BUREAU OF RECLAMATION

Central Coast Water Authority Temporary Warren Act Contract

CGB-EA-2022-023
Draft Environmental Assessment

U.S. Department of the Interior

March 2022

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.

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1 Introduction

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, the Bureau of Reclamation (Reclamation) released an Environmental Assessment (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 Contract[1] of SWP water into the Cachuma Project facilities for delivery to CCWA's South Coast Participants[2]. 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 River[3].

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[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.

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 June2022, 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.

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 the CCWA

contractors located along the South Coast Conduit. No modifications to existing infrastructure or operations or construction would be needed for the Proposed Action.

2.2.1 Introduction of CCWA Water into Cachuma Project Facilities

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 Cachuma[4]. These mechanisms would remain unchanged under the proposed action.

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 Units[5], 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 Releases[6] from the outlet works.

When CCWA water is released into the Stilling Basin, CCWA water is exchanged for Cachuma Project water in Lake Cachuma on a one-to-one basis.

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 ≥ 0.05 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 ≤ 1mg/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).

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[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).

[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.

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% from the average free ammonia concentrations measured at the outlet vault of the Santa Ynez Pumping Facility.

2.2.3 Conservation Measures

Measures to avoid and minimize effects to the endangered Southern California Steelhead (*Oncorhynchus mykiss*) Distinct Population Segment (DPS) 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. When CCWA deliveries to Lake Cachuma via the outlet works coincide with releases from Lake Cachuma via the outlet works, Reclamation proposes to implement the following restrictions to minimize potential effects to steelhead:

- General restrictions on all CCWA water deliveries:
    - There is no delivery of CCWA water to Lake Cachuma during spill events;
    - CCWA water is not introduced into the penstock if the Hilton Creek Emergency Backup System (EBS) is on standby, to eliminate any possibility of CCWA water being delivered to Hilton Creek.
- Restrictions on CCWA water deliveries through the Bradbury Dam outlet works:
    - When releases from the outlet works and deliveries of CCWA water through the outlet works are simultaneously scheduled to achieve mixing, Reclamation will notify NMFS that CCWA water will be entering the Santa Ynez River;
    - There is no delivery of CCWA water to Lake Cachuma via the outlet works when the EBS is delivering water;
    - CCWA water will not be mixed into the waters of the Santa Ynez River during the months of December to June, unless flow is discontinuous in the mainstem;
    - Delivery of CCWA water to Lake Cachuma is not made during spill events;
    - 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;
    - CCWA water will not exceed 50 percent of the total rate of releases to the Lower Santa Ynez River; and
    - When releases of CCWA water to the Lower Santa Ynez River occur, Reclamation will ensure that water is released from Lake Cachuma in such a proportion that the blended CCWA and Lake Cachuma water entering the Stilling Basin has a temperature of ≤ 18°C, as estimated pursuant to the Penstock Temperature Monitoring Plan (letter to Reclamation from CCWA, dated October 6, 2011).

CCWA water may be introduced to Lake Cachuma or the Lower Santa Ynez River at rates ranging up to 22 cubic feet per second (cfs), as limited by the capacity of the four pumps at CCWA's Santa Ynez Pumping Facility. Operation of the Santa Ynez Pumping Facility can be highly 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 restrictions noted above. When Reclamation is releasing water from the EBS, no CCWA water can be delivered via the outlet works as the EBS is plumbed into the outlet works. When the only water Reclamation is releasing to the Lower Santa Ynez River is from Hilton Creek via the lake-based Hilton Creek Watering System (HCWS), no CCWA water will be released to the Lower Santa Ynez River.

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. From 2004 through present, the average temperature of CCWA's water from May through November (before entering the penstock) was 22.4℃ with a low of 13.6℃ and a high of 27.7℃ (CCWA 2021).

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. Reclamation monitors the temperature of CCWA water and water in the penstock. When the temperature of blended water is approaching the 18℃-temperature limit for steelhead Reclamation will immediately reduce or suspend delivery of CCWA water or increase delivery of Cachuma Lake water until CCWA deliveries can be reduced or suspended, to avoid exceeding the 18℃-temperature limit.

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) a 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 5 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 (CNDDB) was also queried for records of protected

species within the vicinity of the Proposed Action area (CNDDB 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 *Anaxyrus californicus*	E, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
California red-legged frog *Rana draytonii*	T, X	NE	**Present.** There are CNDDB 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 *No Effect* to this species from the Proposed Action.
California tiger salamander *Ambystoma californiense*	T, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Birds			
California condor *Gymnogyps californianus*	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 *No Effect* to this species from the Proposed Action.
California least tern *Sterna antillarum browni*	E	NE	**Present.** There are CNDDB 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 *No Effect* to this species from the Proposed Action.
Least Bell's vireo *Vireo bellii pusillus*	E, X	NE	**Present.** There is a CNDDB 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 *No Effect* to this species from the Proposed Action.
Light-footed clapper rail	E	NE	**Present.** There are CNDDB records of this species in portions of the CCWA South Coast Participants' service area. The

Species	Status[1]	Effects[2]	Potential to occur and summary basis for ESA determination [3]
Rallus longirostris			Proposed Action would not involve any construction, land use changes, or conversion of suitable habitat. There would be *No Effect* to this species from the Proposed Action.
Marbled murrelet *Brachyramphus marmoratus*	T, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus*	E	NE	**Absent.** This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Southwestern willow flycatcher *Empidonax traillii extimus*	E, X	NE	**Present.** There are CNDDB 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 *No Effect* to this species or its critical habitat from the Proposed Action.
Western snowy plover *Charadrius nivosus nivosus*	T, X	NE	**Present**. There are CNDDB records of this species near the Lower Santa Ynez River estuary and within portions of the 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 *No Effect* to this species from the Proposed Action.
Crustaceans			
Riverside fairy shrimp *Streptocephalus woott*	E, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Vernal pool fairy shrimp *Branchinecta lynchi*	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 *No Effect* to this species or its designated critical habitat.
Fish			
Tidewater goby *Eucyclogobius newberryi*	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

