SOUTH SWP HYDROPOWER RELICENSING
FERC PROJECT NO. 2426

INITIAL STUDY / DRAFT MITIGATED NEGATIVE DECLARATION

March 2021

State of California
California Natural Resources Agency
DEPARTMENT OF WATER RESOURCES
Hydropower License Planning and Compliance Office

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COMMONLY USED TERMS, ACRONYMS & ABBREVIATIONS

¶	Paragraph
§	Section
§§	Sections
--	not required
AB	Assembly Bill
ABA	Architectural Barriers Act
ABAAS	Architectural Barriers Act Accessibility Standards
ACC	Advanced Clean Cars
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
AF	acre-feet
AGS	Annual Grassland
AIS	aquatic invasive species
ANF	Angeles National Forest
APE	Area of Potential Effects
Application for New License	Licensees' Application for a New License for Major Project – Existing Dam for the South SWP Hydropower, Federal Energy Regulatory Commission Project Number 2426-227
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BAR	Barren
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Department of the Interior, Bureau of Land Management
BLM-S	U.S. Department of the Interior, Bureau of Land Management Sensitive Species
BMP	best management practice
BO	Biological Opinion
BOP	Blue Oak – Foothill Pine
B.P.	Before Present
°C	degrees Celsius
C_2H_3Cl	vinyl chloride

CA	California
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CAL OES	Governor's Office of Emergency Services
CalNAGPRA	California Native American Graves Protection and Repatriation Act
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDP	census designated place
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGC	California Government Code
CH_4	methane
CHP	California Highway Patrol
CHSC	California Health and Safety Code
CLWA	Castaic Lake Water Agency
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
COW	Coastal Oak Woodland
CRC	Chamise – Redshank Chaparral
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSC	Coastal Scrub
CWA	Clean Water Act

CWHR	California Wildlife Habitat Relationships
DHS	California Department of Health Services
DLA	Draft License Application
DOC	California Department of Conservation
DPH	California Department of Public Health
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DPS	distinct population segment
DRI	Desert Riparian
DSOD	California Division of Safety of Dams
DSW	Desert Wash
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
E	Existing Beneficial Use
EA	Environmental Assessment
EAP	Emergency Action Plan
eDNA	environmental deoxyribonucleic acid
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
existing South SWP Hydropower boundary	the existing delineated boundary as approved by FERC in the existing license
FCAA	Federal Clean Air Act
FE	Federally Endangered
FERC	Federal Energy Regulatory Commission
FEW	Fresh Emergent Wetland
FGC	Fish and Game Code
FLA	Final Application for a New License Major Project – Existing Dam for the South SWP Hydropower, FERC Project Number 2426
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FP	Fully Protected

FPA	Federal Power Act
FPBGSA	Fillmore and Piru Basins Groundwater Sustainability Agency
fps	feet per second
FR	Federal Register
FSORAG	Forest Service Outdoor Recreation Accessibility Guidelines
FSS	Forest Service Sensitive
FTBMI	Fernandeño Tataviam Band of Mission Indians
FT	Federally Threatened
GGERP	Greenhouse Gas Emissions Reduction Plan
GHG	Greenhouse Gas
GIS	Geographic Information System
GMA	Groundwater Management Act
GMP	Groundwater Management Plans
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HAP	hazardous air pollutant
HDR	HDR Engineering, Inc.
hp	horsepower
HPMP	Historic Properties Management Plan
Hz	Hertz
H_2S	hydrogen sulfide
I	Intermittent Beneficial Use
IBC	International Building Code
ILP	Integrated Licensing Process
ISR	Initial Study Report
IS/MND	Initial Study and Mitigated Negative Declaration
ITA	Indian Trust Assets
IVMP	Integrated Vegetation Management Plan
JST	Joshua Tree
kV	kilovolt
kVA	kilovolt-amperes

kW	kilowatt
LAC	Lacustrine
LADWP	Los Angeles Department of Water and Power
LEO	Law Enforcement Officers
Licensees	California Department of Water Resources and the Los Angeles Department of Water and Power
LMP	Land Management Plan
LPNF	Los Padres National Forest
LST	localized significance threshold
MBTA	Migratory Bird Treaty Act
MCH	Mixed Chaparral
mg/L	milligrams per liter
mg/m3	milligrams per cubic meter
MHW	Montane Hardwood
MIB	2-methylisoborneol
MLD	most likely descendants
MOU	Memorandum of Understanding
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MRZ	mineral resource zone
MRZ-2	significant mineral resources
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWh	megawatt hours
MWh/year	megawatt hours per year
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NFS	National Forest System
NFMA	National Forest Management Act

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMWSE	normal maximum water surface elevation
NNIP	Non-native invasive plants
NO_2	nitrogen dioxide
NOI	Notice of Intent
N_2O	nitrous oxide
No.	number
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	U.S. Department of the Interior, National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
O&M	operations and maintenance
P	Potential Beneficial Use
PA	Programmatic Agreement
PAD	Pre-Application Document
Pb	lead
PCA	Pest Control Advisor
PFC	Properly Functioning Condition
pH	Potential of hydrogen; a logarithmic scale for expressing the acidity or alkalinity of an aqueous solution that is defined as $-\log_{10}c$, where c is the molar concentration of hydrogen ions in the solution
PJN	Pinyon – Juniper
PL	Public Law
PM	particulate matter
$PM_{2.5}$	particulate matter 2.5 microns in diameter
PM_{10}	particulate matter 10 microns in diameter

PM&E measures or PM&Es	protection, mitigation, and enhancement measures
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppm	parts per million
PRC	Public Resources Code
proposed Project	Continued operation of the South SWP Hydropower; addition of the existing Quail Detention Embankment, an existing stream flow gage (USGS Gage No. 11109525), and existing Primary Project Roads; modification to the existing Project boundary; removal of the Warne Transmission Line from the license; and addition of PM&E measures
proposed Project boundary	Existing South SWP Hydropower boundary, with the addition of land currently used for South SWP Hydropower O&M; removal of land not used for proposed Project O&M; and modifications based on NMWSE as outlined in the FERC Drawing Guide to more accurately represent lands required for proposed Project O&M
RCRA	Resources Conservation and Recovery Act
REA	Ready for Environmental Analysis
RMP	Recreation Management Plan
ROG	reactive organic gas
ROV	remote operated vehicle
rpm	revolutions per minute
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SE	State Endangered
SGB	Sagebrush
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIO	scenic integrity objectives

SIP	State implementation plan
SLF	Sacred Land Files
SMARA	California Surface Mining and Reclamation Act of 1975
SMBMI	San Manuel Band of Mission Indians
SO_2	sulfur dioxide
SOx	sulfur oxides
South SWP Hydropower	Existing South SWP Hydropower, FERC Project No. 2426
SSC	Species of Special Concern
ST	State Threatened
State of California	Lands owned by California Department of Water Resources, California Department of Parks and Recreation, and California Department of Transportation
Stantec	Stantec Consulting Services Inc.
SVP	Society of Vertebrate Paleontology
SVRA	State Vehicular Recreation Area
SWP	State Water Project
SWPPP	Stormwater Pollution and Prevention Program
SWRCB	State Water Resources Control Board
TAC	toxic air contaminates
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resource
TDS	total dissolved solids
THCP	Tribal Historic and Cultural Preservation
torr.	unit of pressure defined as 1/760 of a standard atmosphere
UBC	Uniform Building Code
URB	Urban
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDOI	U.S. Department of the Interior
USDA	U.S. Department of Agriculture
USFS	U.S. Department of Agriculture, Forest Service

USFWS	U.S. Department of the Interior, Fish and Wildlife Service
USGS	U.S. Geological Survey
USR	Updated Study Report
UWCD	United Water Conservation District
µg/L	micrograms per liter
µg/m3	micrograms per cubic meter
VCWPD	Ventura County Watershed Protection District
VMT	vehicle miles traveled
VOC	volatile organic compound
WQC	Water Quality Certification
WQO	water quality objective(s)
VRI	Valley Foothill Riparian
VRP	visibility reducing particles
WSE	water surface elevation
WTM	Wet Meadow
X	Designated Beneficial Use

1.0 INTRODUCTION

1.1 OVERVIEW

The California Department of Water Resources (DWR) and the Los Angeles Department of Water and Power (LADWP)(Licensees) operate the South SWP Hydropower, which is an existing developed energy recovery project that includes hydroelectric facilities, access roads, maintenance areas, recreation areas, and other appurtenant facilities. The Licensees operate the South SWP Hydropower facilities under an existing Federal Energy Regulatory Commission (FERC) license that expires on January 31, 2022. The Licensees are in the process of obtaining a new license with FERC under the Federal Power Act (FPA) and the implementing regulations under Title 18 of the Code of Federal Regulations (CFR) Part 4, Subchapter F, and Part 5.

On January 30, 2020, the Licensees filed with FERC their *Final Application for a New License Major Project – Existing Dam for the South SWP Hydropower, FERC Project No. 2426* (FLA), which was subsequently updated and amended by the Licensees. On July 24, 2020, the Licensees filed with FERC a response to FERC's requests for additional information and studies for the FLA. While the updated information was filed subsequent to the Licensees' filing of the FLA, the response to FERC's additional information requests are considered part of the Licensees' overall license application. In addition, on August 4, 2020, the Licensees filed a further amendment to the FLA regarding a clarification to the relicensing proposal to retain the current complementary flow requirements for water supply deliveries to the United Water Conservation District (UWCD) under the Article 52 operating guidelines. On February 23, 2021, FERC transmitted a letter that stated additional information may be requested at any time prior to taking action on the FLA, and requested additional information on the amount of energy to pump water from Elderberry Forebay to Pyramid Lake, frequency of dewatering events and groundwater seepage at the Angeles Tunnel, and data on large woody material in Piru Creek. The Licensees will provide the requested information to FERC by March 25, 2021.

The FPA authorizes FERC to regulate non-federal hydropower projects. As such, FERC is the lead federal agency for the relicensing of the Licensees' South SWP Hydropower. Prior to the issuance of a new license, FERC will comply with the National Environmental Policy Act (NEPA), including the preparation and issuance of an Environmental Assessment (EA).[1]

Following the completion of FERC's relicensing proceeding, FERC will decide on the issuance of a new license. When FERC provides to the Licensees the Order Issuing New License, the Licensees will have 30 days to request a rehearing or reject the new license. The new license would become effective on the date identified in the order, which is usually the first day of the month in which the order is issued. Beginning on the

[1] In its April 16, 2020, Notice of Application Accepted for Filing and Soliciting Motions to Intervene and Protests, FERC expressed its intent to issue an EA for the relicensing.

effective date, the Licensees must comply with the new license to continue operations and maintenance (O&M) activities for the South SWP Hydropower facilities.

For the purpose of the California Environmental Quality Act (CEQA), the Licensees' proposed Project is the continued operation of the South SWP Hydropower, including the hydroelectric, recreation, and appurtenant facilities in accordance with the Licensees' proposed terms for inclusion in a new FERC license, as described in the Licensee's FLA, as amended. The proposed Project includes a change in the existing South SWP Hydropower boundary, resulting in an overall reduction in land area that still encompasses all existing facilities necessary for the O&M of the South SWP Hydropower; the administrative designation of Primary Project Roads currently managed by others, but maintained by the Licensees and used exclusively for accessing the South SWP Hydropower facilities; and implementation of the anticipated, license-stipulated protection, mitigation, and enhancement measures (PM&E measures or PM&Es), including upgrades to existing recreation facilities.

In accordance with CEQA, DWR as the lead agency has developed this document in coordination with LADWP and through consultation with the State Water Resources Control Board (SWRCB), (both responsible agencies) as described under Section 2.7. This document analyzes the potential for significant impacts to a range of environmental resources under the Licensees' proposed Project and assesses impacts from proposed Project-related changes to baseline conditions (CEQA Guidelines Section [§] 15125).

Section 1.0 (Introduction) describes FERC's relicensing process, the Licensees' discretionary action associated with their decision on whether to accept a new license with the required terms and conditions for the continued O&M of the South SWP Hydropower, and the CEQA process. Section 2.0 (Project Description) describes the proposed Project's objectives, including the purpose of and need for the South SWP Hydropower and its continued operation under the Licensees' proposed Project, location, existing and proposed O&M activities, the proposed activities' implementation schedules, a regulatory compliance overview, and the scope of this Initial Study and Draft Mitigated Negative Declaration (IS/MND). Section 3.0 (Environmental Checklist and Environmental Evaluation) presents the completed environmental checklist form found in Appendix G of the CEQA Guidelines and analyzes potential impacts of proposed Project implementation. Section 4.0 contains a list of the preparers of this document, and Section 5.0 lists the references cited.

1.1.1 Relicensing Process Overview

The Licensees' FLA was filed on January 30, 2020, under FERC's Integrated Licensing Process (ILP), as described in 18 CFR § 5.18 and Part 4, Subpart F. Under 18 CFR § 5.17, the Licensees were required to file their FLA at least 24 months before the expiration of the existing license (i.e., no later than January 31, 2022). Information related to the Licensees' proposed Project and filings completed throughout the process were made available to the public on the relicensing website for the South SWP Hydropower (https://south-swp-hydropower-relicensing.com/) and in the docket on FERC's eLibrary online (https://www.ferc.gov/ferc-online/elibrary).

1.1.1.1 Relicensing Process Steps

Below is a description of the South SWP Hydropower relicensing process completed to date, as well as the remaining ILP steps that have yet to be completed.

- The Licensees filed a Pre-Application Document (PAD) and Notice of Intent (NOI) to File a Request for New License with FERC for the South SWP Hydropower (August 1, 2016). The PAD contained:
    - A detailed description of the South SWP Hydropower and the Licensees proposed Project at the time when the PAD was filed.
    - A synopsis of the existing, relevant, and reasonably available information pertinent to relicensing at the time the PAD was filed.
    - An explanation of the relicensing process and the schedule to be followed.
    - The Licensees' suggested studies and information gathering activities.
- FERC conducted scoping:
    - FERC reviewed information, refined issues, explored data gaps, and provided a process schedule (Scoping Document 1 issued on September 30, 2016; Scoping Document 2 issued on January 13, 2017).
    - FERC held a site visit on October 25, 2016, and public scoping meetings (morning and evening meetings) on October 26, 2016.
- The Licensees filed a Proposed Study Plan on January 13, 2017. The Licensees and/or FERC completed the following:
    - The Licensees held meetings to discuss study plans and collaborated with Relicensing Participants to further develop the study plans on February 8; March 1, 2, and 3; and March 7 and 8, 2017.
    - The Licensees filed a Revised Study Plan on May 15, 2017.
    - FERC issued its Study Plan Determination on June 14, 2017.
- The Licensees initiated studies and filed their Initial Study Report (ISR) on May 15, 2018, for review and comment. The Licensees held a meeting on May 23, 2018, for further review and discussion of the ISR. A meeting summary was filed June 7, 2018.
    - FERC issued a Study Determination on September 8, 2018.

- The Licensees issued their Updated Study Report (USR) on May 15, 2019, for review and comment. A meeting was held on May 29, 2019, for further review and discussion of the USR. A meeting summary was filed on June 13, 2019.
    - FERC issued a Study Determination on September 11, 2019.
- The Licensees filed their Draft License Application (DLA) for a 90-day review on September 3, 2019. In addition, a draft Privileged Historic Properties Management Plan (HPMP) was distributed to FERC, the State Historic Preservation Officer (SHPO), the United States (U.S.) Department of Agriculture, U.S. Forest Service (USFS), U.S. Department of the Interior (USDOI), Bureau of Land Management (BLM), and Native American tribes as part of a formal request for review under Section 106 of the National Historic Preservation Act (NHPA). Comments received on the DLA and draft HPMP were addressed.
    - The Section 7 Endangered Species Act (ESA) informal consultation and the day-to-day Section 106 NHPA requirements were completed by the Licensees, as FERC's designated non-federal representatives.
    - The Licensees filed the FLA on January 30, 2020.
- On February 6, 2020, FERC issued a Notice of Application Tendered for Filing with the Commission and Establishing Procedural Schedule for Relicensing and Deadline for Submission of Final Amendments.
- Section 106 consultation included the following:
    - The Licensees requested the SHPO's agreement on the Area of Potential Effects (APE) in a June 2, 2017 letter and provided the SHPO with supplemental information on August 30, 2017. The SHPO provided its agreement on the APE in a letter dated September 21, 2017. Subsequently, the Licensees proposed additional modifications to the APE (revised APE) to remove the Southern California Edison (SCE)-owned Warne Transmission Line and to include the addition of Primary Project Roads, some of which were not identified in the 2017 APE. On June 10, 2019, following consultation with tribes and agencies, the Licensees submitted a request to the SHPO to review the revised APE. The SHPO agreed with the additional modifications to the APE in a letter dated July 17, 2019.
    - A Cultural Resources Study was completed in 2018 and survey results were documented in a 2020 privileged confidential Cultural Resources Report. The report was provided to participating Native American tribes; the Angeles National Forest (ANF) and Los Padres National Forest (LPNF); and the USDOI, BLM for a 30-day review beginning on June 28, 2019. No comments were received.

The report was submitted to the SHPO for review and concurrence on November 4, 2019. In a letter dated January 9, 2020, the SHPO concurred with the National Register of Historic Places (NRHP) evaluations of 22 archaeological sites and 7 built environment resources; the SHPO requested additional information on six other built environment resources and recommended a re-evaluation of the South SWP Hydropower historic district eligibility (see Appendix A). The Licensees responded to the SHPO's comments in a letter dated June 25, 2020, and in a July 31, 2020 letter, the SHPO agreed with the Licensees eligibility determinations for the six individual built environment resources. Consultation with the SHPO is ongoing to address the SHPO's recommendation for a reevaluation of the South SWP Hydropower historic district eligibility. Due to logistical and timing issues, the Licensees and the SHPO agreed during an October 1, 2020 conference call that they will continue to consult under the new license term and resolve the historic district evaluation.

- A privileged confidential Supplemental Cultural Resources Report was prepared documenting the 2019 survey results in portions of the APE that were not previously included in the 2018 survey effort and the report was provided to participating Native American tribes and agencies on October 2, 2019, for a 30-day comment period. The ANF provided comments that were incorporated into the report. The report was distributed to the SHPO for review and concurrence on December 19, 2019. The SHPO provided comments in a letter dated January 22, 2020, in which the SHPO concurred with the NRHP evaluations for all 14 archaeological sites discussed in the Supplemental Cultural Resources Report (see Appendix B).

- The Licensees filed the privileged confidential Cultural Resources Report and Supplemental Cultural Resources Report with FERC on November 9, 2020.

- On January 12, 2018, the Licensees held a site visit to the proposed Project APE and the resources located outside the APE with representatives from the Licensees, Stantec Consulting Services Inc. (Stantec), HDR Engineering, Inc. (HDR), Albion, Reddy Anthropology Consulting, Inc., and the Fernandeño Tataviam Band of Mission Indians (FTBMI), during which time there were discussions about tribal resources and potential interviews.

- The privileged confidential Tribal Resources Study Report was developed in close coordination with tribal representatives of the FTBMI and Tejon Indian Tribe. The report was distributed for a 30-day review on May 4, 2020, to the Tejon Indian Tribe, ANF, LPNF, BLM, and FERC consistent with existing non-disclosure agreements. FERC provided comments on June 3, 2020, that were incorporated into the report; no comments were received from those other parties during the review period. The report was distributed to the SHPO on July 2, 2020, for its review and concurrence. On August 4, 2020, the SHPO issued its concurrence with the findings in the Licensees' Tribal Resources

Study Report. The privileged confidential Tribal Resources Study Report was filed with FERC on September 3, 2020.

- The Licensees held an initial Section 106 meeting on June 15, 2017. Between May 2019 and February 2020, four Section 106 consultation meetings were held to provide updates on the schedule and status of the South SWP Hydropower relicensing. Participants at these consultation meetings included: DWR; LADWP; Stantec; HDR; FERC; the SHPO; Gabrieliño/Tongva Nation; Morongo Band of Mission Indians; ANF; LPNF; FTBMI; BLM; Tejon Indian Tribe; and the San Bernardino National Forest.

- The Licensees redistributed the HPMP on April 6, 2020 to participating Native American tribes and agencies for a second review. Comments received from the FTBMI on May 8, 2020 were addressed. The Licensees submitted the HPMP to the SHPO on October 15, 2020 for review. The SHPO responded on October 30, 2020, stating that the HPMP "sufficiently provides for the identification and management of historic properties for the duration of the FERC license." Following the SHPO's review of the HPMP, the Licensees filed the HPMP with FERC on November 17, 2020.

The next steps in completing the relicensing and environmental review processes are as follows:

- Under FERC's regulations, once FERC issues its public notice that the Licensees' FLA is Ready for Environmental Analysis (REA), the Licensees will have 60 days to file with FERC a copy of a request for a Clean Water Act (CWA) Section 401 Water Quality Certification (WQC). FERC issued its REA notice on December 2, 2020. On January 27, 2021, the Licensees filed an application with the SWRCB requesting a CWA Section 401 WQC for the proposed Project.

- As part of the REA notice, FERC will solicit recommended terms and conditions, preliminary 4(e) terms and preliminary Section 18 fishway prescriptions. The SWRCB may issue a WQC or waive its issuance. In FERC's February 3, 2021 notice, FERC identified the one-year waiver period as concluding on January 29, 2022.

- FERC will comply with NEPA requirements, conduct an environmental review, and will prepare either an EA or Environmental Impact Statement.

- FERC will complete its Section 7 ESA and Section 106 NHPA requirements and document its compliance with other federal statutes and regulations as provided for at 18 CFR § 5.18(b)(3).

- FERC will make a decision on issuing a new license and, if so, under what terms and conditions within its authority as outlined in the FPA, as amended.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

1.2.1 Background

The State of California has enacted a series of statutes and regulations, which are designed to disclose potential environmental impacts that may result from the approval of proposed projects within the State. These statutes and regulations are referred to as CEQA and the CEQA Guidelines, respectively, and can be found in Public Resources Code (PRC) § 21000 *et seq.*, and Title 14 of the California Code of Regulations (CCR) § 15000 *et seq*. Some of the basic purposes of CEQA include informing governmental decision-makers and the public about the potentially significant environmental effects of proposed activities and preventing or lessening such effects through the use of feasible mitigation measures or project alternatives. The CEQA process also provides an opportunity for the public to participate in the development of environmental documents and identification of mitigation measures. For a full description of the basic purposes of CEQA, refer to the CEQA Guidelines.

If an action is determined to be a “project” under CEQA but is not found to be exempt from CEQA, a proposed project may be evaluated in one of three types of documents: a Negative Declaration; a Mitigated Negative Declaration; or an Environmental Impact Report (EIR).

Under CEQA Guidelines, the impacts of a proposed project are evaluated by comparing expected environmental conditions after project implementation to conditions at a point in time, which is referred to as the baseline. The CEQA Guidelines specify that the timeframe in which the environmental review begins "will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (CEQA Guidelines § 15125[a]). This CEQA document analyzes the potential for significant impacts to environmental resources under the Licensees’ proposed Project and assesses impacts from proposed Project-related changes to baseline conditions and current practices and operations (CEQA Guidelines § 15125). In accordance with CEQA Guidelines, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the baseline physical conditions within the area affected by a proposed project, including but not limited to land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (CEQA Guidelines § 15382).

