and convey State Water Project water through Cachuma Project facilities at a rate not to exceed 22 cfs. The proposed action subject to this consultation differs from that analyzed as part of the September 8, 2000, BiOp because the proposed action now excludes releasing CCWA water into the river during May and includes potential releases during November, and discloses potential discharge of residual sodium bisulfite and ammonia associated with the water-treatment process. It also includes a minor increase in potential annual water deliveries from a maximum of 12,545 acre-feet to a maximum of 13,750 acre-feet. The proposed action differs from that analyzed in the July 14, 2020, informal consultation by disclosing potential discharge of ammonia, reducing annual water deliveries from a maximum of 17,706 acre-feet to 13,750 acre-feet per year, and expanding the period for releasing State Water Project water into the river below the dam from July 1 through October 31 to June 1 through November 30.

Juvenile steelhead in the action area undergo olfactory imprinting principally in preparation and during their seaward migration, and potentially as alevins and emergent fry. This is expected to occur as early as November and continue into June. Discharging out-of-basin State Water Project water (Sacramento-San Joaquin River system) into the Santa Ynez River could cause incorrect olfactory imprinting. Incorrect olfactory imprinting may cause adult Santa Ynez River steelhead to not locate their natal river when returning to freshwater to spawn. However, the proposed action avoids or minimizes the likelihood of exposure to out-of-basin water when

³ When the terms “discountable” or “discountable effects” appear in this document, they refer to potential effects that are found to support a “not likely to adversely affect” conclusion because they are extremely unlikely to occur. The use of these terms should not be interpreted as having any meaning inconsistent with our regulatory definition of “effects of the action.”

steelhead are undergoing olfactory imprinting and long-term olfactory learning for returning to their natal river by not discharging State Water Project water into the river during December through May, and only discharging State Water Project water into the river in June and November when steelhead are not present. Therefore, the effect of incorrect olfactory imprinting is discountable.

Residual sodium bisulfite could be discharged into the Santa Ynez River, potentially exposing steelhead to this chemical. However, the concentration that sodium bisulfite would be discharged from CCWA's pipeline (sodium bisulfite ≤ 1 mg/L) is considered non-toxic to aquatic life (Basu & Dorner 2010).⁴ Adverse effects, including death, to stream fishes has been observed during exposure to a high-concentration release of sodium bisulfite, attributed to sudden reduction of dissolved oxygen in the water. Ryon et al. (2002)⁵ concluded instream concentrations of sodium bisulfite equal to or exceeding about 39 mg/L may reduce dissolved oxygen sufficient to kill fish. This amount is about 40 times the concentration in the water that may be delivered under the proposed action. Furthermore, the concentration of sodium bisulfite potentially delivered under the proposed action would be diluted by a factor of 0.5 or more before being discharged into the Santa Ynez River, likely rendering it undetectable. Therefore, the effects of discharging residual sodium bisulfite under the proposed action are insignificant.

Water discharged from the CCWA pipeline into the Santa Ynez River could contain ammonia, potentially exposing steelhead to this chemical. However, measured concentrations of total ammonia⁶ in water discharged from CCWA's pipeline (≤ 0.14 mg/L) are less than the amount EPA (2013)⁷ concluded is protective of ESA-listed salmonids, including steelhead; that is, acute toxicity criteria (1-hour average) 17 mg/L and chronic toxicity criteria (30-day rolling average) 1.9 mg/L. EPA (2013) reports the mean acute (SMAV)⁸ and chronic (SMCV)⁹ total ammonia toxicity values for *O. mykiss* as 82.88 mg/L and 6.663 mg/L, respectively, normalized for water pH 7.0 and temperature 20°C. Furthermore, the concentration of ammonia potentially delivered under the proposed action would be diluted by a factor of 0.5 or more before discharging into the Santa Ynez River. Consequently, this reduces the observed concentration levels to between 0 and 0.07 mg/L, which are nearly two orders of magnitude less than the EPA calculated chronic toxicity value for *O. mykiss* and below the minimum effects concentrations reported in NMFS (2017)¹⁰ for behavioral (0.4 mg/L, 4.8-hour exposure), growth (0.3 mg/L, 120-day exposure),

⁴ Onita D. Basu and Sarah M. Dorner. 2010. Potential Aquatic Health Impacts of Selected Dechlorination Chemicals. Water Quality Research Journal of Canada. Vol. 45, No. 3.

⁵ Michael G. Ryon, Arthur J. Stewert, Lynn A. Kszos, Terry L. Phipps. 2002. Impacts on Streams from the Use of Sulfur-Based Compounds for Dechlorinating Industrial Effluents. Water Air and Soil Pollution. May 2002.

⁶ Total ammonia refers to the combined concentration of the ionized (NH_4^+) and un-ionized (NH_3) forms.

⁷ U.S. Environmental Protection Agency. 2013. Aquatic Life Ambient Water Quality Criteria For Ammonia – Freshwater. EPA-822-R-13-001. April 2013.

⁸ *Species Mean Acute Value* (SMAV) is the geometric mean of the results of all acceptable flow-through acute toxicity tests (for which the concentrations of the test material were measured) with the most sensitive tested life stage of the species. 40 CFR 132.2.

⁹ *Species Mean Chronic Value* (SMCV) is the geometric mean of the results of all acceptable life-cycle and partial life-cycle toxicity tests with the species; for a species of fish for which no such result is available, the SMCV is the geometric mean of all acceptable early life-stage tests.

¹⁰ NOAA's National Marine Fisheries Service. 2017. Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for Renewing the Operating License for the Columbia Generating Station, Richland, Washington. March 10, 2017.

and physiological (0.23, 42-day exposure) effects. Therefore, the effects of discharging ammonia under the proposed action are insignificant.

The aforementioned effects of the proposed action on steelhead also regard physical or biological features of designated critical habitat for this species (i.e., freshwater spawning sites, freshwater rearing sites and freshwater migration corridor). Based on the discussion above regarding the potential effects of the proposed action on steelhead, the effects of the proposed action on physical or biological features of critical habitat for this species are insignificant.


Conclusion

Based on this analysis, NMFS concurs with Reclamation that the proposed action is not likely to adversely affect the subject listed species and critical habitat designated for this species.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by Reclamation or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the proposed action causes take; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the written concurrence; or (4) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA consultation.

Please direct a question regarding this letter to Darren Brumback at (562) 980-4060 or Darren.Brumback@noaa.gov.

A handwritten signature in black ink, appearing to read "D. Hyatt", is positioned above the name "Branch".

Branch

cc: David Hyatt, U.S. Bureau of Reclamation
Lisa Buck, U.S. Bureau of Reclamation
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