Species	Status[1]	Effects[2]	Potential to occur and summary basis for ESA determination [3]
			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 *No Effect* to this species or its designated critical habitat.
Southern California steelhead Distinct Population Segment (DPS) *Oncorhynchus mykiss*	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 *Oncorhynchus mykiss*. 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 *Not Likely to Adversely Affect* the Southern California steelhead DPS or designated critical habitat for this species.
Insects			
Monarch Butterfly *Danaus plexippus*	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 *No Effect* to this species.
Mammals			
Southern sea otter *Enhydra lutris nereis*	T, MMPA	NE	**Absent**. This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Plants			
Beach Layia *Layia carnosa*	E	NE	**Absent**. This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
California Orcutt grass *Orcuttia californica*	E	NE	**Absent**. This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Contra Costa goldfields *Lasthenia conjugens*	E, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Gambel's watercess *Rorippa gambellii*	E	NE	**Absent**. This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.

Species	Status[1]	Effects[2]	Potential to occur and summary basis for ESA determination [3]
Gaviota tarplant *Deinandra increscens* ssp. *villosa*	E, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
La Graciosa thistle *Cirsium loncholepis*	E, X	NE	**Absent**. This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Lompoc yerba santa *Eriodictyon capitatum*	E, X	NE	**Absent.** This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Marsh sandwort *Arenaria paludicola*	E	NE	**Absent**. This species does not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus*	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 *No Effect* to this species from the Proposed Action.
Spreading Navarretia *Navarretia fossalis*	T, X	NE	**Absent.** This species and designated critical habitat for this species do not occur within the Proposed Action Area. There would be *No Effect* to this species from the Proposed Action.
Vandenberg monkeyflower *Diplacus vandenbergensis*	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 *No Effect* to this species or its designated Critical Habitat from the Proposed Action.
Ventura marsh milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	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 *No Effect* 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 result in any changes in the operation of the Cachuma Project. 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 (≥0.05 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 life[7] (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.

In accordance with the 2000 biological opinion for the operation and maintenance of the Cachuma Project (NMFS, 2000), 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, CCWA water would occasionally be released into the Lower Santa Ynez River where Southern California steelhead and its designated critical habitat are present. Before downstream migration to the ocean, juvenile *O. mykiss* imprint on chemical odors in their natal streams during smoltification, which later guide their upstream homing migration as adults (Dittman et al., 1995; Nevitt & Dittman, 1999). In the Lower Santa Ynez River, smolts may migrate downstream from November through June, with peak outmigration occurring from March through May. To minimize potential negative effects from the introduction of CCWA water on olfactory imprinting of juvenile *O. mykiss*, Reclamation would continue to implement mixing criteria so that no more than 50 percent of the total water being released below the dam is CCWA water. Further, releases of CCWA water to the river would only occur during 89-18 Water Rights Releases from May through October, with a majority of releases occurring July through September, when juvenile *O. mykiss* are unlikely to be undergoing olfactory imprinting.

A majority of releases would be conducted during the summer months when juvenile outmigration and olfactory imprinting are not occurring. Juvenile *O. mykiss* may undergo olfactory imprinting in May and June; however, because CCWA water is only released to the Lower Santa Ynez River during 89-18 Water Rights Releases, which typically are made in dry years when the river is not connected to the ocean, and because there is a requirement that the river must be discontinuous in the mainstem to release CCWA water to the river in May and June, *O. mykiss* are not expected to be outmigrating and/or undergoing olfactory imprinting when CCWA water is released to the Lower Santa Ynez River.

The 2000 biological opinion for the operation and maintenance of the Cachuma Project concluded that potential effects from CCWA's water deliveries and releases on Southern California steelhead were expected to be minimal and that the risk of incorrect imprinting from the release of CCWA water into the Lower Santa Ynez River was remote (NMFS, 2000). The Proposed Action would have no new or additional effects beyond those analyzed in the 2000 biological opinion.

With the Conservation Measures listed in 2.2.3, Reclamation has determined that the Proposed Action is *Not Likely to Adversely Affect* the endangered Southern California steelhead DPS or

[7] 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 average[7] of 1.9 mg/L total ammonia at a pH of 7.0 and a temperature of 20°C (EPA, 2013).

designated critical habitat for this species. As described in Table 1, Reclamation has determined that the Proposed Action would have *No Effect* to any other proposed or listed species or critical habitat under the Endangered Species Act of 1973, as amended (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.

Reclamation provides up to 25,714 acre-feet/per year of Cachuma Project water to 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 Cahuma 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 covey 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 is consulting and coordinating with CCWA, Cachuma Operation and Maintenance Board, and NMFS in the preparation of this EA.

4.2 Public Involvement

Reclamation intends to provide the public with an opportunity to comment on the Draft Environmental Assessment during a 30-day public review period.

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 is consulting with NMFS regarding potential impacts from the Proposed Action on the federally endangered Southern California steelhead Distinct Population Segment (DPS) and its critical habitat.

5 References

CNDDB (California Natural Diversity Database). 2020. California Department of Fish and Wildlife's Natural Diversity Database, May 2020.

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