The CEQA Guidelines also state that, while assessing a proposed project's impacts on the environment, the lead agency should "normally limit its examination to changes in the existing physical conditions in the affected area" at the onset of the CEQA analysis (CEQA Guidelines § 15126.2[a]). If environmental conditions change or fluctuate over time, then the lead agency may use historical conditions to define the "existing conditions" baseline (CEQA Guidelines § 15125[a][1]). The CEQA Guidelines state that existing conditions may be defined "by referencing historic conditions" that are supported by substantial evidence, "where necessary to provide the most accurate picture practically possible of the project's impacts" (CEQA Guidelines § 15125[a][1]).

For changes to an existing operation or an existing facility, ongoing activities occurring at the time CEQA review begins are treated as a component of the existing conditions baseline (*Communities for a Better Environment v. South Coast Air Quality Management Dist. et al.* [2010] 48 Cal.4th 310). In such cases, the baseline may reasonably include the facility's established levels of permitted use that are representative of the facility's actual operations (*Fairview Neighbors et al. v. County of Ventura et al.* [1999] 70 Cal.App.4th 238).

As described above, the proposed Project subject to CEQA analysis in this document is the continued operation of the South SWP Hydropower hydroelectric, recreation, and appurtenant facilities in accordance with the terms and conditions of the new FERC license as proposed by the Licensees in their FLA, as amended. Therefore, the baseline conditions for the Licensees' proposed Project include the existing environment and the real conditions on the ground in the proposed Project area during current operations under the South SWP Hydropower license. The proposed Project does not include any structural changes to the South SWP Hydropower hydroelectric facilities. It does include a proposed administrative change to the existing South SWP Hydropower boundary, resulting in an overall reduction in land area that still encompasses all existing facilities necessary for the O&M of the South SWP Hydropower; the proposed administrative designation of Primary Project Roads currently managed by others, but maintained by the Licensees and are used exclusively for accessing the South SWP Hydropower facilities; the proposed addition of the existing Quail Detention Embankment into the license; the proposed addition of the existing lake level gage to the FERC license; the proposed administrative removal of the Warne Transmission Line that was inadvertently included in the existing license; and the proposed implementation of anticipated, license-stipulated PM&E measures, including upgrades to existing recreation facilities.

If FERC or the SWRCB includes in the new license a condition that is not proposed by the Licensees as part of their proposed Project, the Licensees will consider whether such a change requires them to substantially revise and recirculate this IS/MND or to prepare an EIR, pursuant to CEQA Guidelines § 15073.5.

The Licensees consider their decision on whether to accept the new license to be a "discretionary project" under CEQA (CEQA Guidelines § 15357):

> "Discretionary project" means a project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity[…] The key question is whether the public agency can use its subjective judgment to decide whether and how to carry out or approve a project.

The lead agency has primary responsibility for completing CEQA review on a proposed project. CEQA defines "lead agency" as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (PRC § 21067). When two or more public agencies have a "substantial claim" to serve as lead agency for a project, the agencies may designate one agency as lead agency by agreement (CEQA Guidelines § 15051[d]). The Licensees, as California public agencies with discretionary authorities to approve and

carry out the proposed Project, have agreed that DWR will serve as the lead agency for the proposed Project, and LADWP will serve as a Responsible Agency. DWR, as the lead agency, has initiated the CEQA process to inform DWR's discretionary decision on whether to approve the proposed Project and accept the new license when issued, request rehearing on a new license when issued, otherwise challenge its issuance, or reject the new license.

As the lead agency, DWR has determined that the potential environmental impacts associated with implementation of the proposed Project are less than significant and, therefore, would not require the preparation of an EIR. DWR consulted with LADWP, as a Responsible Agency, and based on preliminary initial study information agreed that an IS/MND is the appropriate CEQA disclosure document. Similarly, DWR informed the SWRCB, which will be a Responsible Agency under CEQA due to its discretionary decision in issuing a 401 WQC, of the preparation of an IS/MND for the proposed Project, and no objections have been raised to date.

Appendix G of the CEQA Guidelines contains an Environmental Checklist Form, which indicates the chosen format of environmental review, as well as a sample list of potential environmental impacts that may be associated with specific resource areas. This checklist, once completed, serves as the basis of the Initial Study for the environmental analysis contained in this IS/MND.

In accordance with the CEQA Guidelines, this IS/MND will be circulated for a 30-day review and comment period along with a notice of the Licensees' intent to adopt the IS/MND and approve the proposed Project.

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2.0 PROJECT DESCRIPTION

2.1 PROJECT OBJECTIVES

2.1.1 Project Purpose

The existing licensed South SWP Hydropower is part of a larger water storage and delivery system, the State Water Project (SWP), which is the largest State-owned and operated water supply project of its kind in the U.S. The purpose of the South SWP Hydropower is to provide southern California with:

- Affordable Water Supply – Roughly 15 percent of southern California's water supply flows through the South SWP Hydropower facilities. The energy required to transport water makes up the single largest cost to deliver water to southern California. The revenue from power generation through these facilities offsets the cost of delivering water to southern California, keeping water costs more affordable in the region and preserving economic vitality and quality of life for residents.

- Clean Hydropower – As part of the water delivery system, hydropower facilities are strategically located to maximize production of clean and reliable power. In addition to offsetting water delivery costs, by generating hydroelectric power, the South SWP Hydropower helps reduce dependency on fossil-fuel based power generation in the State-wide water portfolio. Clean hydropower avoids the emissions of pollutants, such as hydrocarbons, nitrogen oxides, carbon monoxide (CO), and particulate matter.

- Hydropower that Integrates Green Energy – The operational flexibility and rapid response of the South SWP Hydropower facilitates the integration of wind and solar into California's renewable energy portfolio and helps to provide necessary stability and reliability to the grid. As such, power from the South SWP Hydropower contributes to a diversified generation mix and helps meet power needs within and beyond the immediate region.

- Public Recreation Opportunities – Pyramid Lake, the major reservoir of the South SWP Hydropower, Quail Lake, and surrounding recreation facilities provide diverse and valuable outdoor recreation opportunities for southern California residents and visitors.

2.1.2 Need for a New License

The Statewide benefits of the South SWP Hydropower facilities are only available if they can be operated, which is made possible by the renewal of the FERC license. More specifically, the continued operation of the South SWP Hydropower is necessary for the following reasons. First, the South SWP Hydropower consists of two major power developments with a combined generation capacity of 1,349 megawatts (MW): the Warne Power Development and the Castaic Power Development. The Warne Power

Development is operated by DWR while the Castaic Power Development is operated by DWR and LADWP under a Cooperative Agreement, as described in Section 2.3.1.2 (Castaic Power Development). DWR and LADWP are working collaboratively on relicensing the proposed Project as co-Licensees.

The power generated at the Warne Power Development is critical for the continued operation of DWR's SWP water supply management. While Warne Power Development output is delivered to the California Independent System Operator market, its output helps DWR partially offset the costs and power needed for operating the SWP. More specifically, the revenue from power generation offsets the pumping cost of delivering water to southern California, keeping water costs more affordable in the region and preserving economic vitality and quality of life for residents. Additionally, the Warne Power Development power generation is necessary in both the short and long term to maintain system reliability, operational flexibility, and low-cost power.

Similarly, the power generated at the Castaic Power Development is delivered to LADWP's electrical grid system and is a critical resource for LADWP in providing reliable electric supply to its 1.5 million customers. LADWP relies heavily on Castaic Powerplant generation to supply its customers with affordable and reliable power as well as to supply the required operating reserves mandated by the North American Electric Reliability Corporation (NERC). With the natural gas curtailments imposed by the Southern California Gas Company in recent years and the increased possibility of more gas curtailments in the future, Castaic Powerplant continues to be an extremely valuable resource to LADWP's power system. The importance of this critical resource will increase markedly over the next several years, primarily because LADWP must continue to increase the proportion of the energy it supplies that is generated from renewable resources to contribute to meeting the requirements of California Senate Bill (SB) 100, achieving a 44 percent Renewable Portfolio Standard (RPS) goal by 2024, 52 percent RPS goal by 2027, and 60 percent RPS goal by 2030. The bulk of that renewable power would come from resources that are inherently variable and intermittent, such as wind and solar, which would necessitate Castaic Powerplant to help integrate these renewable resources and maintain LADWP's grid reliability. In addition, the carbon-free energy generated from Castaic Powerplant would assist in achieving the policy of the State under SB 100 that mandates eligible renewable energy resources and "zero-carbon resources" supply 100 percent of retail sales of electricity to State end-use customers by December 31, 2045.

Additionally, as noted earlier, the proposed Project would allow for the continued use of existing recreational resources by the public, which are described in further detail in Section 2.3 (Existing South SWP Hydropower Project Facilities and Operations).

2.2 PROJECT LOCATION

The South SWP Hydropower is located along the West Branch of the SWP in Los Angeles County, California, between the towns of Castaic and Gorman (Figure 2.2-1).

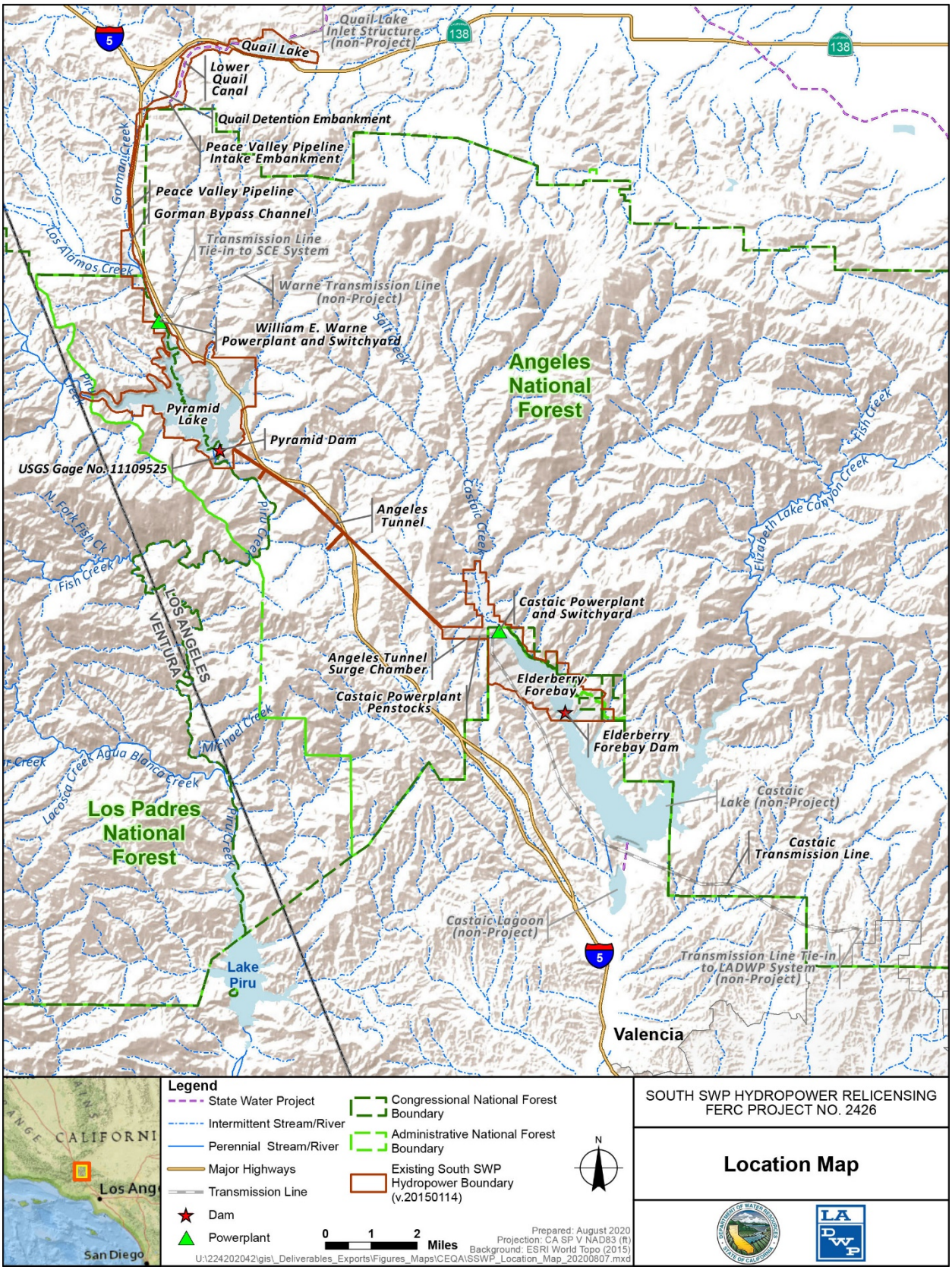

Figure 2.2-1. South SWP Hydropower Location

2.2.1 Existing South SWP Hydropower Boundary

FERC project boundaries are used to designate the geographic extent of a hydropower project that FERC determines a licensee must own or administer for its licensed hydropower project. The existing South SWP Hydropower boundary comprises 6,928.0 acres of land (Figure 2.2-2). Within the total acreage, 2,807.28 acres are federal lands, with 2,790.02 acres of National Forest System (NFS) lands managed by the USFS as part of the ANF or LPNF, and 17.26 acres of land administered by BLM (Table 2.2-1).

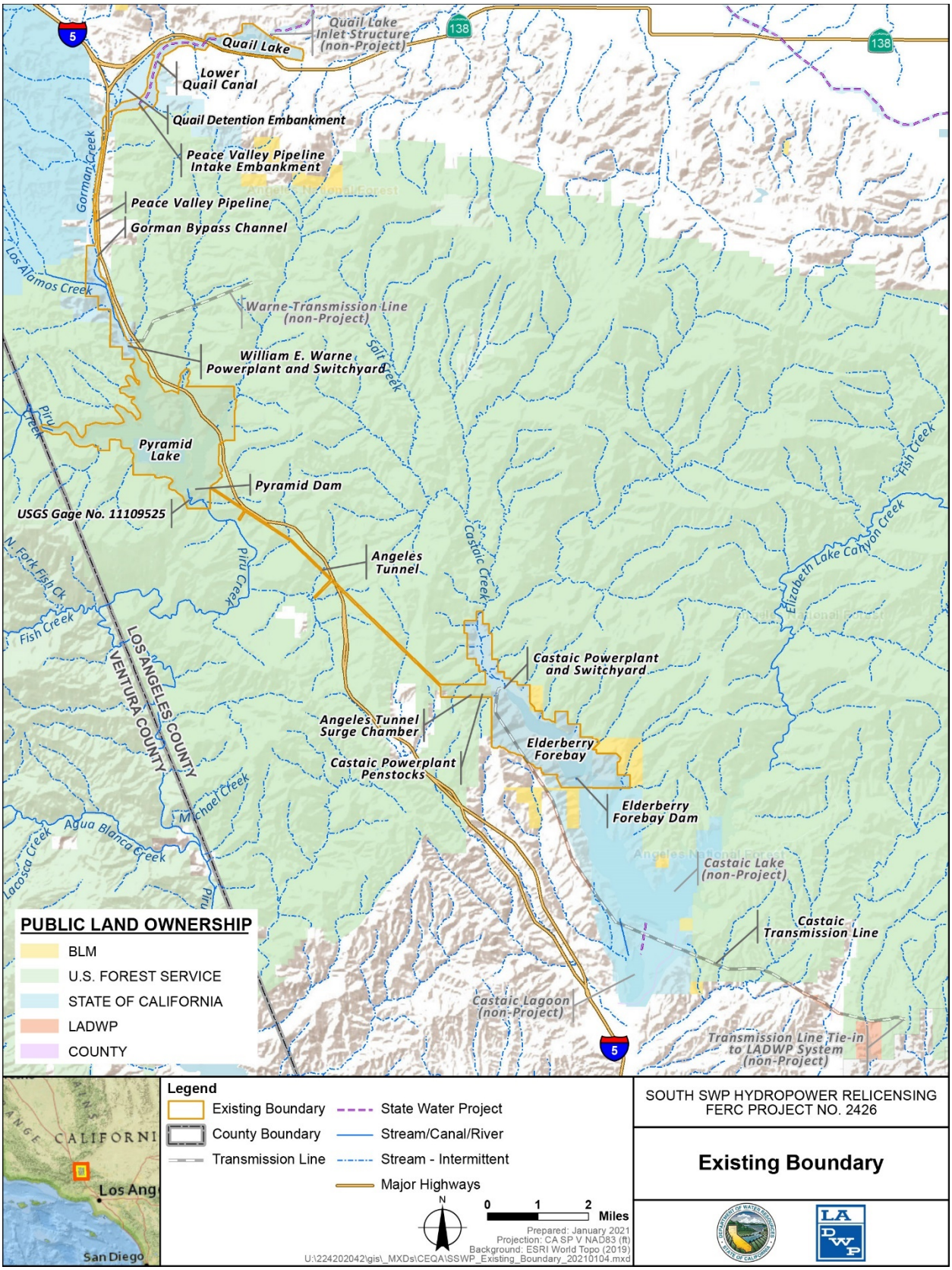

Figure 2.2-2. Existing Project Boundary

Table 2.2-1. Land Ownership Within the Existing South SWP Hydropower Boundary

Development	Federal Lands		Non-Federal Lands				Total
	NFS (acres)	BLM (acres)	State of California (acres)	Private (acres)	LADWP (acres)	County (acres)	Area (acres)
Warne and Castaic Power	2,790.02	17.26	4,111.5	9.2	0.0	0.0	6,928.0
Total	**2,807.28**		**4,120.7**				**6,928.0**
Percent	**40.5 percent**		**59.5 percent**				**100 percent**

Source: DWR 2019
Key:
BLM = U.S. Department of the Interior, Bureau of Land Management
LADWP = Los Angeles Department of Water and Power
NFS = National Forest System under USFS management
State of California = Lands owned by California Department of Water Resources, California Department of Parks and Recreation, and California Department of Transportation
SWP = State Water Project

2.3 EXISTING SOUTH SWP HYDROPOWER PROJECT FACILITIES AND OPERATIONS

The current operation of South SWP Hydropower facilities is accomplished in accordance with the existing license as described below. A summary of the existing FERC license articles is provided in Exhibit B of the FLA, which can be found at the relicensing website for the South SWP Hydropower (https://south-swp-hydropower-relicensing.com/).

2.3.1 Existing South SWP Hydropower Facilities

The South SWP Hydropower includes two developments: the Warne Power Development operated by DWR, and the Castaic Power Development operated by DWR and LADWP under a cooperative agreement. The South SWP Hydropower facilities can store 196,937 acre-feet (AF) of SWP water and generate an average of 930 gigawatt hours of power annually, not considering pump-back power requirements. The South SWP Hydropower's FERC authorized installed capacity, excluding one pump-starting unit at the Castaic Powerplant, is 1,349,290 kilowatts (kW), and the South SWP Hydropower's calculated dependable capacity is 1,292,540 kW.

Table 2.3-1 and Table 2.3-2 summarize key information for South SWP Hydropower powerplants and for reservoirs and impoundments, respectively. Following the tables is a more detailed overview of the South SWP Hydropower facilities for the Warne Power Development and the Castaic Power Development, respectively.

Table 2.3-1. South SWP Hydropower Powerplants: Key Information

Powerhouse	Unit	Turbine Type	Rated Head (feet)	Hydraulic Capacity (cfs)		Generation (kW)		Average Annual Generation (MWh/year)
				Minimum	Maximum	Installed Capacity	Dependable Capacity	
William E. Warne	1	Pelton	650	90	782	37,145	60,400	304,364
	2	Pelton	650	90	782	37,145		
	Subtotal			180	1,564	74,290		
Castaic	1	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500	1,232,140	378,945
	2	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500		
	3	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500		
	4	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500		
	5	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500		378,945

Table 2.3-1. South SWP Hydropower Powerplants: Key Information (continued)

Powerhouse	Unit	Turbine Type	Rated Head (feet)	Hydraulic Capacity (cfs)		Generation (kW)		Average Annual Generation (MWh/year)
				Minimum	Maximum	Installed Capacity	Dependable Capacity	
Castaic	6	Francis	1,000	Synchronize Condensing = 0 Generating = 550	3,500	212,500		378,945
	Subtotal			Synchronize Condensing = 0 Generating = 550	21,000	1,275,000[1]		
Total	**8 Units**			(LADWP = Synchronize Condensing = 0 Generating = 3,330)	**–**	**1,349,290**	**1,292,540**	**683,309**
Castaic (Pump-Start Unit)	7	Pelton	950	0	752	51,750	**–**	**–**

Sources:
Turbine type, rated head, and maximum hydraulic capacity are based on a December 4, 2017, letter from LADWP to FERC. Installed capacity is based on an October 19, 2018, letter from the Licensees to FERC. Dependable capacity is the sum of the William E. Warne Powerplant dependable capacity and the Castaic Powerplant dependable capacity, which is based on the average generation data and available hours from calendar year 2013 through 2018. DWR and LADWP's average annual generation is for the period from calendar years 2007 through 2017.
Notes:
[1]When all main units of Castaic Powerplant are operating at full load generation, they are de-rated by friction losses from the water flow in the Angeles Tunnel; the total installed capacity of the Castaic Powerplant is not the sum of the nameplate rating for the seven units.
[2]"A key component of HV Transmission Substations, these devices [Synchronous Condenser Systems] provide improved voltage regulation and stability by providing continuously adjustable reactive power and improved short-circuit strength" (GE Digital Energy 2014).
Key:
cfs = cubic feet per second
kW = kilowatt
MWh/year = megawatt hours per year
SWP = State Water Project

Table 2.3-2. South SWP Hydropower Reservoirs and Impoundments: Key Information

Project Reservoir	NMWSE (feet)	Gross Storage (AF)[1]	Usable Storage (AF)[2]	Surface Area (acres)[3]	Maximum Depth (feet)[3]	Shoreline Length (miles)[3]	Drainage Area (square miles)[4]
Quail Lake	3,325.0	7,583.0	4,189.0	288.0	47.0	3	4
Pyramid Lake	2,579.0	161,375.0	20,844.0	1,269.0	265.4	21	295
Elderberry Forebay	1,540.0	31,196.0	23,096.0	496.00	132.0	7	38
Total	–	200,154	48,129	2,053	–	31	337

Sources:
For Quail Lake, information provided is from DWR's Project Operations Center MAPPER data program dated June 4, 2019; shoreline length is from DWR's Data Handbook 2009. For Pyramid Lake, information provided is from Pyramid Lake Capacity Table Report dated September 11, 2018 (DWR 2018); shoreline length is based on three-dimensional terrain model. For Elderberry Forebay, information provided is from LADWP's Elderberry Forebay Reservoir Storage Water Tables January 2018 Survey; maximum depth is LADWP's best estimate, and shoreline length is from DWR's Data Handbook 2009.
Notes:
[1]Storage between specified elevation and bottom of impoundment.
[2]Storage between operating maximum and operating minimum pool.
[3]At NMWSE.
[4]At the dam; drainage areas are not additive.
Key:
AF = acre-feet
DWR = California Department of Water Resources
LADWP = Los Angeles Department of Water and Power
NMWSE = normal maximum water surface elevation
SWP = State Water Project
The following data corresponds to the operating maximum elevation of the facility:
Quail Lake: Operating Maximum Elevation = 3,324.5 feet, gross storage = 7439.0 AF, and surface area = 286 acres.
Pyramid Lake: Operating Maximum Elevation = 2,578.0 feet, gross storage = 1260.0 AF, and surface area = 160,110.0 acres
Elderberry Forebay: Operating Maximum Elevation = 1,540.0 feet, gross storage capacity = 31,196 AF, and surface area = 496 acres

2.3.1.1 Warne Power Development

Facilities and features of the Warne Power Development within the South SWP Hydropower license include: (1) Quail Lake, Quail Lake Embankment, and Quail Lake Outlet; (2) Lower Quail Canal; (3) Peace Valley Pipeline Intake, Peace Valley Pipeline Intake Embankment, and Peace Valley Pipeline; (4) Gorman Bypass Channel; (5) William E. Warne Powerplant (Warne Powerplant) and Switchyard; (6) Warne Transmission Line; (7) Primary Project Roads and Trails; and (8) recreation facilities. These facilities are described below.

DWR operates all of the Warne Power Development facilities, with the exception of the Warne Transmission Line. While the Warne Transmission Line is included as part of the Warne Power Development under the existing FERC license, the connection to the Warne Powerplant Switchyard – the Warne Transmission Line – is owned and operated by SCE. SCE's transmission line segment has never been a South SWP Hydropower facility, nor its whole extent formally included within the existing South SWP Hydropower boundary, and was included in the original South SWP Hydropower license in error – an inaccuracy that has been perpetuated through the term of the current license, as noted in Section 2.3.1.3 (Features Not Included as Part of South SWP Hydropower).

Quail Lake, Quail Lake Embankment, and Quail Lake Outlet

Quail Lake is the uppermost facility of the South SWP Hydropower. Quail Lake is an off-stream impoundment located 5 miles southwest of the bifurcation of the East and West Branches of the SWP, and about 23 miles northwest of the City of Santa Clarita, California. The impoundment consists of a sag pond formed by the San Andreas fault with a built-up embankment (part of State Highway 138) to obtain the required capacity. The Quail Lake Embankment (also known as State Highway 138, Primary Operating Road, and Secondary Operating Road Embankments) provides an operating road for Quail Lake and has a maximum height of about 15 feet above ground surface. At normal maximum water surface elevation (NMWSE) of 3,325 feet, Quail Lake has a maximum capacity of 7,583 AF and a surface area of 288 acres.

The facility includes Quail Lake Outlet, a service bay, and an outlet transition. The Quail Lake Outlet consists of an outlet transition and a 12-foot by 12-foot reinforced concrete double box with four 6-foot by 12-foot remotely controlled slide gates that are normally in an open position. Stop log grooves are located upstream of the slide gate slots and at the downstream end of the service bay. The Quail Lake Outlet structure passes beneath State Highway 138. Quail Lake, with the Lower Quail Canal described below, serves as a forebay to the Warne Powerplant.

Lower Quail Canal

Water released from Quail Lake through the Quail Lake Outlet flows into Lower Quail Canal. The 2-mile-long, concrete-lined canal serves as a conveyance to the Peace Valley Pipeline Intake and acts as a surge pond during startup of the Warne Powerplant

until steady state flow is established from Quail Lake. The canal has a bottom width of 24 feet, northern embankment height of approximately 50 feet, and southern embankment height of about 40 feet. The canal has a maximum flow capacity of 3,129 cubic feet per second (cfs), and normally operates between an elevation of 3,310 feet and 3,324.5 feet. The Lower Quail Canal volume is 1,150 AF at an elevation of 3,325 feet. An ungated emergency overflow weir is located on the north side of Lower Quail Canal. If an unplanned release occurs, water can be discharged over the ungated weir into a detention basin located to the west, adjacent to the southernmost section of Lower Quail Canal.

Peace Valley Pipeline Intake, Intake Embankment, and Pipeline

The 5.5-mile-long Peace Valley Pipeline is an underground, 12-foot diameter penstock constructed of pre-stressed concrete that begins at the earth and rockfill Peace Valley Pipeline Intake Embankment and extends about 5.5 miles to the Warne Powerplant before the penstock bifurcates into two 8-foot diameter steel branches. The two 8-foot diameter branches direct flows into each of the two generating units and have a combined maximum capacity of 1,564 cfs.

The Peace Valley Pipeline Intake is located at the downstream end of the Lower Quail Canal. The Peace Valley Pipeline Intake is formed by the Peace Valley Pipeline Intake Embankment, which is 50 feet tall, with a crest length of 350 feet and a crest elevation of 3,330 feet.

The Lower Quail Canal ends at the Peace Valley Pipeline Intake structure, around which the Peace Valley Intake Embankment is constructed. The intake structure has four 9-foot-wide by 54-foot-high entrances, which transition to two 9-foot by 12-foot conduits at the gate structure. The left conduit, which flows into the Peace Valley Pipeline, contains a 9-foot 9-inch by 13-foot 2-inch bulkhead gate, and a 12-foot by 12-foot emergency slide gate. The unused right conduit contains a bulkhead gate. A 78-inch diameter bypass (Gorman Creek Diversion) has a 78-inch butterfly valve and a 7-foot 3-inch by 9-foot 3.75-inch bulkhead gate located upstream of the valve vault.

Gorman Bypass Channel

In the event of a Peace Valley Pipeline outage, or if SWP water flows exceed the Peace Valley Pipeline's capacity, the water is routed through the 5.9-mile-long Gorman Bypass Channel, which connects the Lower Quail Canal to Pyramid Lake, bypassing the Peace Valley Pipeline and Warne Powerplant. The Gorman Bypass Channel was designed to convey 900 cfs. The concrete-lined channel is trapezoidal-shaped with an 8-foot-wide invert, 5-foot depth, and 1.5 to 1 side slopes. The longitudinal slope of the channel ranges from approximately 1 percent to greater than 5 percent. In addition to the open channel, the Gorman Bypass Channel includes three culverts and one inverted siphon. The culverts and siphons are typically 8-foot diameter reinforced concrete pipe. Due to the slope of the channel, flow velocities typically range from 15 to 25 feet per second (fps). However, velocities can reach up to 32 fps in one section depending on flow volume. Local drainage, if any, drains into the Gorman Bypass Channel near

Interstate 5. NFS lands do not occur downslope from the Gorman Bypass Channel and, therefore, interception of any upslope precipitation by the channel will not divert water that would otherwise be available to NFS resources.

The Gorman Bypass Channel and Peace Valley Pipeline alignments change about 3.2 miles downstream of the Peace Valley Pipeline Intake Embankment. The Peace Valley Pipeline follows the east side of Gorman Creek along Pyramid Lake Road, until it crosses Gorman Creek again to the west and connects to the Warne Powerplant. The Gorman Bypass Channel does not receive substantial local drainage between Interstate 5 and Orwin Road. The Gorman Bypass Channel continues from Orwin Road to Pyramid Lake on the west side of Gorman Creek, bypassing local drainage inflow with an enclosed section crossing Gorman Creek and a siphon crossing Los Alamos Creek (i.e., Cañada de Los Alamos), a tributary to Gorman Creek. The channel is generally flushed by DWR on a quarterly basis when approximately 500 cfs is released from Lower Quail Canal solely for the purpose of flushing sediment and debris that has collected in the channel since its last use.

Warne Powerplant and Switchyard

Warne Powerplant is an aboveground, steel-reinforced, concrete powerhouse located at the northern (upstream) end of Pyramid Lake, at the terminus of the Peace Valley Pipeline. The powerplant has two 38,250 kW Fuji Electric Pelton-type turbines, each connected to a Toshiba generator. Each turbine has a rated head of 650 feet, runner speed of 200 revolutions per minute (rpm), rated output of 51,000 horsepower (hp), and a rated discharge of 782 cfs. The total combined flow capacity for the powerplant is 1,564 cfs. The two, three-phase Toshiba electric generators each have a capacity of 39,100 kilovolt-amperes (kVA), at a power factor of 0.95 and a frequency of 60 hertz (Hz), producing a voltage of 13,800 volts. The powerplant has an installed capacity of 74,290 kW, with an average annual generation of 346,000 megawatt hours (MWh) and an average monthly generation of 29,000 MWh (as measured during the period of 2000 through 2014). The powerplant has a dependable capacity of 60,400 kW.

The Warne Switchyard is located west and immediately adjacent to the Warne Powerplant and contains two generator step-up transformers with a primary voltage of 230 kilovolts (kV) and a secondary voltage of 13.6 kV.

Warne Transmission Line

The Warne Transmission Line is a 2.95-mile-long, single-circuit, 220-kV transmission line constituting the portion of SCE's Pardee-Pastoria-Warne Transmission line that connects with the Warne Switchyard. The line is built on steel lattice towers along a 150-foot-wide right-of-way. The transmission line was constructed by SCE, and it has always been owned, operated, and maintained by SCE. As noted in Section 2.3.1.1 (Warne Power Development), SCE's transmission line segment has never been a South SWP Hydropower facility, but it was erroneously included in the original South SWP Hydropower license. This inaccuracy that has persisted throughout the term of the existing license is being corrected by the Licensees as part of the proposed Project.

Existing Streamflow and Reservoir Stage Gages

The existing license does not identify any streamflow or reservoir stage gages associated with the Warne Power Development.

Existing Primary Project Roads and Trails

A Primary Project Road or Trail is any road or trail that is identified in the license as a South SWP Hydropower facility, is used almost exclusively to access the South SWP Hydropower facilities, is within the proposed Project boundary, and is operated and maintained exclusively by the Licensees as a proposed Project feature. This includes roads and trails associated with South SWP Hydropower recreation facilities, but it does not include designated parking areas that are considered part of the facility or feature for which the parking area is provided. Primary Project Roads do not include “shared,” “joint,” or “multiple use” roads that are used and maintained by multiple parties, including the Licensees, because these shared roads are not used for the sole purpose of accessing the South SWP Hydropower facilities and are, therefore, not the sole responsibility of the Licensees to maintain under the license. Outside of licensing, the Licensees have the necessary permissions, if needed, to use shared roads.

For the Warne Power Development, the existing license does not list or describe any Primary Project Roads. The existing license includes one Primary Project Trail – the Quail Lake Fishing Access Path.

Existing Recreation Facilities

Recreational amenities at the Quail Lake Day Use Area include a shoreline access path, a gravel parking area, and portable restrooms. Only non-waterbody contact recreation is allowed at the Quail Lake Day Use Area. No other recreation facilities are associated with the Warne Power Development.

2.3.1.2 Castaic Power Development

The features of the Castaic Power Development described in the following sections include: (1) Pyramid Lake and Dam; (2) Angeles Tunnel and Surge Chamber; (3) Castaic Penstocks; (4) Castaic Powerplant and Switchyard; (5) Elderberry Forebay Dam, Forebay, and Outlet; (6) Storm Bypass Channel and Check Dams; (7) Castaic Transmission Line; (8) Existing Primary Project Roads and Trails; and (9) Existing Pyramid Lake recreation facilities.

DWR operates and manages all South SWP Hydropower facilities upstream of the Angeles Tunnel Surge Chamber including the Pyramid Lake recreation facilities. LADWP operates and manages all South SWP Hydropower facilities downstream of the Angeles Tunnel, including the Angeles Tunnel Surge Chamber. These facilities are described below.

Pyramid Lake and Dam

Pyramid Lake serves as regulated storage for the Castaic Powerplant. At an NMWSE of 2,579 feet, Pyramid Lake has a storage capacity of 161,375 AF and a usable storage capacity of 20,844 AF. The reservoir has a normal maximum surface area of 1,269 acres, a shoreline length of 21 miles, and a maximum depth of approximately 265.4 feet (Table 2.3-2). The Licensees typically maintain Pyramid Lake one foot below NMWSE at a surface elevation of 2,578 feet and consider 2,560 feet to be the minimum working elevation. Approximately three percent of the total inflow to Pyramid Lake is from natural inflow; the majority of the inflow to the reservoir is SWP water. Pyramid Lake receives natural inflow into the west arm of the reservoir from Piru Creek, and a combination of natural and SWP water inflows into the north arm of the reservoir from Gorman Bypass Channel and Gorman Creek. The lake also receives minor inflow from Liebre Gulch and West Fork Liebre Gulch.

Pyramid Dam, at the southern end of Pyramid Lake, is a 1,090-foot-long earth and rockfill dam. The dam is 400 feet high. The dam crest is 35 feet wide with an elevation of 2,606 feet.

Water can be released from Pyramid Lake into the 18.1-mile Pyramid reach, which is a segment of Piru Creek below Pyramid Dam to the NMWSE of Lake Piru. Water is released through two spillways and a low-level outlet works located on the right abutment of Pyramid Dam.

The Pyramid Dam service spillway is a controlled outlet used for passing normal flows through the reservoir. This spillway includes a single 40-foot-wide by 31-foot-tall radial gate and a concrete-lined chute and terminates in a flip bucket. This gated chute was designed to discharge small floods and emergency releases up to 17,000 cfs.

A second spillway is located adjacent to the Pyramid Dam service spillway and is used for emergencies. This emergency spillway has an elevation of 2,606 feet and is an uncontrolled, unlined channel with a 365-foot-long overpour weir. The emergency spillway is designed for discharging very large flows. The two spillways have a combined designed capacity of 165,900 cfs with five feet of freeboard.

The low-level outlet works utilize the stream bypass tunnel (diversion tunnel), which was used during initial construction of the dam. This release facility passes through the right abutment of the dam and is used for downstream releases to Pyramid reach. It is constructed of a 15-foot diameter, concrete-lined tunnel that is approximately 1,350 feet long.

The maximum safe, designed release from both the low-level outlet works and the Pyramid Dam service spillway to Pyramid reach is 18,000 cfs. Seepage through the dam is collected at the toe of the dam, where it is gaged before being released into Pyramid reach.

Angeles Tunnel and Surge Chamber

The Angeles Tunnel transports Pyramid Lake water to the Castaic Penstocks, which provides water to Castaic Powerplant in the generating mode, and returns water to Pyramid Lake from Elderberry Forebay when the powerplant is operating in the pumping mode. Angeles Tunnel is 7.2 miles long, has a diameter of 30 feet, has a maximum flow capacity of 18,400 cfs, and includes two adits.

The associated surge chamber is 120 feet in diameter and 383 feet in height, of which 225 feet are underground. The underground portion is constructed of steel-lined concrete. The aboveground portion of the surge chamber is a 158-foot-tall steel tank. A 108-foot-long structure connects the surge chamber to the Angeles Tunnel through a 28-foot diameter riser.

Castaic Penstocks

The Castaic Penstocks consist of a double trifurcation immediately downstream of the south portal of Angeles Tunnel, a penstock shutoff valve on each branch of the trifurcations, and six 2,400-foot-long steel penstocks ranging in diameter from 9 feet to 13.5 feet serving the six Castaic Powerplant units (Units 1 through 6). Unit 7 in the powerplant is served by a 1,900-foot-long steel penstock ranging in diameter from 7 feet to 9 feet, branching from a Y-connection between the tunnel portal and the main trifurcation.

Castaic Powerplant and Switchyard

The Castaic Powerplant, an aboveground/underground, steel-reinforced, concrete powerhouse, is located on the northern (upstream) end of Elderberry Forebay. Castaic Powerplant is a pumping-generating plant with the ability to pump water back to Pyramid Lake using intermittent renewable and off-peak power when it is economical to do so. Elderberry Forebay serves as an afterbay for Castaic Powerplant while in generating mode and as a forebay while in pumping mode. Pyramid Lake serves as the upper reservoir of the powerplant.

Castaic Powerplant has six Voith Siemens Hydro Francis-type reversible pump/turbines and motor/generators. Each unit has a rated head of 1,000 feet, a runner speed of 257 rpm, a rated output of 363,000 hp, and an approximated rated discharge of 3,500 cfs. The Voith Siemens three-phase generator capacity is 250,000 kVA with a power factor of 0.85, a frequency of 60 Hz, and voltage of 18,000 volts. The six Francis units have a combined authorized installed generating capacity of 1,275,000 kW, with a plant flow capacity of 21,000 cfs (Table 2.3-1). The powerplant's average dependable capacity for calendar years 2013 through 2018 was 1,232,140 kW.

In addition, the Castaic Powerplant includes one Alstom Pelton-type pump starting turbine unit (Unit 7) with a rated head of 950 feet, a runner speed of 225 rpm, rated output of 69,000 hp, and an approximate rated discharge of 752 cfs. The Alstom three-phase generator capacity is 70,000 kVA, with a 0.80 power factor, frequency of 60 Hz, and voltage of 11,000 volts. Castaic Powerplant's Unit 7 is a small generation unit

housed in a separate building and used solely to start the six main units when they are used as pumps. In addition, Unit 7 is not used for power generation, and therefore, is excluded from the installed capacity calculation.

LADWP uses Castaic Powerplant to generate electricity when power is needed in the Los Angeles area. Castaic Powerplant can also be used to pump water into Pyramid Lake to be used for power generation at a later time, when it is the most economical and beneficial to the citizens of Los Angeles. Pump-back capability at normal static head ranges from 2,200 cfs, with one unit operating to about 12,000 cfs with six units pumping. This water can be routed through the turbine generators in a very short time to meet peak and/or unanticipated demands on LADWP's electric grid system.

The Castaic Switchyard is a fenced switchyard located adjacent to the powerhouse and uses a double-breaker, double-bus scheme. There are six, three-phase step-up transformers for Units 1 through 6 (primary voltage of 230 kV and secondary voltage of 18 kV). Unit 7 has a three-phase step-up transformer with a primary voltage of 230 kV and secondary voltage of 11 kV.

Elderberry Forebay, Dam, and Outlet

Elderberry Forebay Dam, completed in 1974, is a 1,990-foot-long earthfill dam with a height of 200 feet. The crest of the dam is 25 feet wide with an elevation of 1,550 feet. Elderberry Forebay Dam forms Elderberry Forebay, which is located directly below Castaic Powerplant and serves as an afterbay when Castaic Powerplant is generating power and as a forebay when the plant is pumping water back into Pyramid Lake. The forebay also receives a very small amount of local inflow from Castaic Creek, which enters at the northern end of the reservoir. Of the total inflow to Elderberry Forebay, only 1 percent is from Castaic Creek. The remaining inflow to Elderberry Forebay is SWP water from Pyramid Lake conveyed via the Angeles Tunnel. At an NMWSE of 1,540 feet, Elderberry Forebay has a gross storage capacity of 31,196 AF, a usable storage capacity of 23,096 AF, a surface area of 496 acres, and a shoreline length of 7 miles (Table 2.3-2). With the stop gates (storm gates) in place, the Licensees typically maintain Elderberry Forebay 2 feet below NMWSE at a surface elevation of 1,538 feet. With the gates removed, the Licensees maintain the forebay at a working elevation of 1,530 feet, a gross storage capacity of 26,418 AF, a usable capacity of 18,318 AF, and a surface area of 459 acres. The Licensees consider the minimum working elevation of Elderberry Forebay to be 1,480 feet. Anti-vortex plates limit safe pumping at 1,480 feet.

Besides pump-back water to Pyramid Lake, water from Elderberry Forebay passes downstream into Castaic Lake, a non-South SWP Hydropower facility via a spillway and an outlet. The spillway comprises an overflow weir built into a natural topographic saddle located approximately 300 feet east of the left abutment of the Elderberry Forebay Dam and serves as an uncontrolled emergency spillway. The crest elevation of the overflow weir is 1,540 feet, with a capacity of at least 12,000 cfs.

The Elderberry Forebay Outlet Works at Elderberry Forebay Dam have both high-level and low-level release capability in a tower located on the right bank upstream of the

dam. The high-level outlet has slide gates on the service spillway shaft. There are two 8-foot-wide by 9-foot-high slide gates at an elevation of 1,498 feet, and six 8-foot-wide by 12-foot-high slide gates at an elevation of 1,477 feet on the spillway shaft. The low-level outlet control works consist of a single set of two 5-foot-wide by 6-foot-high high-pressure slide gates in tandem within a gate chamber at the base of the tower. The low-level conduit is 7 feet in diameter; has an intake, an uncontrolled box structure with a stop-log emergency bulkhead; and an outlet connection discharging into the 21-foot diameter service spillway conduit just downstream of the tower. The combined capacity of the high- and low-outlet facilities is 17,000 cfs at a forebay NMWSE of 1,540 feet.

The high- and low-outlet facilities connect to a 21-foot-diameter conduit that runs under Elderberry Forebay Dam and releases water into Castaic Lake (i.e., a non-licensed facility or component of the South SWP Hydropower that is not used or useful for power generation), which has a capacity of 325,000 AF.

Storm Bypass Channel and Check Dams

The Storm Bypass Channel is located along Castaic Creek above Elderberry Forebay and includes a series of three check-dam basins with a total area of approximately 21 acres. The check-dam basins capture sediment runoff during high flow events to reduce the continued accumulation of sediment near the powerplant and provide the sustained efficiency of the Castaic Powerplant operation. The check dams have no storage capacity. Sediment and debris are removed from the check-dam basins as needed, and spoils are disposed of onsite on State-owned lands.

Castaic Transmission Line

The South SWP Hydropower includes the 11.4-mile, 230-kV Castaic Transmission Line that delivers power from the Castaic Switchyard to the Haskell Junction substation, and supplies power to the Castaic Powerplant when the powerplant is in the pump-back operating mode. The line consists of four circuits that are carried on two parallel double-circuit steel towers. The southern towers carry the Castaic – Northridge Line 1 and Castaic – Haskell Line 1 (previously Castaic – Sylmar Line 1) 230-kV circuits. The northern towers carry the Castaic-Haskell Line 2 (previously Castaic – Olive Line 1) 230-kV circuit, and the second position is currently vacant. LADWP filed a non-capacity license amendment with FERC on March 10, 2016, that was approved on April 6, 2017, to construct the fourth circuit to the Haskell Junction substation. The anticipated in-service date is sometime in 2021; however, due to coronavirus disease 2019 (i.e., COVID-19) restrictions, the exact date has not been confirmed.

Existing Primary Project Roads and Trails

For the Castaic Power Development, the existing license does not list or describe any Primary Project Roads or Trails other than those associated with recreation facilities.

Existing Pyramid Lake Recreation Facilities

Table 2.3-3 lists South SWP Hydropower recreation facilities associated with the Castaic Power Development. All of the facilities are associated with and are adjoining or near Pyramid Lake. Public access to Elderberry Forebay is not permitted due to security and safety concerns.

Table 2.3-3. Castaic Power Development Pyramid Lake Recreation Facilities

Recreation Area		Developed Facilities
Emigrant Landing Day Use Area	Emigrant Landing Entrance Area	2 entrance station kiosks; boat inspection station; and approximately 24 parking spaces
	Emigrant Landing Boat Launch	8-lane boat launch ramp; 2 boat docks; 1 signed accessible unisex restroom with flush toilets; 2 floating restrooms that are deployed on the lake as needed; and parking for approximately 73 vehicles with boat trailers, and 8 standard parking spaces
	Emigrant Landing Picnic and Fishing Area One	22 picnic sites (2 are labeled accessible sites), with approximately 22 grills, 21 shade ramadas, and 34 standard tables; shoreline fishing platform/walkways; 2 unisex restrooms with flush toilets; 1 drinking fountain; parking for approximately 90 vehicles (5 signed accessible parking spaces); and 1 fish cleaning station
	Emigrant Landing Swim and Picnic Area	Swim beach with lifeguard tower; approximately 31 picnic sites with 52 standard tables (8 are accessible), 34 grills, 31 shade ramadas, 5 water spigots, and 2 drinking fountains; 2 unisex restrooms with flush toilets; and parking for approximately 135 vehicles (2 signed accessible parking spaces)
	Emigrant Landing Picnic and Fishing Area Two	Approximately 5 picnic sites with tables, 5 shade ramadas (1 has 3 combined shade ramadas counted as 1), 14 standard tables, 7 grills; pedestrian overlook structure connected to walkway; 1 unisex restroom with flush toilets; water spigots and 3 drinking fountains; parking for approximately 80 vehicles (2 signed accessible parking spaces)
Vista Del Lago Visitor Center		18,500-square-foot visitor center with interpretive exhibits, auditorium, potable water and restrooms; parking for 159 vehicles (6 signed accessible parking spaces, 2 designated for vans); 1 FERC informational sign, 2 other informational signs; approximately 11 trash receptacles, 2 telescopes, and 1 overview lookout walkway (1 bench, 1 information sign)
Vaquero Day Use Area		Swim beach with lifeguard tower; 2-lane non-motorized watercraft launch ramp with boat dock; approximately 14 picnic sites with 13 standard tables, 14 grills, and shade ramadas; 22 unisex restrooms with flush toilets; approximately 5 water spigots and 1 drinking fountain, 1 fire pit, parking for approximately 146 vehicles (8 signed accessible parking spaces, with 3 designated for vans); and 2 restroom buildings (unisex, accessible)

Table 2.3-3. Castaic Power Development Recreation Facilities (continued)

Recreation Area		Developed Facilities
Spanish Point Boat-in Picnic Area		Boat-in or walk-in area with approximately 12 picnic sites, each with a shade structure; approximately 9 grills and 1 group barbeque site with 3 grills; 1 restroom with vault toilet; and 44 portable restrooms with portable sinks
Serrano Boat-in Picnic Area		6 picnic sites with tables, grills, and shade ramadas; 1 unisex restroom with vault toilets; and a boat dock
Bear Trap Boat-in Picnic Area		Approximately 2 picnic sites with 3 tables, 2 grills, and 3 shade ramadas; 2 unisex restrooms with vault toilets; and a boat dock
Yellow Bar Boat-in Picnic Area		Approximately 10 picnic sites with tables and shade ramadas; 2 restrooms with vault toilets; and accessible boat dock and paths with shoreline fishing
Los Alamos Campground	Los Alamos Campground	Approximately 93 campsites with typically 1 or 2 picnic tables each, parking spur, and 1 fire ring per site; 4 restrooms with flush toilets; trailer dump station; potable water spigots, 4 of which have sinks; approximately 5 shade ramadas; and a 2-lane recreational vehicle/trailer dump station
	Los Alamos Group Campground	Approximately 3 group camping sites with maximum occupancy of 40 people and parking for typically 8 to 10 vehicles per site; each site includes a large shade ramada containing barbeque grills, fire pits, approximately 5 picnic tables, and water spigot; and 1 unisex restroom with flush toilets, water spigot and outdoor sink

Key:
FERC = Federal Energy Regulatory Commission

2.3.1.3 Features Not Included as Part of South SWP Hydropower

The following facilities located within the proposed Project boundary or its vicinity are not currently managed by the Licensees as part of the FERC license; therefore, management of these facilities is not expected to change under the new license.

- The portion of the Quail Lake Inlet Structure, upstream of and including the stilling basin, is part of the SWP and is owned and operated by DWR; the Quail Lake Inlet Structure and associated facilities and features are not part of the South SWP Hydropower because they are part of a control structure with the principal purpose of the transportation of water for SWP operations.

- Three short segments of Interstate 5 with California Department of Transportation (Caltrans) maintenance facilities near Liebre Gulch that are major public highway segments maintained by the U.S. Department of Transportation through Caltrans as part of the U.S. Interstate Highway System.

- A segment of Hardluck Road that is located on State land, is a multiple use public roadway designated as USFS Road 7N32. It is used to access the USFS Los Alamos Fire Station and heliport, a USFS administrative campground, and a network of USFS roads and trails.

- The Goodell Fire Road/Castaic Canyon Road (USFS Road 6N13) on the east side of Elderberry Forebay that is on State and BLM lands and is not used for South SWP Hydropower operations; the USFS road is a public use facility and fire road, and is closed to public vehicular access.

- A segment of Pyramid Lake Road, located on State lands, that serves as a multiple use public road for DWR, California Department of Parks and Recreation (DPR), USFS, and others, as well as for the general public to access DPR, South SWP Hydropower, and USFS recreation lands and facilities.

- A portion of Templin Highway west of Old Ridge Route (private street) that is located on NFS and State lands and is a county road maintained by the Los Angeles County Department of Public Works as a multiple use public road.

- The 2.95-mile segment of SCE's Pardee-Pastoria-Warne Transmission Line, which is inaccurately identified in the existing license as a South SWP Hydropower facility. The existing South SWP Hydropower boundary has never been drawn to include the 2.95-mile-long transmission line segment; however, inclusion of the transmission line in the South SWP Hydropower description was carried forward in several FERC license amendments – an oversight or error that has persisted throughout the term of the current license. To correct this inaccuracy, as an administrative change in the FLA, the Licensees have not included the SCE transmission line in the South SWP Hydropower description or proposed Project boundary for the new FERC license.

2.3.2 Current South SWP Hydropower Operations

As noted earlier, the South SWP Hydropower is operated as a power recovery project using SWP water as it is being provided for downstream consumptive use. For that reason, South SWP Hydropower generation operations do not vary based on changes in local hydrological conditions. However, the daily timing of the flow of water through the Warne and Castaic Powerplants is controlled for efficient generation (i.e., to support peaking and ancillary services). In addition, SWP water in Elderberry Forebay is pumped back up into Pyramid Lake or held in Castaic Lake until the water is needed to meet downstream water demand as part of SWP water supply operations. As described in Section 2.3.1 (Existing South SWP Hydropower Facilities), the South SWP Hydropower's FERC-authorized installed capacity is 1,349,290 kW, and the South SWP Hydropower's calculated dependable capacity is 1,292,540 kW. Castaic Powerplant's Unit 7 is a small generation unit housed in a separate building and used solely to start the six main units when they are used as pumps; Unit 7 is not used for power generation and therefore is excluded from the installed capacity calculation.

2.3.3 Current South SWP Hydropower Routine Maintenance Activities

This section discusses currently implemented routine maintenance activities conducted by the Licensees for the South SWP Hydropower.

2.3.3.1 Current Facilities Maintenance Activities

The Angeles Tunnel is always pressurized, except when the tunnel is dewatered for inspection approximately every 10 years. In addition, the Licensees conduct mechanical and electrical inspections and maintenance at the Warne and Castaic Powerplants to maintain the structural and/or functional integrity of the facilities, and to prevent conditions that might disrupt operations. This activity typically occurs twice a year (prior to summer and during fall) at Castaic Powerplant and annually at Warne Powerplant. During inspection and maintenance, the powerhouse units are offline to support planned outages which are based upon operating hours and system needs. Depending on the maintenance work needed, the tunnel and penstocks may be dewatered by closing the intake gates or valves.

2.3.3.2 Current Recreation Facilities Maintenance

The Licensees provide for the O&M of recreation facilities so safe and enjoyable recreation is available to the public. O&M activities to support recreation development and use include, but are not limited to, maintaining parking areas, lawns, restrooms, lights, water, power, sewer, shelters, and picnic and campground facilities. More specifically:

- Water supply: Maintain and repair, as needed, all facilities and equipment associated with potable and non-potable (irrigation) water systems.
- Wastewater services: Maintain and repair, as needed, all facilities and equipment associated with wastewater collection in compliance with applicable requirements.
- Recreation facilities electrical system: Maintain and repair, as needed, all equipment associated with recreation sites' electrical distribution systems.
- Recreation facilities road and parking areas: Maintain and repair, as needed, all recreation roadways, bridges, parking lots, and drainage systems. Maintain accessibility features where applicable. Conduct asphalt repairs/overlay to roadways and parking areas as needed. Maintain vegetation around roadways and parking areas to preserve visibility. Clean culverts at the beginning and end of each recreation season, following large storm events, and as needed to maintain proper function.

2.3.3.3 Other Current General Maintenance Activities

Routine maintenance and periodic repair activities within DWR's facilities include, but are not limited to, the following: removing debris, sediment, vegetation, rubbish, downed trees, and other material that could obstruct the natural flow; controlling weeds, grasses, emergent vegetation, and woody vegetation; repairing gates, barricades, and structures; erosion control and bank stabilization; repairing culverts, overchutes, and associated

aprons; maintaining stream gauging stations; and other work necessary to maintain the functional and structural integrity of the facilities (DWR 2015a).

Routine maintenance and periodic repair activities conducted within LADWP's facilities, including the Storm Bypass Channel and Castaic Transmission Line, consist of vegetation management, pest management, road and trail maintenance, facility painting, and debris and erosion management. These activities include but are not limited to the following: removing and clearing debris, sediment, vegetation, and deleterious materials; repairing gates, barricades, and appurtenant structures; grading and stabilizing roads and slopes; and other work necessary to maintain the functional and structural integrity of the facilities.

2.3.3.4 Current Invasive Non-Native Vegetation and Rodent Pest Management

Herbicide application, mechanical control methods, and manual removal including hand trimming are performed on an annual basis for vegetation management at South SWP Hydropower facilities located on Licensee-owned property. Additionally, for herbicide application on NFS lands, when deemed necessary a request for USFS approval of planned uses of herbicides will be submitted via a pesticide use form. All herbicide applications are supervised by a Qualified Applicator under the direction of a licensed Pest Control Advisor (PCA). The PCA prepares pest control recommendations consistent with the specific herbicide label(s) for each site, prescribing specific application directions and associated precautions. All-terrain vehicles, other vehicles (e.g., pick-up trucks), backpack sprayers, or hand-held sprayers are used to apply herbicides. Herbicide application typically occurs twice annually, at a minimum. These applications occur seasonally as determined by the PCA for pre-emergents. Follow-up visits to apply herbicides and/or additional treatments (as needed) are seasonally dependent. Additional applications may be performed if required.

The Licensees use rodenticides to protect public health and the safe operation of South SWP Hydropower infrastructure by applying non-restricted rodenticides in accordance with label instructions. Rodent activity at South SWP Hydropower facilities threatens public safety by compromising the structural integrity of facilities and heightening the potential for the spreading of disease (including plague) if rodent populations are left unchecked. Prior to administering a rodenticide, the feasibility of using non-chemical methods is evaluated to avoid potential effects of carcass consumption by scavenging wildlife. All rodenticides are used in compliance with the California Department of Pesticides Regulation statutes and regulations. DWR uses rodenticides on an as-needed basis at indoor facilities, recreation areas, and facility infrastructures. While uncommon, population explosions of non-game rodents can result in public safety and structural concerns. Rodents considered as pests, including mice and California ground squirrels (*Otospermophilus beecheyi* and *Otospermophilus douglasii*) can invade and colonize areas rapidly causing considerable damage on, below, and within earthen structures. Most rodents, including mice and California ground squirrels, can harbor disease such as bubonic plague, caused by *Yersinia pestis*. Diseases can be transmitted to humans, pets, and other animals at recreation areas. When population explosions occur, rodenticides are necessary to control the targeted rodent species in

the area for health and safety reasons. In addition, the California Fish and Game Code (FGC) states that nongame mammals, including California ground squirrels, can be controlled in any legal manner if they are causing injury or damage to property (FGC §4152). To date, the Licensees have no evidence of wildlife being harmed due to the use of rodenticides in these limited circumstances. Additionally, the current practices are in compliance with AB 1788 (Ch. 250 Stats. of 2020), also known as the California Ecosystem Protection Act of 2020. The act prohibits the use of certain second generation anticoagulants; however, the act includes an exemption for use of second generation anticoagulant rodenticides by government agencies for the control of rodent infestations associated with public health activities or needs, including the protection of water supply infrastructure and associated facilities. DWR and LADWP comply with all applicable State and federal laws and regulations (including § 12978.7[e][2] of the Food and Agricultural Code) and will comply with any future amendments.

2.3.3.5 Current Access Road Maintenance

Regular inspection of South SWP Hydropower-associated access roads occurs during the course of day-to-day South SWP Hydropower activities. Maintenance is conducted on these roads as needed. Maintenance generally includes but is not limited to the following types of activities: debris removal; filling potholes; grading, sealing, and surfacing; maintenance or replacement of erosion control features (e.g., culverts, drains, ditches, and water bars); repair, replacement, or installation of access control structures, such as posts, cables, rails, gates, and barrier rock; and repair and replacement of signage. Vegetation management (see Section 2.3.4.4 [Terrestrial Vegetation and Wildlife Protection Activities]) may be conducted concurrently with road maintenance.

2.3.4 Currently Implemented Environmental Protective Measures

This section describes the current standard protective methods that the Licensees employ to protect the following resources: geology and soils, water resources, aquatic resources, terrestrial vegetation, recreation resources, land use, visual resources, and cultural resources. These current operational activities are considered a part of the baseline conditions.

2.3.4.1 Geology and Soils – Current Erosion Control Protections

Much of the terrain in and around the South SWP Hydropower is subject to ongoing erosion and sedimentation, which may be exacerbated by heavy rains and loss of vegetation due to fire. As such, the Licensees maintain and replace, as needed, erosion control features associated with the South SWP Hydropower facilities, including culverts, drains, ditches, and water bars.

Erosion control activities include routine inspection and maintenance of roadway drainage features, such as periodically inspecting and clearing culverts and drainage ditches, rock fall cleanup, and landslide cleanup and repair to maintain proper function of drainage features. Repairs are typically completed as soon as possible after

identification of a problem, often related to a periodic weather event. Depending on the identified problem (e.g., plugged culvert or road obstruction), Licensees prioritize scheduling the needed repair based on safety, impacts, and liabilities, and then complete the needed repair as soon as possible.

Designated large spoil sites are located in upland areas throughout the South SWP Hydropower which are used to store spoil material, including concrete, rock, gravel, sand, silt and cleared vegetation. These sites can serve as borrow sites when material is needed to repair erosion damage. The designated spoil areas are located away from all drainage channels and basins, and no hazardous materials are stored at these sites. In addition, exposed areas are either covered or hydroseeded with native seed mixes to reduce the potential establishment of non-native invasive plants (NNIP).

When the SWRCB or RWQCB issues a permit for ground disturbing activities and approves an associated Stormwater Pollution Prevention Program (SWPPP), the Licensees follow the stipulated conditions in the permit. The Licensees apply erosion and sediment control best management practices (BMP) to ground disturbing activities dependent on the nature of work being undertaken, time of year the action is being taken, or particular constraints on a project site that may require a robust plan for stormwater treatment. The Licensees' erosion and sediment control BMPs may include, but are not limited to, the following:

- Surface roughening
- Mulching
- Hydroseeding
- Erosion control blankets
- Straw wattles
- Silt fencing
- Dust control

In addition, the Licensees currently implement the following erosion control monitoring measure in Pyramid reach, which was identified in *The Simulation of Natural Flows in Middle Piru Creek, Final Environmental Impact Report*, dated January 2005:

- Prevention of Erosion Damage to Infrastructure. [DWR] shall perform an engineering analysis to determine the potential for expected releases to damage Old Highway 99, the Old Highway 99 bridges, utilities, and other infrastructure in or adjacent to the channel. The engineering analysis shall be used as a basis for establishing procedures and guidelines for monitoring erosion at infrastructure during flood releases. [DWR] shall monitor erosion at key potential infrastructure damage areas during large flow releases and temporarily curtail releases should

> the monitoring determine the infrastructure to be at risk. [DWR] shall subsequently install engineered erosion protection to prevent erosion damage to the areas determined to be at risk.

Erosion monitoring has been conducted under an existing erosion control plan that incorporates the engineering analysis. The plan was completed and approved by FERC and SWRCB and annual reports have been filed under the existing license and 401 WQC. The Licensees will continue to implement this mitigation measure consistent with the conditions of the new FERC license for releases into Pyramid reach and adapt key elements of the erosion control plan in managing potential erosion impacts to infrastructure located immediately downstream of Pyramid Dam following large flood releases.

2.3.4.2 Water Resources – Current Flow Commitments and Water Quality Monitoring and Protections

Current Water Flow Commitments

Pyramid Lake inflow largely consists of SWP water and some natural inflow from local drainages, including Piru Creek, Cañada de Los Alamos, Liebre Gulch, West Fork Liebre Gulch, and other local unnamed drainages. The South SWP Hydropower does not use any of the natural inflow into Pyramid Lake to generate power or for other South SWP Hydropower purposes; power is generated using only SWP water as it is being conveyed downstream through the SWP water supply system. Under Article 52 in the existing license, the Licensees make releases from Pyramid Dam so that "[s]tream releases from Pyramid Dam into Piru Creek [Pyramid reach] shall match natural surface inflow into Pyramid Lake to the extent operationally feasible and consistent with safety requirements[…]."

In addition, consistent with Article 52 in the existing license, the Licensees release up to 3,150 AF of SWP water from Pyramid Lake into Pyramid reach below Pyramid Dam each year between November 1 and the end of February for deliveries to the UWCD. As required by Article 52, these "water deliveries may be made over a period of a few days, ramping flows up and down to simulate the hydrograph of a typical storm event, or they may be released more gradually over a longer period."

Current Water Quality Monitoring and Protections

South SWP Hydropower water quality monitoring has been conducted by the Licensees since 1968 under water quality programs conducted as part of the SWP. The water quality program monitors eutrophication, salinity, and other parameters of concern for drinking water, recreation, and fish and wildlife purposes. The parameters of concern and frequency of existing water quality monitoring are provided in Table 2.3-4, below.

Table 2.3-4. Frequency of Existing Water Quality Monitoring

Parameter	Monitoring Frequency	
	Pyramid Lake (Station PY001000)	**Castaic Lake (Station CA002000)**
Standard Parameters (alkalinity, aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chloride, chromium, copper, fluoride, iron, lead, magnesium, manganese, mercury, nitrate, selenium, silver, sodium, dissolved solids, specific conductance, sulfate, turbidity, and zinc)	Quarterly	Quarterly
Nutrients	Monthly	Monthly
Total and dissolved organic carbon	--	Monthly
Bromide	Monthly	Monthly
Reservoir Profile (pH, dissolved oxygen, depth, temperature, electrical conductivity)	Weekly (Bi-monthly in winter)	Weekly (Bi-monthly in winter)

Source: DWR 2015b
Key:
pH = −log10c
-- = not required

Additional water quality data are collected by the Metropolitan Water District of Southern California (MWD). The U.S. Geological Survey (USGS) also studies surface water quality in cooperation with local and State governments, and with other federal agencies. The USGS monitoring program consists of collection, analysis, data archiving, and dissemination of data and information on the quality of surface water.

The Licensees are also required to monitor water quality under National Pollutant Discharge Elimination System (NPDES) permits obtained for the application of herbicides to control aquatic weeds and algae. Water quality and other physical and visual parameters are sampled and monitored pre-treatment, during the treatment, and post-treatment in Pyramid Lake and Elderberry Forebay. Annual monitoring reports for aquatic pesticide use are filed with the SWRCB consistent with the NPDES permit requirements.

The Licensees monitor discharge water quality at regular intervals as required by separate NPDES permits for the operation of the Warne and Castaic Powerplants. The NPDES permits for Warne and Castaic Powerplants are within the jurisdiction of the Los Angeles RWQCB. The powerplant water quality monitoring reports are filed with the SWRCB's California Integrated Water Quality System database consistent with the NPDES permit requirements.

For additional details on water quality monitoring (i.e., sampling for taste and odor compounds and cyanobacteria surveys), refer to Section 2.3.4.3 (Aquatic Resources) below.

2.3.4.3 Aquatic Resources

Aquatic invasive species (AIS) are aquatic organisms that invade ecosystems beyond their natural, historic range and may harm native ecosystems or commercial, agricultural, or recreational activities; algal blooms that can generate undesirable taste and odor compounds; and algal blooms that can create unsafe conditions through the production of cyanotoxins. These AIS may affect native and desired introduced species through competition, predation, and changes in habitat conditions.

DWR conducts the following surveys to assess the presence and prevalence of AIS in Pyramid Lake.

Creel Surveys at Pyramid Lake

Creel surveys are conducted to evaluate and assess recreational fisheries, effectiveness of fish stocking programs, and angler satisfaction. These surveys can also be a source of information on invasive fish species if any are captured by anglers. DWR has performed creel surveys at Pyramid Lake since 2000 and will continue to perform creel surveys in the future. Surveys are conducted during two periods: fall-spring (October through May) and summer (June through September). DWR submits creel surveys and trout stocking reports to FERC on a biennial basis as a condition of the Amended Exhibit S (Article 51) in the existing license. No invasive fish species listed by the California Department of Fish and Wildlife (CDFW) have been documented in any of the creel surveys.

Since 1982, DWR has contracted with CDFW to stock rainbow trout (*Oncorhynchus mykiss*) in Pyramid Lake at a variety of levels under several management plans. The existing license Exhibit S requires the annual stocking of 20,000 pounds of catchable rainbow trout at both Pyramid Lake and Castaic Lake (89 FERC Paragraph [¶] 62,066; 2426-144 issued on October 25,1999; FERC 2000). Stocking status reports with annual creel surveys are reported biennially and have been filed with FERC since 2000.

CDFW has primarily stocked rainbow trout since the 1940s in Pyramid reach (FERC 2004). In 1980, the Licensees developed the Piru Creek Fishery Enhancement Plan as part of the original Exhibit S in the FERC license, which initially directed the stocking of 25,000 catchable size trout between Pyramid Dam and Frenchmans Flat (DWR 1980). CDFW realized that this level of stocking was not sustainable and exceeded the carrying capacity of the creek. Exhibit S was amended to call for 4,000 pounds of trout to be stocked at Frenchmans Flat and between Pyramid Dam and Frenchmans Flat in Pyramid reach (89 FERC ¶ 62,066; 2426-144 issued on October 25,1999). However, CDFW determined that 4,000 pounds of trout exceeded the carrying capacity of the creek and, therefore, adjusted the stocking requirement to approximately 3,000 pounds of catchable trout (DWR 2004). Stocking in Pyramid reach was subsequently halted in

2008 in response to a court-ordered settlement. The settlement required CDFW to complete its CEQA compliance on the hatchery and stocking operations, as well as require CDFW, together with the U.S. Department of the Interior, Fish and Wildlife Service (USFWS), to conduct a pre-stocking evaluation, conclude Section 7 ESA consultation, and coordinate with the National Marine Fisheries Service (NMFS) on a future stocking determination (DWR 2013). Consequently, all Statewide trout stocking ceased where stocking could impact endangered species. As part of a 2012 FERC order in the existing license, the Licensees are required to file a plan and schedule for stocking trout in Pyramid reach after CDFW and USFWS conclude their Section 7 ESA consultation and issue a determination on future stocking activities in Pyramid reach (FERC 2012). Fish stocking is not anticipated in Pyramid reach as part of the proposed Project upon issuance of the new FERC license.

Quagga and Zebra Mussels Surveys

Beginning in 2007, DWR began early detection monitoring for planktonic veligers (larval life stage of mussels) and adult quagga and zebra mussels (*Dreissenid rostriformis bugensis* and *D. polymorpha*, respectively). DWR also developed and implemented the confidential Quagga and Zebra Mussel Rapid Response Plan on their SWP reservoirs (DWR 2010). The purpose of this plan is to coordinate a rapid, effective, and efficient intra- and interagency response to a reported sighting of mussels. The plan includes how to delineate, contain, control and, when feasible, eradicate zebra and quagga mussel populations if they are introduced into or become established in SWP waters that include waters associated with the South SWP Hydropower. The plan outlines immediate actions necessary to respond to non-confirmed sightings and positively confirmed populations of quagga or zebra mussels. The plan describes methods to determine the distribution of mussels in a SWP facility and/or waterbody, manage pathways (control water flow and other vectors), conduct short- and long-term monitoring, and apply appropriate and immediate control measures on new mussel populations within the SWP.

DWR conducts early detection monitoring through monthly visual and tactile surveys using settlement plates and inspections of Pyramid Lake, and weekly to monthly routine sampling using plankton net tows at set intervals and at predetermined sites that are selected based on specified criteria. The program allows for adaptability in the selection of monitoring sites so that the monitoring sites can be relocated or new sites added based on current information.

Following the detection of 16 deceased adult mussels in the Angeles Tunnel in 2016 and in response to State mandates for mussel control, DWR implemented its rapid response plan and expanded its early detection monitoring program in Pyramid Lake to include a combination of settlement plates, plankton net tow sampling, remote operated vehicle (ROV) surveys of available substrate, and infrastructure inspections during scheduled maintenance shutdowns. A ROV survey in 2016 at the Angeles Tunnel Intake structure identified one adult near the center of the trashrack that was also observed in the same location in a 2018 ROV survey; the 2018 ROV survey observed a second, single similar sized adult mussel on the north side of the trashrack that may

have been present in 2016, but was not detected. It is anticipated that the two adult mussels are near the end of their life span (i.e., the life span of quagga mussel is typically five years [Richter 2008]). Routine and continual monitoring as part of the response to the 2016 mussel detections are ongoing. No mussel veligers or young sub-adults have been detected to date. Based on the results of DWR's monitoring, there is no evidence of mussel reproduction in Pyramid Lake. DWR continues to work with CDFW to develop a mussel control plan for Pyramid Lake.

Similarly, LADWP implements early detection monitoring and sampling protocols for veliger and adult quagga mussels at Elderberry Forebay. Water samples are taken monthly to analyze calcium, pH, temperature, and dissolved oxygen – all indicator conditions conducive for quagga mussel reproduction. Additionally, LADWP performs monthly visual and tactile inspection surveys of the Elderberry Forebay shoreline, boat ramp, hard surface landscapes, and artificial substrate settlement plates for the presence of attached mussels.

There has not been any detection of larval or adult quagga mussels since the detection of 2 deceased adult quagga mussels in Elderberry Forebay in 2016. No mussel veligers or young sub-adults have been detected to date.

Taste and Odor (Algae) Surveys

Algae can produce compounds that cause unpleasant taste and odors in drinking water. Geosmin and 2-methylisoborneol (MIB) are natural byproducts of cyanobacteria during chlorophyll production. DWR routinely monitors taste and odor compounds (i.e., geosmin and MIB) produced by algae through chemical analysis of water samples. MWD conducts the laboratory analysis for these monitoring efforts in coordination with DWR. When sampling results indicate that concentrations of taste and odor compounds exceed a pre-determined level, DWR investigates the source and geosmin and MIB compounds are monitored.

DWR conducts routine water quality monitoring as part of the larger SWP for multiple water quality constituents, including taste and odor, but they are not required to meet treated drinking water standards. When raw water is delivered to State Water Contractors' member agencies, the water is treated to State and federal drinking water standards by the member agencies at their respective water treatment plants.

Ongoing Monitoring of Harmful Algal Blooms

Cyanobacteria are distributed worldwide and are prevalent throughout California in many types of freshwater waterbodies (e.g., lakes, rivers, streams, wetlands, estuaries). Certain species of cyanobacteria can produce cyanotoxins that are potentially harmful to human health if present in high concentrations. Although cyanobacteria are not introduced, their presence can be a nuisance when present in high abundance and a concern when forming harmful algal blooms.

California cyanotoxin advisory levels were established in the *California Voluntary Guidance for Response to HABs in Recreational Inland Waters* that was prepared by

the SWRCB, the California Office of Environmental Health Hazard Assessment (OEHHA) under the California Environmental Protection Agency (CalEPA), and the California Department of Public Health (DPH) through the California Cyanobacteria and Harmful Algal Bloom Network, using a three-tiered advisory system as shown in Table 2.3-5.

Table 2.3-5. Trigger Levels for Public Advisories

Criteria	No Advisory	Caution (Tier 1)	Warning (Tier 2)	Danger (Tier 3)
Total microcystins (sum of all measured congeners)	< 0.8 µg/L	0.8 µg/L	6 µg/L	20 µg/L
Anatoxin-a	Non-detect	Detected	20 µg/L	90 µg/L
Cylindrospermopsin	< 1 µg/L	1 µg/L	4 µg/L	17 µg/L

Source: California Water Quality Monitoring Council 2021
Key:
µg/L = micrograms per liter

DWR routinely monitors for cyanotoxins produced by certain cyanobacteria species through microscopic examination and chemical analysis of water samples. Samples are collected at Pyramid Lake from spring through fall. If cyanobacteria levels reach a harmful level, the OEHHA posts public warning signs and notifications at the lake and, if necessary and consistent with water quality requirements, DWR implements remedial actions that may include the application of copper sulfate or other treatments.

Based on the results of the laboratory analyses and DWR's environmental health hazard assessment, DWR – in cooperation with the concessionaire, the OEHHA, and DPH – posts public signage if cyanotoxins are detected at or above warning levels. The health advisory signs notify the public of unsafe water activities associated with each threshold trigger level. Recreational activities are managed through the issuance of recreational health advisories that include outreach and education, press releases, swim beach closures when needed, recommendations to not eat fish, and other public protection measures. These advisories increase as the level of exposure danger increases. When the criteria for "No Advisory" are met for a minimum of two weeks, DWR has discretion over whether to continue posting public advisory signs.

In addition, AB 834 (Chapter 354), or the Freshwater and Estuarine Harmful Algal Bloom Program, requires the SWRCB to protect water quality and public health from harmful algal blooms. The bill requires the SWRCB, in consultation with specific entities, to:

> "…Coordinate immediate and long-term algal bloom event incident response, as provided, and conduct and support algal bloom field assessment and ambient monitoring at the [S]tate, regional, watershed, and site-specific waterbody scales. The bill would require the [SWRCB], on or before July 1, 2021, to post on its internet website information including, among other things, the incidence of, and response to, freshwater and estuarine harmful algal blooms in the [S]tate during

the previous 3 years and actions taken by the state board related to harmful algal blooms, as provided." (AB 834, stats. of 2019, Ch. 354).

DWR will be participating in the Freshwater and Estuarine Harmful Algal Bloom Program incident responses as a consulted party. Additionally, LADWP participates in the SWRCB's Harmful Algae Bloom program; however, Elderberry Forebay has not required treatment for algae blooms.

2.3.4.4 Terrestrial Vegetation and Wildlife Protection Activities

Current Vegetation and Wildlife Protections

The following standard practices are implemented by the Licensees for new ground-disturbing activities:

- The proposed activity is reviewed for environmental constraints, and an initial assessment for regulatory permitting is conducted.
- Permits are obtained if the activity is not exempt or if the activity has the potential to impact protected botanical or wildlife species or sensitive habitats.
- Preconstruction surveys are conducted where necessary (e.g., in areas with potential for nesting birds or the presence of other sensitive species).
- Exclusion areas are established to limit the areas of disturbance and protect sensitive resources, when necessary.
- Equipment from out of the area is cleaned to reduce the potential for spreading noxious weeds.
- Worker environmental awareness training is conducted if sensitive resources are present in the area.
- Site stabilization is implemented with commercially available native seed mixes.

Vegetation Management

Vegetation management is implemented by the Licensees throughout the South SWP Hydropower as necessary to reduce fire hazards, to provide for adequate South SWP Hydropower facility access and inspection, to protect South SWP Hydropower facilities, and to provide for worker and public health and safety. In general, vegetation management is implemented within approximately 20 to 75 feet of the powerhouses and switchyards; within up to 15 feet on either side of roads and trails adjacent to South SWP Hydropower facilities and on NFS lands, where applicable; and within and adjacent to recreation areas depending on site conditions and landowner agreements.

Vegetation control measures may include, but are not limited to, manual methods (manual pulling, hoeing), mechanical methods (mowing, grubbing), and chemical

methods (herbicides). Hand trimming includes using string trimmers, chainsaws, or other handheld saws or clippers to remove or trim nuisance vegetation, overhanging shrubs, and tree limbs. These management activities are conducted as needed and in conjunction with facility inspections.

Hazard trees are generally defined as dead or dying trees or trees with defects that may result in failure and have the potential to cause property damage, personal injury, or death. Hazard trees are removed as needed. Removal is usually conducted with a chainsaw, handheld saw, or other equipment. Smaller diameter debris from felled hazard trees is usually chipped or lopped and scattered. Downed logs are typically left onsite and are removed only as needed for safety. If removing the logs is necessary, it may be completed by hand or machine, depending on the situation. For trees on NFS lands, the Licensees consult with ANF and/or LPNF and follow their guidance.

2.3.4.5 Current Recreation Resources-related Protective Activities

Ongoing Licensees' management duties for recreation areas include:

- Recreation facilities maintenance
- Utilities maintenance
- Provisions for safety on both land and water
- Signage and interpretive activities
- South SWP Hydropower and existing resource management
- Concession management
- Monitoring and strategic planning

Quail Lake

Quail Lake Day Use Area includes a parking area, restroom, and shoreline access trail around the perimeter of the lake. Quail Lake recreation includes shoreline fishing, bird watching, and hiking. However, no water contact uses, such as boating or swimming, are allowed. Recreational facilities associated with Quail Lake are located on State lands, and are owned, operated, and managed by the Licensees. The Licensees perform maintenance and rehabilitation activities at Quail Lake to maintain access, safety, and recreation area functions.

Pyramid Lake

Recreational facilities at Pyramid Lake are on NFS lands and the facilities are owned by the U.S. Government, but managed and administered by Licensees, with the exception of the following Licensee-owned facilities: boat docks, floating restroom facilities, safety

buoy lines, and the Vista Del Lago Visitor Center. All Pyramid Lake recreation facilities are managed by the Licensees through a concessionaire.

Pyramid Reach

Under the proposed Project, the Licensees do not propose to reinstate the pre-2008 fish stocking activities in Pyramid reach as fish stocking activities have the potential to result in negative impacts to arroyo toad (*Anaxyrus californicus*) populations and other native species. In 2008, fish stocking activities were discontinued as a result of litigation, the outcome of which required CDFW, among other things, to comply with CEQA for its Statewide hatchery and stocking operations, and to conduct pre-stocking evaluations of certain waters including the Pyramid reach. Prior to making a fish stocking determination, CDFW is required to consult with USFWS and NMFS to obtain a Biological Opinion (BO) for their fish stocking and hatchery operations that could possibly affect water bodies with ESA-listed species. At the timing of this CEQA document preparation, CDFW continues to consult with the USFWS and NMFS, and it is uncertain when a BO will be issued, or if and when fish stocking can resume in the Pyramid reach. This is further described in Section 3.5.3.3 (Biological Resources – Other Special-Status Species). Since the discontinuation of fish stocking in 2008, anglers have continued to fish in Pyramid reach. However, no significant adverse recreational impacts have been identified. This is further described in Section 3.16.3 (Recreation – Environmental Impact Analysis) and Section 2.3.4.3 (Aquatic Resources – Creel Surveys at Pyramid Lake).

2.3.4.6 Land Use – Fire Safety Activities

The State Responsibility Area is the area of California where the State is financially responsible for the prevention and suppression of wildfires. The State Responsibility Area does not include lands within city boundaries or under federal ownership. The following facilities are within the California Department of Forestry and Fire Protection (CAL FIRE) State Responsibility Area: Quail Lake, Warne Powerplant, Castaic Powerplant, Elderberry Forebay Dam, the lower portions of the Castaic Powerplant penstocks, the State lands surrounding Elderberry Forebay, and much of the Castaic Transmission Line (State of California 2012). CAL FIRE supports fire control and suppression within the South SWP Hydropower. The Licensees have a helipad and a dedicated water source at Pyramid Lake for firefighting.

The proposed Project boundary includes areas outside of the State Responsibility Area, of which a portion of those lands are managed by USFS. As such, USFS wildland fire suppression in the ANF and LPNF (including lands adjacent to the Warne Powerplant, Pyramid Lake, Castaic Powerplant, and Elderberry Forebay) encompasses all activities related to containing and mitigating damage from wildland fires. The Licensees regularly coordinate with USFS regarding fire hazards.

Fire prevention within the South SWP Hydropower region is further bolstered by the USFS fire prevention program. USFS fire prevention is based on three primary categories: education, engineering, and enforcement. Education includes Smokey Bear

programs to instill a fire prevention ethic in school children, and Firewise community programs that target civic and homeowner groups. Engineering includes abatement of fire hazards along roadways and in high-use areas using fire retardants and removal of flammable vegetation. Enforcement includes executing State fire law regarding hazard abatement around structures for both public and private land in the ANF and LPNF. This is also done along all electrical transmission and distribution systems across the ANF (USFS 2005a).

Hazardous fuel reduction is the set of activities associated with removing brush and vegetation from areas where they pose a significant threat to human life, property, and national forest resources, and where they interfere with the health of natural fire-adapted ecosystems. Fuel reduction involves direct management of vegetation using prescribed fire, mechanical, manual, or chemical methods. This is accomplished by a multidisciplinary planning approach using resource specialists, local governments, communities, and contractors. The ANF Fuels Officer provides overall leadership for this program, which is then carried out by fire management personnel and local government (USFS 2005a).

Campfire permits are not required at the developed Pyramid Lake picnic areas or campgrounds accessible to the public by motor vehicle. Visitors may use the stoves, fire pits, and campfire circles, which are provided, or their own liquid or gas fuel portable stoves as long as proper clearance is maintained. Visitors cannot build their own fire rings (USFS 2011a).

2.3.4.7 Visual Resources Preservation Activities

As described in DWR's Water Resources Engineering Memorandum No. 30a, dated March 15, 1984, DWR has established an architectural motif that is consistent with economic and operational efficiency, and is applied to all SWP facilities, including South SWP Hydropower facilities that are not on NFS lands. The objective of the architectural motif is to create an identifiable, aesthetically pleasing, and unifying appearance throughout the SWP. For South SWP Hydropower facilities on NFS lands, DWR follows USFS policies and directives when upgrades are required for safety, asset management, and aesthetics as determined by the Licensees.

When rehabilitating USFS-owned recreation facilities at Pyramid Lake, of the Licensees consult with the USFS and follow the current guidelines in the USFS Built Environment Image Guide, Forest Service Handbook 2309.13, and the ANF's and LPNF's Land Management Plans (LMP) (USFS 2001; USFS 2005b; USFS 2005c). The guidelines provide region-specific design guidelines for administrative and recreation facility development on NFS lands. As a participant in the planning and design of new facilities or the modification of existing facilities, the DWR Architectural Section is responsible for application of the motif consistent with site conditions. The DWR Architectural Section reviews contract drawings and specifications for conformity with the architectural motif. The DWR Division of Operations and Maintenance is responsible for application of the architectural motif to existing facilities. Existing facilities requiring repainting are brought into compliance with the architectural motif.

2.3.4.8 Cultural Resources Protection Activities

DWR Protective Activities

As a standard practice, prior to beginning an activity involving ground disturbance or a scheduled non-routine maintenance activity, DWR obtains any necessary permits or authorizations and then conducts a cultural resources review of the location, consisting of archival research and an onsite survey of the area to identify cultural resources. Those efforts are typically followed by an evaluation of identified resources for their potential eligibility to the NRHP and/or California Register of Historical Resources (CRHR). If significant resources (e.g., historic properties, historical resources, unique archaeological resources, Tribal Cultural Resources [TCR]) are found, and if it is determined that impacts to those resources may occur, then DWR would initiate the SHPO consultation process under applicable regulations and agreements and initiate consultation with affiliated Native American tribes and the appropriate agencies. At the completion of the SHPO, agency, and tribal consultation, and upon obtaining any additional permits or authorizations, DWR would then begin ground disturbance activities with any appropriate protection measures in place.

As part of standard cultural resource protection practice, DWR conducts Worker Environmental Awareness Program training, tailgate meetings each day prior to beginning work, and subsequent trainings, as necessary. If cultural resources or TCRs are inadvertently discovered, DWR staff would cease work temporarily within approximately 100 feet of the area until the findings can be assessed by a qualified archaeologist (i.e., meets the Secretary of the Interior standards for professional qualifications), and an appropriate course of action would be determined. If the discovered resources are potential TCRs, DWR contacts affiliated Native American tribes and provides them with an opportunity to participate in the evaluation of the find. DWR will generally implement avoidance measures and prefers measures to preserve resources in place as this maintains the important relationship between artifacts and their archaeological context and serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource.

If the avoidance of a significant resource is not feasible, then DWR's qualified archaeologist would develop and implement an archaeological resources data recovery and treatment plan in consultation with the SHPO and appropriate Native American tribes and agencies. If during construction an inadvertent discovery of human remains is encountered, work is halted, and the county coroner is contacted as required by California statutes and regulations.

DWR implements similar practices for inadvertent discoveries of paleontological resources including ceasing work within the immediate area of the discovery, creating appropriate buffers, and obtaining professional staff or contractors to assess and identify appropriate treatment of the find.

LADWP Protective Activities

Currently, LADWP's Powerplant standard practices for proposed projects and activities are handled on a case-by-case basis. In general, similar to DWR, LADWP's Environmental Affairs Group reviews baseline information, assesses the potential cultural resource impacts, consults with external agencies (including Native American tribes, when applicable) and applies for appropriate permits prior to the start of O&M activities. LADWP follows the terms and conditions stated in the permits and will implement cultural resources protection measures, if any are identified.

LADWP also implements similar practices for inadvertent discoveries of paleontological resources, including ceasing work within the immediate area of the discovery, creating appropriate buffers, and obtaining professional staff or contractors to assess and identify appropriate treatment of the find.

2.3.5 Existing South SWP Hydropower Safety and Best Management Practices

The Licensees' first and foremost consideration when operating the South SWP Hydropower is the safety of the public, the Licensees' employees, and their contractors. The Licensees' next consideration is the safety and security of its facilities and downstream facilities.

2.3.5.1 Current Operations During Flood Conditions

The South SWP Hydropower is not operated for flood control protection. The South SWP Hydropower reservoirs do not include dedicated flood control space, and South SWP Hydropower spillways are not constrained for flood control periods (i.e., gates must remain closed for periods of time). However, South SWP Hydropower facilities are designed to minimize the impacts during high flow periods. For example, the dam spillways are designed to handle high flows and the Quail Detention Embankment (see Section 2.4.1.2 [Quail Detention Embankment]) is designed to receive excess waters from Quail Lake or the Lower Quail Canal, and to protect Interstate 5 if an unplanned release of water occurs from these facilities.

In addition, the Licensees currently implement and intend to continue implementation of the following flood warning signage measure in Pyramid reach, under Measure LU2 – Project Safety Plan, which was identified in *The Simulation of Natural Flows in Middle Piru Creek, Final EIR*, dated January 2005:

- Development of flood warning signage. The [DWR] shall work with the USFS and landowners to develop a warning system and place signage warning the public of dangerously high flows in middle Piru Creek [Pyramid reach].

This measure has been implemented by DWR under the existing license and 401 WQC, and it will continue to be implemented as a standard practice and as a mitigation measure as specified under the Mandatory Findings of this document (Section 3.21).

2.3.5.2 Current Warning Devices for Public Safety

As described in the South SWP Hydropower Public Safety Plan, the Licensees have implemented practices to promote the safety of the public and its employees (DWR 2014). The Licensees educate and inform the public with different displays and attractions, including those at the Vista Del Lago Visitor Center. At the center, visitors learn about the SWP and the South SWP Hydropower, the facilities, their purpose and operations, water safety, and history of the area. Information at the center informs the public about safety features at Pyramid Lake, and brochures and videos are available to visitors to learn about water safety, especially for children.

The DWR Water Safety web page (http://www.water.ca.gov/recreation/safety/) includes all the brochures and videos that are at the Vista Del Lago Visitor Center. The videos "Water Safe for Life" and "Come Back Alive!" educate and inform the public on SWP recreational facilities. The brochures "SWP Water Safety" and "Water Safety Materials" are helpful tips and information to help keep the public informed and safe.

At the South SWP Hydropower facilities, DWR uses many warning devices, such as signs, buoy lines, and alarms to warn the public of any dangers or hazards. Signs advise the public that an area is dangerous and that access is prohibited; others inform the public they can enter but only on foot, with no bicycles or vehicles; and some inform the public of extreme dangers, such as high voltage power lines.

In addition, DWR uses exclusion devices, such as fences, gates, and boat barriers, to keep the public out of restricted South SWP Hydropower areas. DWR facilities that are not accessible to the public for safety and security reasons (e.g., Lower Quail Canal, Peace Valley Pipeline and intake, Warne Powerplant and Switchyard, Warne Powerplant tailrace, and Pyramid Dam) are surrounded by chain link fencing with applicable signage. Manually operated gates are locked with chains and special locks made solely for the Licensees. Electric gates require a specific key or coded security badge to enter. In addition, powerplants have security cameras with an operator monitoring at all times. A buoy line across the width of the Lower Quail Canal at the Quail Lake Outlet prevents the public from getting too close to the outlet gates, and signage warns the public of the direction of flowing water. Buoy lines on Pyramid Lake are in place to prevent boaters from approaching Warne Powerplant and Pyramid Dam. Pyramid Dam is also monitored via security cameras by the Los Angeles County Sheriff.

The Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, penstocks, switchyard, and related facilities are not open to the public. While roads are located along the west (Los Angeles City Water and Power Road) and east (Goodell Fire Road/Castaic Canyon Road – 6N13) of the Elderberry Forebay, public vehicular access on these roadways is prohibited. The switchyard is surrounded by chain link fencing with applicable signage. LADWP's private security staff patrol these facilities and maintain control at all times.

2.3.5.3 Current Emergency Action Plan

DWR has their own South SWP Hydropower Emergency Action Plans (EAP). DWR completed a comprehensive revision of their EAPs prior to December 31, 2018. DWR conducts tabletop (i.e., simulated emergencies) and functional exercises on a five-year cycle. The last tabletop and functional exercises performed by DWR were on December 5, 2018 and February 6, 2019. DWR's EAPs are reviewed annually to confirm that all information is up to date, and any updates are distributed to the proper agencies. LADWP has their own EAP, which excludes Elderberry Dam. The last tabletop and functional exercises performed by LADWP were in April 2015.

2.3.5.4 Current Monitoring and Surveillance

The civil structures (e.g., dams, powerhouses, etc.) are outfitted with a variety of monitoring instruments to detect settlement or displacement movement and leakage in dams, and to protect against conduit failure. Instrumentation installed and maintained include leakage weirs, survey pedestals, level sensors, seismic accelerometers, and pressure loss alarms.

In accordance with FERC and California Division of Safety of Dams (DSOD) regulations, the Licensees monitor civil structures by conducting regular, periodic visual inspections, and by reviewing and analyzing data collected from various instruments throughout the South SWP Hydropower. This monitoring measures critical indicators of structural behavior. Data are collected, observations are made, and qualified personnel evaluate and make recommendations based on the collected data. Results are presented in reports and distributed to FERC and the DSOD. All facilities are observed and attended weekly. Periodically scheduled inspections are performed less frequently (e.g., monthly, quarterly, or annually) for collection of monitoring data. The results of these inspections and measurements are recorded and entered into databases used for tracking history. Annual inspections are conducted by FERC and DSOD.

An integral part of the maintenance and monitoring program includes the Part 12D Independent Consultant's Safety Inspection Reports completed every five years. These inspections and reports provide an independent, third party assessment of the instrumentation and performance monitoring program. These reports also include recommendations by the independent inspector.

The Licensees complete and file periodic surveillance monitoring reports with FERC as required by FERC regulation at 18 CFR § 12.41 and FERC guidelines provided within its Engineering Guidelines for the Evaluation of Hydropower Projects, Chapter 14 Dam Safety Performance Monitoring Program.

2.4 PROPOSED PROJECT CHANGES

This section describes the Licensees' proposed changes to the South SWP Hydropower facilities and operations, which is the subject of this CEQA analysis.

2.4.1 Proposed Administrative Changes

The following administrative changes are discussed in detail below: (1) proposed Project boundary; (2) addition of the existing Quail Detention Embankment into the license; (3) addition of existing lake level gage to FERC license; (4) addition of existing access roads to Project license; (5) addition of Los Alamos Campground in proposed Project boundary; and (6) removal of the SCE-owned Warne Transmission Line from the Project description. See Section 2.3.1 (Existing South SWP Hydropower Facilities) for further information. Additionally, upon acceptance of the new license by the Licensees, the proposed Project will include administrative changes to oversight of fish stocking at Castaic Lake.

2.4.1.1 Proposed Project Boundary

The Licensees propose changes to the existing South SWP Hydropower boundary to more accurately define lands only needed for the safe O&M of the proposed Project and other purposes, such as recreation, shoreline control, and protection of environmental resources associated with the South SWP Hydropower. There are two categories of proposed Project boundary changes:

- Proposed addition of lands to the existing South SWP Hydropower boundary that are currently used for South SWP Hydropower O&M, and proposed removal of lands from the existing South SWP Hydropower boundary that do not have proposed Project facilities and are not used or necessary for proposed Project O&M.

- Proposed changes to the existing South SWP Hydropower boundary around reservoirs from surveyed coordinates to a contour located above the NMWSE. These changes reflect the preferred method of defining a project boundary as outlined in the FERC Drawing Guide, and more accurately represent lands required for proposed Project O&M around the South SWP Hydropower reservoirs (FERC 2014).

The net effect of modifying the existing South SWP Hydropower boundary is the reduction of area within the boundary from 6,928.0 acres to 4,563.8 acres. This change would reduce the 2,807.28 acres of federal land (40.5 percent of the total area within the existing South SWP Hydropower boundary) to 2,007.0 acres of federal land (approximately 44.0 percent of the total area within the proposed Project boundary). Table 2.4-1 shows the Licensees' proposed changes to the existing South SWP Hydropower boundary.

Table 2.4-1. Proposed Changes Within Existing South SWP Hydropower Boundary by Land Ownership

Development	Federal Lands		Non-Federal Lands				Total
	NFS (acres)	BLM (acres)	State of California (acres)	Private (acres)	LADWP (acres)	County (acres)	Area (acres)
Existing	2,790.02	17.26	4,111.5	9.2	0.0	0.0	6,928.0
Proposed	2,000.5	6.5	2,366.7	15.5	171.8	2.8	4,563.8
Change to Boundary	**-789.52**	**-10.76**	**-1,744.8**	**+6.3**	**+171.8**	**+2.8**	**-2,364.2**

Source: DWR 2019
Key:
BLM = U.S. Department of the Interior, Bureau of Land Management
LADWP = Los Angeles Department of Water and Power
NFS = National Forest System
State of California = Lands owned by California Department of Water Resources, California Department of Parks and Recreation, and California Department of Transportation
SWP = State Water Project

The proposed changes are consistent with FERC regulations and are based on the Licensees' current and historical use of land for the South SWP Hydropower; the Licensees' comprehensive review of facilities, operations, and current land information; and additional new information and data available for facilitating a more refined boundary delineation. All proposed Project recreation facilities, including Primary Project Roads and Trails (Section 2.3.1.1 [Warne Power Development]), are fully within the proposed Project boundary. "Shared," "joint," or "multiple use" roads may be within the boundary, but they are not proposed Project facilities in the license. The existing South SWP Hydropower boundary is an administrative marker to clearly delineate those lands necessary for normal O&M of the South SWP Hydropower and associated facilities.

The change includes the delineation of a 100-foot buffer from Pyramid Lake's NMWSE to define the proposed Project boundary around portions of the lake, which reduces the land area within the administrative licensed boundary.

Figure 2.4-1 shows the Licensees' proposed changes to the existing South SWP Hydropower boundary.

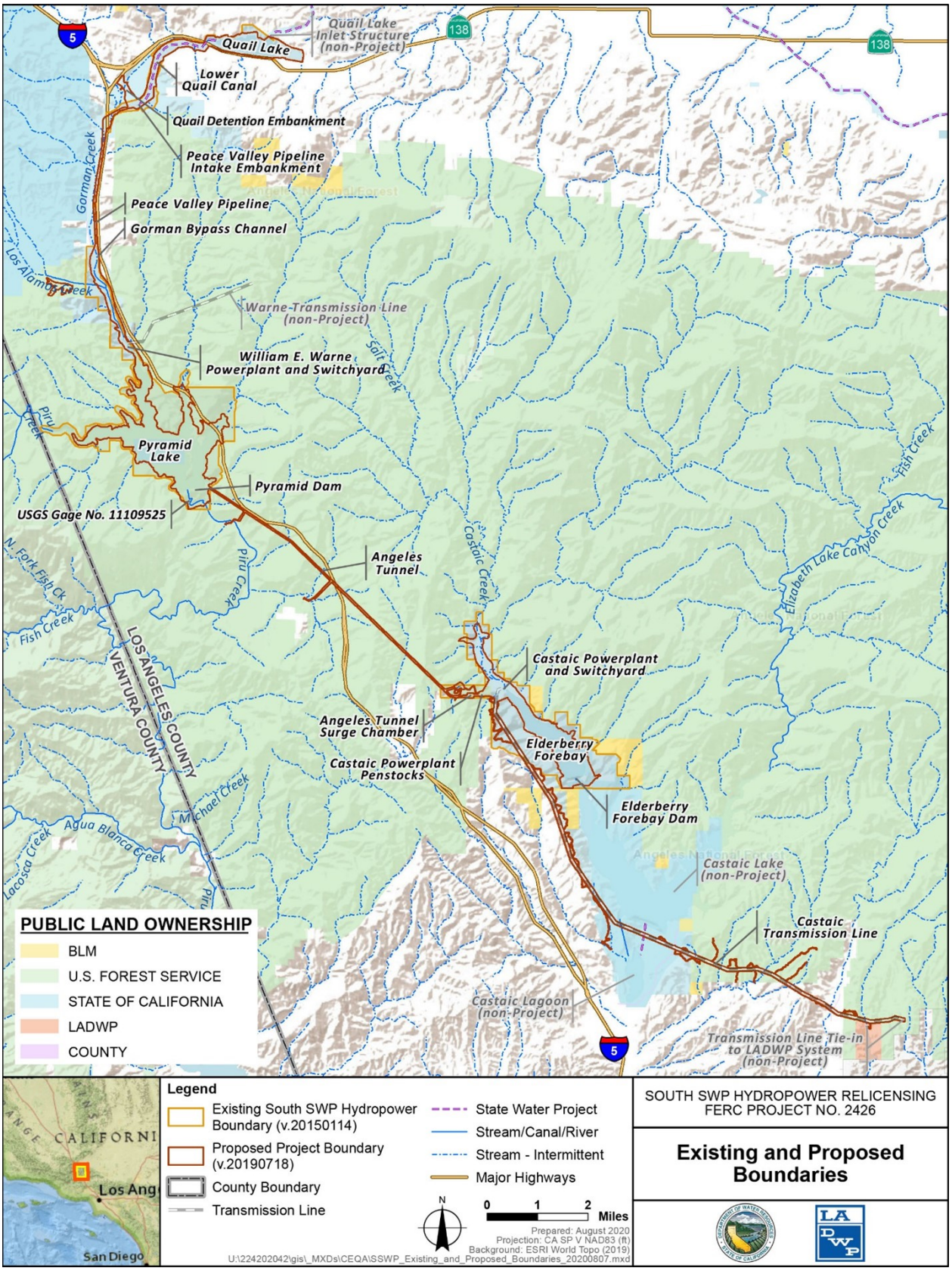

Figure 2.4-1. Existing and Proposed Project Boundaries

2.4.1.2 Proposed Addition of Quail Detention Embankment

The Licensees propose to add to the Warne Power Development-licensed facilities the Quail Detention Embankment, which is an existing facility situated along the northwest portion of the Lower Quail Canal between Interstate 5 and the Peace Valley Pipeline Intake Embankment (Figure 2.2-2). The Quail Detention Embankment serves as a flood-management structure to receive excess waters from Quail Lake or the Lower Quail Canal, and to protect Interstate 5 if an unplanned release of water occurs from these facilities. The Licensees will continue managing and maintaining the Quail Detention Embankment without any changes to current management practices.

The Quail Detention Embankment has a crest length of 1,840 feet, and a maximum height of 50 feet above original ground surface. The nominal crest elevation is 3,255 feet and the crest width is 40 feet. The detention basin behind the Quail Detention Embankment has a volume of 1,100 AF at an elevation of 3,250 feet. Excavation into bedrock on the right abutment of the Quail Detention Embankment created a 300-foot-wide, unlined, uncontrolled spillway with a capacity of at least 5,100 cfs. The invert elevation of the spillway is 3,250 feet, 5 feet below the crest elevation of the embankment. The Quail Detention Embankment Outlet under the embankment and near the right abutment is an uncontrolled 12-foot by 12-foot reinforced concrete double-box culvert that has a maximum capacity of 10,000 cfs. In the event of an uncontrolled release of water from Lower Quail Canal or Quail Lake, a release from the Quail Detention Embankment Outlet passes under the Gorman Creek Bridge of Interstate 5 and flows down Gorman Creek to Pyramid Lake.

2.4.1.3 Proposed Addition of Existing Lake Level Gage to FERC License

Table 2.4-2 describes an existing reservoir gage that the Licensees propose to add to the Castaic Power Development-licensed facilities. The gage will record releases from Pyramid Lake into Pyramid reach. This gage already exists and, therefore, the proposed addition is its incorporation into the lake level monitoring program under the new FERC license.

Table 2.4-2. Existing Lake Level Gage Proposed for Addition to the South SWP Hydropower FERC License

USGS Gage No.	Gage Name	Purpose of Gage as Related to the South SWP Hydropower
11109525	Piru Creek Below Pyramid Lake near Gorman, CA	Record releases from Pyramid Lake into Pyramid reach

Key:
CA = California
No. = number
SWP = State Water Project
USGS = U.S. Geological Survey

2.4.1.4 Proposed Addition of Existing Access Roads to FERC License

The Licensees do not propose to construct any new roads under the proposed Project. Rather, the Licensees propose to include, as an administrative action, a new Primary Project Road or Trail designation for existing access roads. As noted earlier, a Primary Project Road or Trail is any road or trail that is identified in the license as a South SWP Hydropower facility, is used almost exclusively to access the South SWP Hydropower facilities, is within the proposed Project boundary, and is operated and maintained exclusively by the Licensees as a South SWP Hydropower feature.

Appendix A, Exhibit E of the FLA describes 99 existing road segments currently maintained by the Licensees that they propose to add to the South SWP Hydropower's licensed facilities as Primary Project Roads. Each road is within the Licensees' proposed Project boundary. The Licensees do not propose to add any other Primary Project Roads or Trails to the South SWP Hydropower. Project O&M of all Primary Project Roads and Trails will continue with no proposed changes under the new FERC license; the Licensees will continue managing and maintaining existing roads and trails without any changes to current management practices.

2.4.1.5 Proposed Addition of Los Alamos Campground

Los Alamos Campground is an existing South SWP Hydropower facility; however, the campground was erroneously omitted from the existing South SWP Hydropower boundary. Therefore, to correct this oversight, Los Alamos Campground is a proposed addition to the proposed Project boundary.

Los Alamos Campground is located approximately 2 miles northwest of the Warne Powerplant and accessible via Hardluck Road. While located on NFS lands, not within the existing South SWP Hydropower boundary, the individual and group campgrounds are South SWP Hydropower recreation facilities included in the proposed Project boundary. Los Alamos Campground (including Los Alamos Group Campground) is located on NFS lands managed by the ANF. Los Alamos Campgrounds are owned by USFS and administered and maintained by DWR under the terms of a Memorandum of Understanding (MOU), as amended in April 2010. Los Alamos Campground offers family campsites, group campsites, restrooms, potable water, a trailer dump station, and campground hosts and facilities. Fee collection, daily operations, and routine maintenance activities are carried out by a recreation concessionaire under contract with DWR.

2.4.2 <u>Proposed South SWP Hydropower Operation</u>

The Licensees do not propose any changes to South SWP Hydropower operations. The Licensees propose to continue operating the proposed Project by generating power as SWP water is delivered to downstream water users. Section 2.4.5.3 (Aquatic Resource Protections) outlines management changes to calculating and maintaining releases of flows into Pyramid reach. Additionally, the Licensees do not propose any changes to the general operation of the South SWP Hydropower recreational facilities.

2.4.3 Proposed Continuation of Routine Maintenance Activities

The Licensees will continue to conduct routine maintenance activities within the proposed Project boundary as discussed in Section 2.3.3 (Current South SWP Hydropower Routine Maintenance Activities), including maintenance of South SWP Hydropower facilities and recreation facilities general maintenance and periodic repair activities; vegetation and rodent management; and maintenance associated with South SWP Hydropower-associated access and recreation roads.

2.4.4 Proposed Improvements to Recreation Facilities

The Licensees propose to continue managing recreation use and providing regular maintenance to the existing developed sites, trails, and access roads that are part of the South SWP Hydropower facilities (Section 2.3.3.2 [Current Recreation Facilities Maintenance]). This includes management considerations related to:

- Public safety
- Aesthetics
- Accessibility
- Litter control
- Visitor services and signage
- General recreation use on lands in and around public recreation facilities, associated access roads, and public use shorelines within the proposed Project boundary

Additionally, as a part of the anticipated license-stipulated PM&Es, which are defined and described in Section 2.4.5 (Proposed New Environmental Protection, Mitigation, and Enhancement Measures), facility-specific recreation improvements as identified in the Recreation Management Plan (RMP) would occur at all existing developed recreation areas of the proposed Project.

The Licensees, in coordination with USFS, and in compliance with the anticipated terms and conditions of the new FERC license would, therefore, implement these specific recreation improvements as identified in the RMP on a phased timeline within the first 20 years of operation. Refer to Figure 2.4-2 for the locations of these recreation facilities. In general, typical construction equipment (i.e., compressors, tractors, trucks, etc.) will be utilized during recreation improvement activities. Depending on the proposed improvements, individual updates at any given site could range from a few days to two years.

2.4.4.1 Quail Lake Day Use Area Improvements

Based on the Licensees' relicensing recreation studies, it is anticipated that operation of the facilities under the new FERC license will include a requirement for upgrades at the Quail Lake Day Use area to improve the facility and its attractiveness for recreation users. The proposed improvements include the following:

- Replace interior barbed-wire fencing at parking area with wood or metal fencing that has smoother surfaces and that blends into the landscape.
- Continue to provide Americans with Disabilities Act (ADA)-compliant restroom facilities. Evaluate and upgrade parking surfaces to reduce tread obstacles and create surfaces that are as barrier-free as practicable.
- Improve signage to include more information on user safety, fire prevention, litter control, and other interpretive information regarding Quail Lake.
- Improvements are anticipated to be complete by year four of the new FERC license.

2.4.4.2 Los Alamos Campground Accessibility Improvements

Based on the Licensees' relicensing recreation study and consultation with USFS, it is anticipated the new FERC license will stipulate accessibility improvements that will be helpful to bring the Los Alamos Campground and Group Campground facilities further into conformance with the USFS Forest Plan standards and the Architectural Barriers Act (ABA). To the extent-possible, improvements will also follow the USFS' Built Environment Image Guidelines or subsequent guides for facility design in order to provide for consistency in design of recreation facilities (USFS 2001). The proposed improvements identified for the Los Alamos Campground are as follows:

- At Los Alamos Campground, evaluate and improve the three partially Accessible sites to meet Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) guidance and provide information on the location of Accessible units in websites, in brochures, and at the entry kiosks and on information signs, but not at the sites themselves.
- At Los Alamos Campground, where practical, replace concrete curbs with natural barriers such as rocks or boulders.
- At Los Alamos Campground and Group Campground, upgrade campsite tables and firepit barbeque grills to meet the applicable FSORAG standards.
- At Los Alamos Campground and Group Campground, upgrade water spigots, outdoor sinks, and trash receptacles to provide adequate dimensions and spacing around facilities to meet the applicable FSORAG standards.

- At Los Alamos Campground and Group Campground, improve access surfaces where possible, provide multiple openings, and harden or smooth surfaces (to reduce tread obstacle sizes) with lower gradient running and cross slopes.

- Improvements are anticipated to be complete by year 15 of the new FERC license.

2.4.4.3 Emigrant Landing Recreation Areas Accessibility Improvements

Based on the Licensees' relicensing recreation study and consultation with USFS, the Licensees have identified accessibility improvements that will be helpful to bring the existing Emigrant Landing Day Use Area facilities further into conformance with USFS Forest Plan standards and the ABA. The proposed improvements identified for the Emigrant Landing Day Use Area are:

- Upgrades to the parking areas, including the appropriate provision of designated and properly aligned spaces using Architectural Barriers Act Accessibility Standard (ABAAS) Sections 208 and 502 guidance.

- Provision of additional Accessible picnic site tables and smoothing of picnic area ground surfaces at all sites that do not qualify for FSORAG exceptions.

- Provision of Accessible barbeque grills and spacings at picnic sites that do not qualify for FSORAG exceptions.

- Upgrades to water spigots and trash receptacles to provide adequate dimensions and spacing around facilities.

- In some areas, determine the feasibility of providing improved, hardened, smooth surfaces (to reduce tread obstacle sizes) with lower gradient running and cross slopes, and add resting intervals along access paths leading to shorelines including the swim beach.

- Improvements are anticipated to be complete by year seven of the new FERC license.

2.4.4.4 Vista Del Lago Visitor Center and Vaquero/Spanish Point Accessibility Improvements

Based on the Licensees' relicensing recreation study and consultation with USFS, it is anticipated that the new FERC license will stipulate improvements that will be helpful to bring the Vista Del Lago Visitor Center, Vaquero Day Use Area, and Spanish Point Boat-in Picnic Area further into conformance with the USFS Forest Plan standards and ABA. The proposed improvements for these areas include the following:

- At Vista Del Lago Visitor Center and Vaquero Day Use Area, upgrade the parking areas, including appropriate provision of designated and properly aligned spaces using ABAAS sections 208 and 502 guidance.

- At Vaquero Day Use Area, upgrade trash receptacles and water spigots to meet Accessibility standards using applicable FSORAG guidelines.

- At Vaquero Day Use Area, evaluate shoreline beach access paths for Accessibility improvements.

- At Vaquero Day Use Area, evaluate and improve the current, partially Accessible site to meet FSORAG guidance, and provide information about the location of Accessible facilities on websites, in brochures, on signage, and at the entry kiosks, as recommended by the USFS.

- At Spanish Point Boat-in Picnic Area, add a gap to the paved-access route speed bump to provide a barrier-free access route, evaluate the spacing of barbeque facilities and paths to picnic units, and provide improvements as necessary to help bring facilities further into conformance with the applicable FSORAG Accessibility Guidelines.

- Improvements are anticipated to be complete by year 10 of the new FERC license.

2.4.4.5 Serrano, Bear Trap, and Yellow Bar Boat-in Picnic Areas Accessibility Improvements

Based on the Licensees' relicensing recreation study and consultation with USFS, it is anticipated that the new FERC license will include improvements that will be helpful to bring these existing boat-in picnic facilities further into conformance with the USFS Forest Plan standards and ABA. The proposed improvements for the boat-in areas include the following:

- Provision of additional Accessible picnic site tables and smoothing of picnic area ground surfaces.

- Provision of Accessible barbeque grills and spacings, if the day use area has grills (Yellow Bar does not have grills due to fire risk).

- Upgrades to trash receptacles to provide adequate dimensions and spacing around facilities.

- In some areas provide improved, hardened, smooth surfaces (to reduce tread obstacle sizes) with lower gradient running and cross slopes, and adding resting intervals along access paths leading to dock and shoreline areas.

- Improvements are anticipated to be complete by year 20 of the new FERC license.

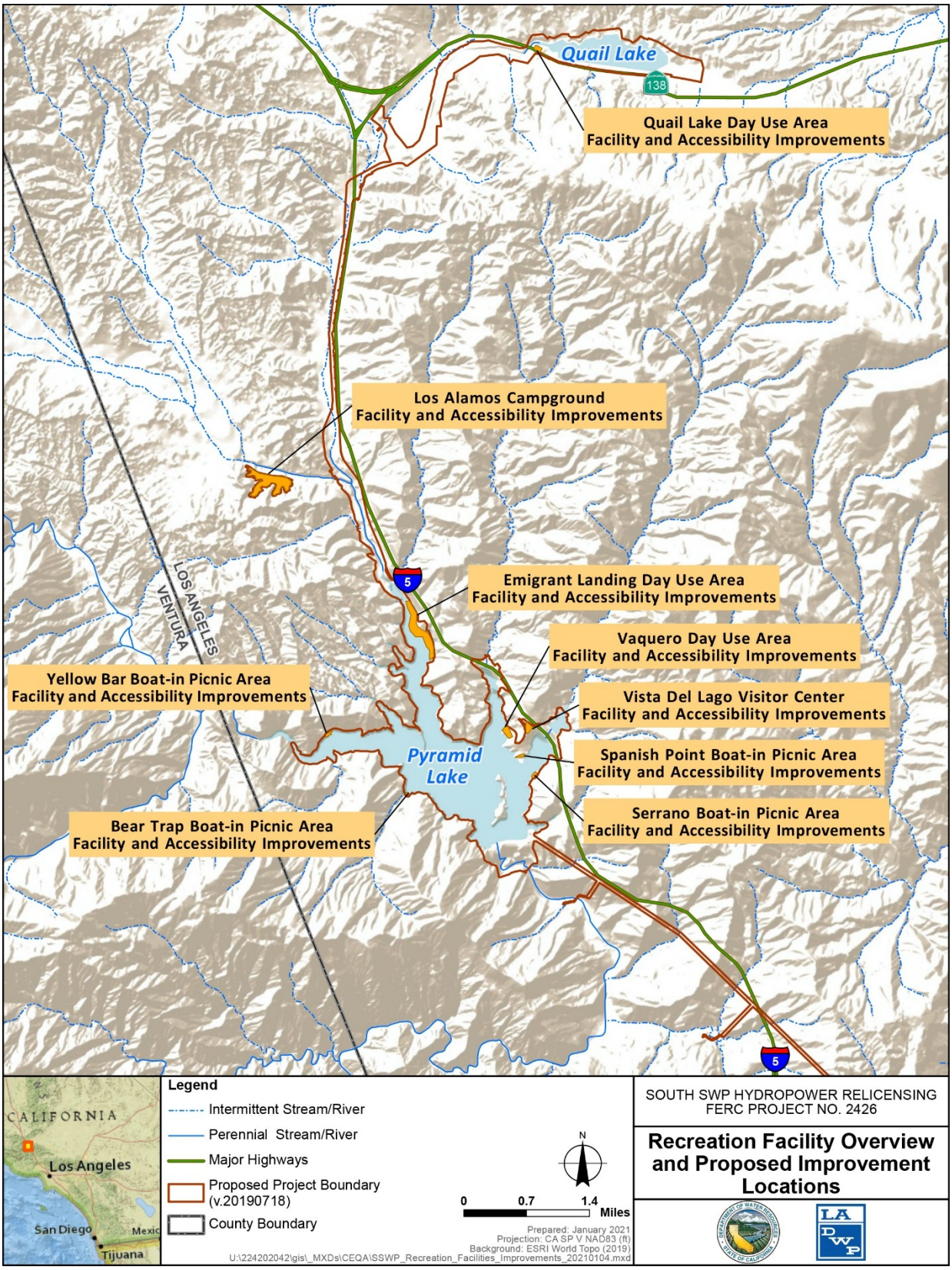

Figure 2.4-2. South SWP Hydropower Recreation Area Facility Overview and Proposed Recreation Facility Improvement Locations

2.4.5 Proposed New Environmental Protection, Mitigation, and Enhancement Measures

Although existing South SWP Hydropower O&M activities are not anticipated to change from baseline conditions and are not anticipated to result in any new impacts compared to baseline conditions, PM&E measures will be implemented in accordance with the new FERC license. While PM&Es are intended to protect resources against potential operational impacts, mitigate impacts from continued O&M, and enhance resources affected by proposed Project operation, PM&E measures in a FERC relicensing process are not the equivalent to CEQA mitigation measures (CEQA Guideline Sections [§§] 15370 and 15126.4[a][1][A]). PM&Es are not necessarily applied to reduce a potentially significant impact to a less-than-significant level, nor do they guarantee such a reduction in the level of a CEQA-specific impact. Rather, “PM&E” is a FERC term applied to measures proposed through a coordinated stakeholder outreach effort during relicensing to update, upgrade, and add to existing protective measures. As such, the PM&Es will become a FERC license stipulation and will be required for the continued operation of the South SWP Hydropower under the new license. However, the PM&Es may or may not act as mitigation to reduce a potential impact to a less-than-significant level as defined by CEQA. Additionally, the PM&Es required in the new FERC license may have unintended impacts to other resources assessed in the CEQA review process, and thus, may warrant the analysis of those impacts resulting from the PM&Es.

Under the proposed Project, some PM&E measures proposed for the new license are virtually identical to existing practices involving the implementation of BMPs and thereby are simply memorializing the BMPs in the new FERC license as required for operation. Such currently implemented BMPs constitute a part of the environmental baseline conditions, as described in Section 2.3.4 (Currently Implemented Environmental Protective Measures). Other PM&Es involve minor upgrades or adjustments and, therefore, are considered new activities that are different from baseline conditions. The proposed new components of each protective measure are described below and analyzed in this document for their potential impact to environmental resources beyond those that they are designed to protect. For example, this analysis evaluates whether the implementation of an erosion control PM&E would have a potential adverse impact on aesthetic resources, or whether a visual resource PM&E could have a potential adverse impact on cultural resources.

PM&E measures could potentially serve as CEQA mitigation measures if it is determined that the proposed Project would have a significant, adverse impact on a particular environmental resource, and the relevant PM&E measure would eliminate the impact or reduce it to a less-than-significant level. CEQA requires implementation of feasible mitigation measures that can minimize a project’s significant environmental effects (CEQA Guidelines §§ 15370 and 15126.4). CEQA mitigation measures can take the form of avoiding the impact; minimizing the impact by limiting the degree or magnitude of the action; rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; reducing or eliminating the impact over time by preservation and maintenance operations; or providing compensation for the impact (CEQA Guidelines § 15370). To promote informed decision-making and informed public participation, the

determinations regarding the significance of the proposed Project's impacts in the impact analysis section of this document, Section 3.0 (Environmental Checklist and Environmental Evaluation), have been initially made without considering relevant PM&E measures (*Lotus et al. v. Department of Transportation et al.* [2014] 223 Cal.App.4th 645). On the basis of that analysis as further detailed below in Section 3.1, it has been determined that none of the proposed PM&E measures qualify as CEQA mitigation measures because the proposed Project's potential impacts – associated with the environmental resources that such PM&Es are designed to protect or enhance – would be less than significant, and thus do not require mitigation under CEQA.

As noted above, the PM&Es were developed through a coordinated stakeholder outreach effort during the relicensing process. More specifically, between May 2018 and February 2020, 11 meetings were held regarding the development of the PM&Es. These meetings included participation from the Licensees, Stantec, HDR, FERC, Native American tribes, the U.S. Department of the Interior, National Park Service (NPS) under the USDOI, USFWS, SWRCB, NMFS, CDFW, USFS, BLM, MWD, and UWCD. The meetings culminated in the development of the 12 PM&E measures under the proposed Project that are expected to be included under the anticipated terms of the new FERC license.

Facility-specific recreation improvements identified in the RMP that are anticipated to be implemented as part of the license-stipulated PM&E measures are discussed in Section 2.4.4 (Proposed Improvements to Recreation Facilities). In addition, the following PM&E measures are included under the proposed Project as described by the Licensees in the FLA, as amended.

2.4.5.1 Geology and Soils (Erosion Control) Protections

No new license-required erosion control protections are anticipated. Rather, the anticipated license requirements will codify existing practices as follows.

<u>Implement the Erosion and Sediment Control Plan (GS1)</u>

This plan identifies South SWP Hydropower O&M practices (Section 2.3.4.1 [Geology and Soils – Current Erosion Control Protections]) for minimization of erosion and sedimentation, including those due to potential slope failures, new construction, and/or reconstruction. This includes specifications for maintenance BMPs (USFS prescribed BMPs are adhered to on NFS lands), emergency erosion control events, and monitoring of erosion and sediment controls within the proposed Project boundary. Specific erosion control BMPs in the Erosion and Sediment Control Plan include:

- Construction scheduling to reduce work during rainy periods to the extent feasible
- Preservation of existing vegetation to reduce bare soil exposure and associated potential runoff

- Site stabilization measures, such as mulch application and revegetation
- Silt fence placement standards
- Storm drain inlet protection specifications, including material specifications and rock size specifications
- Buffer guidelines for areas along waterways
- Fugitive dust suppression standard practices, including watering access roads and vehicle speed limitations, among others
- Stabilization specifications for construction entrances, including roadway cleaning and road base instructions
- Waste management stipulations, including concrete handling specifications and stockpile and trash management

Implementation of Measure GS1 – Erosion and Sediment Control Plan has similar benefits to WR2 – Hazardous Materials Management Plan (Section 2.4.5.1 [Geology and Soils (Erosion Control) Protections]) in preventing pollution from sedimentation and turbidity in proposed Project waterbodies. Furthermore, the application of Measure GS1 – Erosion and Sediment Control Plan complies with cultural resource avoidance measures in the HPMP, biological resource protection measures in the Integrated Vegetation Management Plan (IVMP), and the Sensitive Aquatic and Terrestrial Wildlife Management Plan that are discussed below.

2.4.5.2 Water Resources (Flows and Water Quality) Protections

No new license-required water resource protections are anticipated beyond existing baseline conditions. Rather, the anticipated license requirements will codify existing practices as follows.

Pyramid Lake Water Surface Elevations (WR1)

This measure is consistent with existing operations. This measure outlines current practices for maintaining a minimum pool and limiting water surface elevation (WSE) fluctuations in Pyramid Lake for the benefit of fisheries and recreation. Measure WR1 – Pyramid Lake Water Surface Elevations incorporates minimum pool and WSE restrictions from a DWR and USFS 1969 MOU, as amended. Additionally, Measure WR1 – Pyramid Lake Water Surface Elevations continues the conditions of Article 58 in the existing license, which states: “Maintain Pyramid Lake at the highest level possible, commensurate with Project purposes, during summer for recreation.”

Specifically, the Licensees will not lower the WSE below an elevation of 2,560 feet or lower or raise the WSE by more than 8 feet each day (i.e., from midnight to the following midnight each day). The Licensees will not lower or raise the WSE by more than 14 feet during each 7-day period (i.e., from midnight to the following midnight, beginning at

midnight on Sunday). During emergency conditions and recovery period, the above WSE variations or drawdown may be exceeded. As soon as the Licensees become aware of an emergency condition, or necessary maintenance, the Licensees will notify USFS and FERC, and provide a revised operating schedule that will prevail during the emergency and recovery periods. The Licensees will, therefore, maintain a minimum storage of no less than 27,000 AF in Pyramid Lake, except in an emergency.

Implement the Hazardous Materials Management Plan (WR2)

This anticipated FERC license requirement captures the existing O&M practices (Section 2.3.4.2 [Water Resources – Current Flow Commitments and Water Quality Monitoring and Protections]) that comply with State and federal regulations as currently practiced under the existing license. As such, potentially hazardous materials such as oils, marine solvents, gear lubricants, hydraulic oil, fluorescent tubes, and antifreeze, among others, will continue to be handled to operate the South SWP Hydropower. In addition, specific methods will continue to be implemented to prevent, manage, and contain inadvertent material releases. This license stipulation will codify existing BMPs for hazardous materials management including safe handling, transport, and storage along with the use of secondary containment measures, training requirements, response plans, and clean-up and reporting requirements for hazardous materials releases, should they occur. The current practices and proposed license measure are designed to protect public and employee health and safety and avoid and minimize negative effects of hazardous materials releases to water quality and the environment.

2.4.5.3 Aquatic Resource Protections

No new license-required aquatic resource protections beyond existing baseline conditions are anticipated. Rather, the anticipated license requirements will codify existing practices, include a *de minimis* adjustment to the inflow calculation methods.

Implement Flow Releases into Pyramid Reach (AR1)

This measure continues the provision of minimum flows from Pyramid Lake into Pyramid reach. Specifically, the water releases will continue to simulate the natural hydrograph in timing and magnitude to the extent operationally feasible and consistent with safety requirements. Measure AR1 – Pyramid Reach Flow Releases is virtually identical to the Pyramid Lake portion of Article 52 in the South SWP Hydropower license, with two exceptions:

- First, the multiplier for estimating the ungaged flow into Pyramid Lake has been updated based on current Geographic Information System (GIS) and hydrologic methods, yet remains within 1 percent of the historical calculations.

- The sum of the Pyramid Lake gaged daily inflow will be multiplied by 11.8 percent to account for the ungaged portions of Pyramid Lake watershed that are not tributaries of Piru Creek above Pyramid Lake and Cañada de los Alamos upstream of their respective gaging stations. The product of the multiplication will

be added to the sum of the daily gaged inflow data to Pyramid Lake to determine the total daily inflow into Pyramid Lake. This may result in some deviations for individual storm events due to local variations in stormwater intensity.

- Second, clarification has been included to indicate what the Licensees would do if unsafe conditions occur.

Under the new FERC license, stream releases from Pyramid Dam into Pyramid reach will continue to match natural surface inflow into Pyramid Lake to the extent operationally feasible and consistent with safety requirements, as currently practiced. Specifically, the following currently practiced operational commitments will continue under the new FERC license:

- Natural inflow to Pyramid Lake will be released into Pyramid reach at a rate of up to about 18,000 cfs, which is the maximum safe, designed release from Pyramid Dam. The exact maximum safe release depends on the lake's WSE at the time of the release.

- Storm releases from Pyramid Dam into Pyramid reach may be held back at less than 18,000 cfs if higher releases are deemed by the Licensees to be a threat to life, safety, or property at Pyramid Dam, or downstream of the dam. The Licensees may elect to appropriate inflow to Pyramid Lake above the safe release flows under the provisions of its existing water rights.

- Up to 3,150 AF of SWP water will be delivered to UWCD via Pyramid reach (from Pyramid Dam) between November 1 and the end of February of each water year. During this period, water deliveries may be made over a period of a few days, ramping flows up and down to simulate the hydrograph of a typical storm event, or they may be released more gradually over a longer period.

- Releases from Pyramid Dam could be increased by up to 50 cfs for short periods to exercise the Pyramid Dam radial gate and stream release valves, test emergency power sources, conduct tests mandated by FERC, or meet other short-term operational or maintenance requirements. No such testing will take place between March 15 and June 15. Testing will also be avoided to the extent possible between June 16 and July 31. Tests may be conducted at any time between August 1 and March 14 – if flows do not increase by more than 50 cfs above current base flows during the event and that the event does not last longer than 15 minutes. Scheduled tests requiring larger releases or lasting longer than 15 minutes will require prior notification to the USFWS. Unscheduled releases due to equipment failure or emergency situations will be reported to the USFWS no later than three business days after the event.

- The gaging station on upper Piru Creek (located north of Pyramid Lake) provides 24-hour averages; therefore, instantaneous peak stream releases may be delayed. Unlike the natural inflow hydrograph, which typically peaks sharply, the stream release hydrograph of Pyramid reach may be more variable.

- Because of operational constraints, the stream release hydrograph of Pyramid reach will typically gage measured inflow. The valves at Pyramid Dam can be adjusted for release flows of less than 3 cfs; however, the precise measurement of released flows less than 3 cfs is not possible due to operational constraints of the dam's gaging instrumentation.

Implement Pyramid Lake Fish Stocking Measure (AR2)

Under the new FERC license, fish stocking requirements would be similar to current provisions, and would include stocking fish in Pyramid Lake to maintain the recreational trout fishery and conducting periodic angler surveys in accordance with the proposed Pyramid Lake Fish Stocking Measure. Fish stocking will be implemented within one year after license issuance and annually thereafter during the stocking season (October 1 to May 30). Continuing the fish stocking as currently implemented at Pyramid Lake would facilitate the continuation of one of the primary recreation offerings at Pyramid Lake throughout the term of the new FERC license. Anticipated fish stocking activities will be similar to existing activities in the amended Exhibit S under Article 51 within the existing FERC license, except for fish stocking at Castaic Lake and Pyramid reach, which will be continued as a provision outside of the new FERC license through an agreement with the CDFW. Castaic Lake is not a licensed facility of the South SWP Hydropower. Pyramid reach fish stocking is described further in Section 3.16 (Recreation).

2.4.5.4 Terrestrial Vegetation and Wildlife Protection Activities

Implement the Integrated Vegetation Management Plan (TR1)

This plan models current practices under the existing license (Section 2.3.4.4 [Terrestrial Vegetation and Wildlife Protection Activities]), and includes measures for controlling non-native plant species, protecting special-status species and cultural resources during vegetation management activities, providing for the safe application of herbicides, and revegetating disturbed areas. The goals of this plan are to continue to prevent the introduction or establishment of nonnative and invasive plants, and to control the spread of known infestations through surveying and documentation, avoidance, and long-term monitoring and adaptive management. This plan is applicable to all other plans where ground disturbance occurs. The plan includes already-practiced measures to protect known special-status plants and sensitive natural communities that could be affected by future activities, including the revegetation of natural landscapes, conservation of wetland resources, reduction of soil erosion, and herbicide application at appropriate locations. Only herbicides registered for aquatic use by the California Department of Pesticide Regulation will be utilized, per label instructions, within or adjacent to streams, reservoirs, riparian and wetland vegetation, streamside management zone buffers, and other aquatic habitats.

Many activities included in this plan are in response to ground disturbance and focuses on surveys, special-status plant and habitat protections such as buffers, site stabilization, revegetation, and exclusion fencing. However, revegetation can include

addressing and remediating soil compaction or erosional features potentially caused from maintenance or other activities and the installation of exclusion fencing. Ground disturbance associated with nonnative invasive plant controls may be associated with manual control methods (manual pulling, hoeing), mechanical methods (mowing, grubbing), and chemical methods (herbicides). The Licensees will assess the use and appropriateness of invasive plant control methods on a case-by-case basis, meeting, as an example, the requirements for treatment procedures on NFS lands within the proposed Project boundary per the guidance set out in USFS Manual Section 2900 Invasive Species Management (USFS 2011b) and USFS' *Environmental Assessment, Santa Clara Watershed Invasive Plant Treatment Project* (USFS 2013).

Additionally, the IVMP prescriptions for routine vegetation management include facility and transmission line management, road maintenance, and recreation site management. The Castaic Transmission Line management will continue in compliance with NERC standards. Finally, included as a part of vegetation management are requirements for nesting bird and roosting bat surveys prior to hazard tree removal, depending on timing and habitat type.

Implement the Sensitive Aquatic and Terrestrial Wildlife Management Plan (TR2)

Under the new FERC license, existing wildlife protections will continue with the addition of specific stipulations. These include: (1) protections to wetland, riparian, and other sensitive habitats, (2) known occurrences of sensitive species and ESA-listed species and other sensitive species including species listed by CDFW through adoption by the California Fish and Game Commission as State threatened (ST) or endangered (*Lotus v. Department of Transportation* [2014] 223 Cal.App.4th 645) under the California Endangered Species Act (CESA), and species of special concern (SSC), except for those species listed under the ESA; listed by USFS as Forest Service Sensitive (FSS) and by BLM as a sensitive species (BLM-S); or considered fully protected (FP) under State law; (3) seasonal restrictions for scheduled vegetation management and hazard tree removal, where possible; (4) preconstruction surveys and biological monitors for proposed Project O&M at Elderberry Forebay, if deemed necessary based on the results from the preconstruction survey; (5) preconstruction surveys prior to non-routine proposed Project activities and the use of protective buffers as needed; (6) avian protection upgrades during transmission line poles replacements and repairs, and (7) pesticide use guidelines. In particular, under the new FERC license operations will entail the protection of sensitive species and nesting birds while conducting proposed Project O&M during the nesting season. Additionally, if O&M staff observe distressed sensitive species within the proposed Project boundary, under the new FERC license, provisions for reporting and consulting the appropriate agencies are specified. In general, physical disturbance associated with wildlife protections anticipated in the new FERC license are limited to individuals conducting pedestrian surveys for special-status species, the installation of exclusion fencing and habitat protections, and retrofits of the upper portion of existing transmission poles to reduce the potential for avian interactions.

2.4.5.5 Recreation Resources-Related Activities

Implement the Recreation Management Plan (RR1)

The provisions of the RMP are similar to current requirements under Article 50 of the existing FERC license in that the Licensees will continue providing for the O&M of recreation facility infrastructure and features. Examples of recreation infrastructure and features include water supply, wastewater management, recreation electrical, recreation road and parking, buildings and grounds, boat launching and mooring, swimming beaches, navigation and safety buoys, and landscaping.

Under the new FERC license, in addition to the specific facilities upgrades described under Section 2.4.4 (Proposed Improvements to Recreation Facilities), the Licensees will implement several management activities including a litter control program with information about low impact day use, the addition of litter bags, community based clean up events, and litter control information for visitors. The Licensees will also implement a visitor services and signage program focused on disseminating real-time park use information as practical for visitor trip planning, capacity controls, and enhanced recreation opportunities.

2.4.5.6 Land Use – Fire Safety Activities

There are no new anticipated license-required fire safety activities beyond existing baseline conditions. Rather, the anticipated new FERC license requirements will codify existing practices as follows.

Implement the Fire Prevention and Response Plan (LU1)

Under the new FERC license, similar to current practices, O&M activities will be managed in a manner intended to prevent the ignition and spread of wildfires, and to guide response should fires occur.

This plan provides measures for preventing, reporting, and investigating proposed Project-related wildfires. Ongoing ground disturbance associated with fire prevention under the existing and new FERC license includes, for example, the creation of defensible space around all infrastructure by routinely clearing vegetation in the immediate vicinity. Therefore, periodic inspections are necessary to plan for vegetation removal and hazard tree trimming/removal. These efforts are expected to provide an effective level of fire protection and prevention within the proposed Project boundary.

Provisions for emergency response preparedness and fire control and extinguishing during proposed Project O&M will be similar to current practices. These may include the use of existing helicopter landing zones. There are two dedicated helicopter landing zones within the proposed Project boundary: Emigrant Landing, adjacent to the Los Angeles County Sheriff's office, and south of the Castaic Powerplant. Therefore, future physical disturbance associated with fire suppression would not differ from current practices and would depend on the nature of a fire and its coordinated response.

Continue to Implement a Project Safety Plan (LU2)

This measure is similar to Articles 60 and 402 in the existing license. Measure LU2 – Project Safety Plan provides for the installation and maintenance of signs, lights, sirens, and other devices at proposed Project facilities. As such, Measure LU2 – Project Safety Plan incorporates measures already practiced under the existing license.

2.4.5.7 Visual Resources Preservation Activities

Implement the Visual Resources Management Plan (VR1)

This plan includes measures to reduce the visual contrast of some proposed Project facilities and provides a framework for addressing visual quality when changes are made to the South SWP Hydropower. Measure VR1 – Visual Resources Management Plan includes treatment or staining of certain proposed Project features (e.g., chain-link fences, guardrails, and light standards), and repainting or replacing elements of existing facilities as needed.

2.4.5.8 Cultural Resources Protection Activities

Implement the Historic Properties Management Plan (CR1)

This privileged and confidential plan describes actions and processes to manage cultural and tribal resources, including historic properties and/or historical resources within the APE under the new FERC license. It serves as a guide for the Licensees when performing O&M activities and identifies resource treatments designed to address potential ongoing and future effects, if any, to historic properties. More specifically, Measure CR1 provides avoidance measures for resources that include placement of restrictive/protective signs, fencing (temporary or otherwise), berms, barriers, barricades, vegetation, or similar physical obstructions to reduce or limit access to sites. It also includes processes for establishing no work zones to protect sensitive cultural and tribal resources.

2.4.6 Project Safety and Best Management Practices

The Licensees will continue the safety practices and BMPs described in Section 2.3.5 (Existing South SWP Hydropower Safety and Best Management Practices) of this IS/MND. Additionally, the Licensees have assumed that the FERC requirements regarding inspections of proposed Project facilities (e.g., annual FERC inspections, Part 12 Dam Safety Inspections, and Environmental and Public Use Inspections) and other similar general FERC requirements (e.g., the requirement for EAPs) will apply to the proposed Project when FERC issues a new license. The Licensees have also assumed that the specific requirements included in related approvals, such as DSOD-issued dam certificates, and appropriative water rights issued by the SWRCB for power generation, will not change under a new FERC license.

2.5 PROPOSED PROJECT ACTIVITIES SCHEDULE

The Licensees would implement the proposed Project, including the PM&E measures, following FERC's issuance of a new license as specified in Table 2.5-1. For further details regarding the implementation schedules of each aspect of the proposed Project, refer to the Licensees' FLA, as filed with FERC on January 30, 2020, as amended.

Table 2.5-1. Proposed Project Activities Schedule

Proposed Project Activities	Applicable Location(s)	Anticipated Timing/Duration
Administrative Changes and O&M		
Administrative Changes	Boundary adjustment, gage designation, Primary Project and Recreation Road designations within the proposed Project boundary, addition of Quail Detention Embankment and Los Alamos Campground into the proposed Project boundary, and removal of Warne Transmission Line	Immediately upon new FERC license issuance and will continue for the duration of the new FERC license.
Operation	Hydropower generation facilities, recreation facilities, access roads, associated appurtenances, and land management within the proposed Project boundary	Ongoing; no substantial change upon new FERC license issuance and will continue for the duration of the new FERC license.
Maintenance	Applicable to the hydropower generation facilities, recreation facilities, access roads, associated appurtenances, and land management within the proposed Project boundary	Ongoing; no substantial changes upon license issuance and will continue for the duration of the new FERC license.
PM&Es		
Erosion and Sediment Control Plan (GS1)	Applicable within the proposed Project boundary	Management plan that codifies existing practices, with continued implementation upon new FERC license issuance. Will be applied in anticipation of, and as remediation for, natural and/or planned ground disturbance, and will continue for the duration of the new FERC license.
Pyramid Lake Water Surface Elevations (WR1)	Pyramid Lake	Ongoing; will continue upon new FERC license issuance for the duration of the new FERC license. Upon the Licensees becoming aware of an emergency condition, the Licensees will notify USFS and FERC, and provide them with a revised operating schedule that will prevail during the emergency period and recovery.
Hazardous Materials Management Plan Implementation (WR2)	Applicable within the proposed Project boundary	Management plan that codifies existing practices, with continued implementation upon new FERC license issuance. Will be applied to all hazardous materials handling for the duration of the new FERC license.

Table 2.5-1. Proposed Project Activities Schedule (continued)

Proposed Project Activities	Applicable Location(s)	Anticipated Timing/Duration
Flow Releases into Pyramid Reach (AR1)	Pyramid Lake/Pyramid Reach	Upon issuance of the new FERC license, the Licensees will maintain minimum flow requirements from Pyramid Lake into Pyramid reach based on inflow conditions, maximum safe release rates, water delivery commitments, the natural hydrograph, ramping rates for radial gate and other testing, among other specifications as described in Section 2.4.5.3. Refer to the Licensees' FLA, as amended, as filed with FERC on January 30, 2020, for further details regarding this measure.
Implement Pyramid Lake Fish Stocking Measure (AR2)	Pyramid Lake	Measure codifies existing practices, with continued implementation upon new FERC license issuance. Measure AR2 will continue for the duration of the new FERC license, wherein the Licensees will stock Pyramid Lake beginning in the first full calendar year after license issuance and annually thereafter during the stocking season, as described in Section 2.4.5.3. Beginning in the first full calendar year after license issuance and once every six years thereafter, the Licensees will conduct an angler survey at Pyramid Lake. Reporting will be conducted on a schedule specified in the license, and fish stocking adjustments will be coordinated with CDFW. Refer to the Licensees' FLA, as amended, as filed with FERC on January 30, 2020, for further details regarding this measure.
Integrated Vegetation Management Plan (TR1)	Applicable within the proposed Project boundary	Management plan that codifies existing practices, with continued implementation upon new FERC license issuance, and continued for the duration of the new FERC license. The NNIP schedule and phasing plan will be developed within two years of license approval and will be discussed during the Annual Agency Consultation Meeting.
Sensitive Aquatic and Terrestrial Wildlife Management Plan (TR2)	Applicable within the proposed Project boundary	Management plan that codifies existing practices, with continued implementation upon new FERC license issuance Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan will continue for the duration of the new FERC license.

Table 2.5-1. Proposed Project Activities Schedule (continued)

Proposed Project Activities	Applicable Location(s)	Anticipated Timing/Duration
Recreation Management Plan Implementation (RR1), including recreation facility improvements	Recreation facilities within the proposed Project boundary.	Management plan that codifies existing practices and adds protections and facility upgrades. The RMP will continue existing practices and implementation upon new FERC license issuance and will remain in effect for the duration of the new FERC license.
Fire Prevention and Response Plan Implementation (LU1)	Applicable within the proposed Project boundary	Management plan that generally codifies existing practices and adds protections and facilities upgrades. Measure LU1 – Fire Prevention and Response Plan will continue existing practices and implementation upon new FERC license issuance and will remain in effect for the duration of the new FERC license. Fire prevention activities will be ongoing and implemented beginning within one year of license issuance, and fire response will be triggered by fire events.
Project Safety Plan Continued Implementation (LU2)	Applicable within the proposed Project boundary.	Management plan that generally codifies existing practices and adds protections and facilities upgrades. Measure LU2 – Project Safety Plan will continue implementation upon new FERC license issuance and will remain in effect for the duration of the new FERC license.
Visual Resources Management Plan Implementation (VR1)	Applicable within the proposed Project boundary.	Management plan that generally codifies existing practices and adds protections and facilities upgrades. Measure VR1 – Visual Resources Management Plan will continue implementation upon new FERC license issuance and will remain in effect for the duration of the new FERC license.
Historic Properties Management Plan Implementation (CR1)	Applicable within the proposed Project boundary.	Management plan that generally codifies existing practices and adds protections and facilities upgrades. Measure CR1 will continue implementation upon new FERC license issuance and will remain in effect for the duration of the new FERC license. Measure CR1 will be applied during ground disturbing activities (maintenance or other).

Key:
CDFW = California Department of Fish and Wildlife
FERC = Federal Energy Regulatory System
FLA = Final License Application
NNIP = Non-Native Invasive Plants
O&M = operations and maintenance
PM&E = protection, mitigation, and enhancement measures
USFS = United States Department of Agriculture, Forest Service

2.6 REGULATORY COMPLIANCE

2.6.1 NEPA and CEQA Compliance

FERC has sole jurisdiction for issuance of licenses for non-federal hydropower projects. FERC's issuance of a new license for the continued operation of the South SWP Hydropower together with the terms and conditions as proposed in the Licensees' FLA, as amended, triggers the need for NEPA compliance. As such, FERC will lead the development of an EA and the resulting NEPA documents.

In addition, the Licensees have determined that the decision to continue South SWP Hydropower operation in accordance with the terms and proposed conditions in the FLA, as amended, is a discretionary action triggering CEQA compliance, which is the subject of this document.

It is anticipated that the SWRCB, as a Responsible Agency under CEQA, will rely on this CEQA document to inform its decision in issuing a CWA Section 401 WQC.

2.6.2 Permits and Regulatory Approvals Related to FERC's Licensing Decision

As noted above, FERC is the lead federal agency for federal compliance on its licensing decision. In addition to NEPA compliance, FERC will demonstrate compliance with federal regulations, such as the CWA, the ESA, and the NHPA. FERC designated the Licensees as FERC's non-federal representative for day-to-day-consultation under both Section 7 of the ESA (informal consultation) and Section 106 of the NHPA.

Informal ESA consultation is in progress, and FERC and the Licensees received concurrence from USFWS that O&M under the new license is not likely to adversely affect federal ESA-listed species or designated critical habitat (USFWS 2020).

FERC and the Licensees will complete consultations with the SHPO, affected Native American tribes, and federal land management agencies under Section 106 of the NHPA. Specifically, in compliance with Section 106 of the NHPA, a Programmatic Agreement (PA) will be executed between FERC, the SHPO, and as applicable, the Advisory Council on Historic Preservation (ACHP). As a condition of the PA, an HPMP will be implemented and will be the basis for facilitating compliance with Section 106 during the term of the new FERC license.

In California, the EPA has delegated its authority for administering CWA Section 401 WQCs to the SWRCB, as the State of California certifying agency.

2.6.3 Future Activity-Specific O&M and Routine Maintenance Permitting

Additional regulatory permitting for proposed Project O&M and routine activity-specific maintenance is not anticipated because the Federal license is authorizing those activities, and the PM&E measures in the new FERC license are specifically designed to be consistent with regulatory requirements thus helping to minimize the need for activity-specific maintenance permitting. That said, additional permitting needs will be

determined by the Licensees' regulatory compliance specialists on a case-by-case basis during the term of the new FERC license.

Activities beyond routine proposed Project O&M and PM&E measures defined in the Licensees' FLA, as amended, are not addressed in this IS/MND, and will be assessed for CEQA compliance and permitting requirements separately as any non-routine O&M activities arise.

2.7 SCOPE OF INITIAL STUDY

As the Lead Agency under CEQA, DWR is responsible for compliance with the environmental review process prescribed by the PRC (§ 21000 et seq.) and the CEQA Guidelines (§ 15000 et seq.). This IS/MND focuses on the environmental issues identified as possibly significant in the CEQA environmental checklist and by the CEQA Guidelines. As such, a complete description of the proposed Project has been included, all areas of concern relevant to the proposed Project are analyzed, and references are provided.

DWR, as the Lead Agency, together with LADWP went through relicensing by augmenting existing, relevant, and reasonably available information with the results of 22 studies reviewed by resource agencies and conducted by the Licensees as part of the South SWP Hydropower relicensing process. The results of the studies listed below have been incorporated into the analyses contained in Section 3.0 (Environmental Checklist and Environmental Evaluation):

- Aquatic Invasive Species
- Quail Lake Fisheries Assessment
- Pyramid Reach Fish Populations
- Special-Status Aquatic Amphibians and Semi-Aquatic Snakes
- Botanical Resources
- Non-Native Invasive Plants
- Special-Status Terrestrial Wildlife Species - California Wildlife Habitat Relationships (CWHR)
- ESA-Listed Plants
- ESA-Listed Amphibians, California Red-legged Frog
- ESA-Listed Riparian Bird Species, Southwestern Willow Flycatcher, Least Bell's Vireo, and Yellow-billed Cuckoo Riparian Habitat Evaluations
- Recreation Facilities Demand Analysis and Condition Assessment

- Cultural Resources
- Tribal Resources
- Indicators of Hydrologic Alteration
- Scenic Integrity
- Water Quality and Temperature
- Fish Entrainment Risk Assessment
- ESA-Listed Terrestrial Wildlife Species - California Wildlife Habitat Relationships
- Whitewater Boating
- Special-Status Raptors
- Pyramid Reach Benthic Macroinvertebrates
- Pyramid Lake Tributaries Fish Passage Barriers

For the remaining resource areas discussed in Section 3.0 (Environmental Checklist and Environmental Evaluation), DWR determined that existing, relevant, and reasonably available information was sufficient to determine the potential effects of the proposed Project on these resources and to inform any relevant requirements for the new FERC license.

In accordance with CEQA requirements, this document assesses the potential impacts of the proposed Project resulting from changes to baseline conditions, as defined in Section 1.2.1 (Background). Therefore, the scope of the analysis contained in Section 3.0 (Environmental Checklist and Environmental Evaluation) will primarily focus on the effects of changes to South SWP Hydropower operations under the new FERC license. These include:

1. Administrative changes (i.e., the boundary adjustment, removal of the SCE-owned Warne Transmission Line references in the FERC license, and the additions of the existing Quail Detention Embankment, an existing gage, the Primary Project Road designations, and the Los Alamos Campground)
2. Facility improvements (associated with, for example, recreation facility ABA compliance and accessibility)
3. O&M adjustments, primarily associated with the PM&E measures anticipated in the new FERC license

The potential environmental impacts of these three types of changes associated with the proposed Project – the proposed operation of the SWP Hydropower under a new FERC license – are analyzed in Section 3.0 (Environmental Checklist and Environmental Evaluation) of this document.

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3.0 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

The environmental factors checked below would be potentially affected by this proposed Project, involving at least one impact that requires mitigation to reduce the impact from "Potentially Significant" to "Less than Significant" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions and Energy Resources	☐ Public Services
☐ Agricultural and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Recreation
☐ Air Quality	☒ Hydrology and Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use and Planning	☐ Tribal Cultural Resources
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☒ Geology and Soils	☐ Noise	☐ Wildfires
	☐ Population and Housing	☒ Mandatory Findings of Significance

On the basis of this initial evaluation:

☐	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed Project MAY have a significant effect on the environment, and an environmental impact report is required.
☐	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature _____ Date _____

Printed Name _____ On Behalf of _____

3.1 INTRODUCTION

In accordance with the CEQA Guidelines § 15074, this IS/MND identifies and focuses on the potentially significant direct and indirect environmental effects of the proposed Project as compared to baseline conditions, considering both potential short-term and long-term effects of the proposed Project. Short-term effects are generally those associated with construction activities, while long-term effects are generally those associated with operation of the proposed Project components. Each resource area requires a discussion of the following:

3.1.1 Analysis Methods

3.1.1.1 Analysis Components

Each environmental resource analyzed in Section 3.0 (Environmental Checklist and Environmental Evaluation) contains the CEQA Checklist, which is the basis for analysis, regulatory setting, environmental setting, and environmental impact. Each component making up that checklist is further explained below.

The CEQA Checklist table at the beginning of each resource section presents the thresholds of significance used in this IS/MND that were developed using criteria from the 2019 CEQA Guidelines' Appendix G Checklist; State, federal, and local regulatory schemes; local and regional plans and ordinances; accepted practices; consultation with recognized experts; and other professional opinions.

Regulatory Setting

The Regulatory Setting presents the statutes, regulations, plans, and policies that are relevant to each issue area. Regulations originating from the federal, State, or local levels are each discussed as appropriate. The majority of the South SWP Hydropower falls within State and federal lands; however, there are portions that overlap with local jurisdictions, and, therefore, where applicable, city and county plans, policies, and ordinances were also considered in the analysis. Also, there are several regulations that provide important context for various sections, such as the FPA and the CWA, among others. To avoid repetition, these regulations and plans are described generally in this introductory section and then detailed where applicable in specific resource sections.

In addition, given the expanse of the proposed Project area, some regulations may be more applicable to specific locations based on land ownership and management responsibilities. The proposed Project is located on federal lands managed by the USFS (2,000.5 acres) or BLM (6.5 acres), State of California (2,366.7 acres), private (15.5 acres), LADWP (171.8 acres), and County-owned lands (2.8 acres) within Los Angeles County (Figure 2.4-1 and Table 2.4-1).

Environmental Setting

The Environmental Setting presents the existing environmental conditions within the South SWP Hydropower and surrounding geographic area appropriate to establish

baseline conditions for a particular resource, in accordance with CEQA Guidelines § 15125. The extent of the environmental setting area evaluated differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the air basin (macro-scale), as well as the site vicinity (micro-scale), whereas aesthetic impacts are only assessed for the general vicinity.

Environmental Impact Analysis

The Environmental Impact Analysis section includes an analysis of the proposed Project's potential to cause a significant environmental impact, if any. Potential impacts are assessed by evaluating the proposed Project's potential to result in a substantial adverse change from the baseline conditions established in the Environmental Setting and determined by a comparison with the thresholds of significance set forth in the CEQA Checklist table at the beginning of each resource section. If a potentially significant impact were to be identified, mitigation would also be identified and described for how it reduces potential impacts to less-than-significant levels.

3.1.1.2 PM&E Impact Assessment Approach and Groupings

PM&E Approach

The PM&Es described in Section 2.4 (Proposed Project Changes) – if they are directly applicable – act to codify, benefit, or improvement and by their nature as a management practice, lessen a potential environmental impact. The effects of the proposed Project are analyzed both before and after implementation of that measure to fully understand and disclose the extent of the potential impact.

PM&E General Groupings

Where feasible, to simplify the results of impact analysis the PM&Es were grouped as follows:

Ground-disturbing PM&Es: The ground disturbing PM&Es are grouped because their potential impacts would primarily affect resources in upland areas. The following PM&Es have a greater potential for earth moving activities.

- Measure GS1: Erosion and Sediment Control Plan. This plan includes measures to control sedimentation and erosion when stabilizing slopes affected by the proposed Project. The plan provides procedures for ground disturbing activities that are temporary and focused on site stabilization of already disturbed areas.

- Measure WR2: Hazardous Materials Management Plan. This plan includes measures to manage hazardous materials, including the response and clean-up of hazardous materials releases. In the event of an accidental release, this plan codifies response, reporting, containment, and cleanup activities, which may include excavation or soil removal.

- Measure TR1: IVMP. This plan includes measures for controlling non-native invasive plant species, protecting special-status species, and revegetating disturbed areas. The main ground disturbing activities related to vegetation management generally involve non-native invasive plant controls and fostering local native vegetation. This plan provides details on the variety of routine vegetation management activities that will be conducted, which are often driven by regulatory requirements. Examples of routine vegetation management include facility and transmission line management, road maintenance, hazard tree removal, and recreation site management.

- Measure TR2: Sensitive Aquatic and Terrestrial Wildlife Management Plan. This plan includes protections to wetland and riparian habitats and known occurrences of special-status species (restrictions on some proposed Project O&M activities), procedures for pre-construction surveys prior to non-routine proposed Project activities, and measures to be implemented when pesticides are used. The main ground disturbing activities associated with wildlife management are for the protection of wildlife habitat and species.

- Measure RR1: RMP. This plan provides guidance for the management and operations of proposed Project recreational facilities, including periodic use monitoring, the improvements of proposed Project recreation facilities, and a schedule for implementing modifications. It is similar to Article 50 in the South SWP Hydropower license. The key ground disturbing activities associated with this PM&E are related to recreation facility improvements.

- Measure LU1: Fire Prevention and Response Plan. This plan provides measures for preventing, reporting, and investigating proposed Project-related wildfires. The main ground disturbance for fire prevention and response entails periodic inspections to determine the need for possible vegetation removal, and hazard tree trimming/removal.

- Measure VR1: Visual Resources Management Plan. This plan includes measures to reduce the visual contrast of proposed Project facilities. The main ground disturbance associated with visual resource management is focused on replacing signs and slats on fences. The footprints are generally very small.

- Measure CR1: HPMP. This plan provides specific actions and processes to manage historic properties (and historical and TCRs). The potential ground disturbance associated with historic properties management, including archaeological and tribal resources, would entail exclusion fences and potential excavations that may be conducted for site treatment, when necessary.

Aquatic Focused PM&Es: The aquatic-focused PM&Es are grouped because their potential impacts would primarily affect areas in or along waterways.

The following three PM&Es include work in waterways with aquatic resources:

- Measure AR1: Provide minimum flows from Pyramid Lake into Pyramid reach. This measure is identical to the Pyramid Lake portion of Article 52 in the South SWP Hydropower license with two exceptions. First, the multiplier for estimating the ungaged flow into Pyramid Lake has been updated based on current GIS and hydrologic methods. Second, clarification has been included to indicate what the Licensees would do if unsafe conditions occurred. This measure provides that flows from Pyramid Lake into Pyramid reach simulate the natural hydrograph of Piru Creek and thus would be beneficial for aquatic resources.

- Measure AR2: Stock fish in Pyramid Lake. This measure provides for a trout recreational fishery, and periodic angler surveys. This measure is similar to Article 51 in the South SWP Hydropower license, which may have ancillary benefits for aquatic resources.

- Measure WR1: Pyramid Lake Minimum Pool and Water Elevations. This measure maintains a minimum pool and limits WSE fluctuations in Pyramid Lake for the benefit of fisheries and recreation. This measure incorporates minimum pool and WSE restrictions from the DWR and USFS 1969 MOU as amended. While this measure does not entail work in waterways, it dictates water level elevations.

Primarily Management PM&Es: The following PM&E is associated with safety management at Project facilities:

- Measure LU2: Project Safety Plan. This plan provides measures for installing and maintaining signs, lights, sirens, and other devices at proposed Project facilities. This measure is similar to Articles 60 and 402 in the South SWP Hydropower license. These management activities generally include safety provisions for facilities and staff.

- These general groupings are not absolute (i.e., the IVMP is focused on upland areas, but also relates to wetlands and riparian habitat along waterways). However, the rough categorization is utilized in the impact analysis section to help describe the types and locations of potential impacts from PM&E measures on each resource area. In addition, deviations from these general groupings are identified on a case-by-case basis where appropriate.

3.1.2 Resource Section Contents

The resource area sections in this chapter are organized as follows:

- Resource Title
    - Basis of Analysis Table
    - Regulatory Setting

- Environmental Setting
- Environmental Impact Analysis
- Mitigation Measures
- References

The Environmental Setting is generally a narrative description of the surrounding area; however, Section 3.5 (Biological Resources) and Section 3.6 (Cultural Resources) also include a specific methodology description of the desktop and field data collection approaches necessary to define the environmental setting by screening the potential sensitive habitat and special-status species occurrences, and cultural resource locations and status, respectively.

3.1.3 Broad Regulatory Context

The environmental and regulatory settings provide the context to address the CEQA Guidelines Appendix G impact assessment questions. However, there are several regulatory authorities that provide context to many of the resource areas. These include the FPA and the National Forest Management Act (NFMA), which are further described below.

3.1.3.1 Federal Regulations

Federal Power Act

The FPA (16 United States Code [U.S.C.] § 791 et seq.) gives FERC (91 Stat. 565; 42 U.S.C. § 7101) authority to issue licenses to private, municipal, and State (i.e., non-federal) hydropower projects. Prior to the expiration of an existing license, if a licensee applies to renew its license and FERC accepts the application and completes the necessary requirements as specified in the FPA as part of a licensing proceeding, FERC may then issue a new license of 30 to 50 years. As part of that process, FERC must also comply with other federal statutes covering environmental reviews and protection and historic preservation. As such FERC will complete NEPA compliance prior to the issuance of the new South SWP Hydropower FERC hydropower license. The Licensees are seeking a 50-year license from FERC for the South SWP Hydropower.

National Forest Management Act

The NFMA of 1976 requires that the USFS assess the nation's renewable resources in order to develop a program of use and develop LMPs for each National Forest. As such, the Southern California National Forests Vision LMPs (i.e., Angeles, Cleveland, Los Padres, and San Bernardino) describe the strategic direction at the broad program level for managing NFS lands and resources over the next 10 to 15 years. Activities within the ANF and LPNF are guided by the ANF LMP, and LPNF LMP, respectively. The ANF LMP was adopted in 2006 and is intended to provide guidance for management of the

NFS lands for a period of 10 to 15 years (USFS 2005a). The LPNF was adopted in 2005 and describes the strategic direction at the broad program level for managing the land and its resources over the next 10 to 15 years (USFS 2005b). Of the 4,563.8 acres of lands within the proposed Project boundary, 2,000.5 acres are NFS lands within the ANF and LPNF (Table 2.4-1 and Figure 2.4-1) where the USFS uses the LMP to help guide the management of lands and resources (USFS 2005c). The LMP includes guidance pertaining to various resource areas, including aesthetics, agriculture (timber), biological resources, and cultural resources. Therefore, conformance with the LMP is assessed and disclosed in this document where applicable.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) of 1976 stated that federal land should remain under federal ownership and established a regulatory system for the NPS, BLM, and USFS to manage federal lands. The act established a multiple use management policy for the NPS, BLM, and USFS to balance management of the land to meet diverse needs, including recreation, grazing, timber and mineral production, fish and wildlife protection, and oil and gas production. The FLPMA of 1976 requires that the BLM develop, maintain, and, as needed, revise land use plans for the use of the public lands managed by the BLM (BLM 2016). As such, the BLM 1994 South Coast Resource Management Plan provides guidance and identifies land use decisions to be implemented for management of 129,000 acres of public land and the associated natural resources dispersed over five southern California counties, including 6.5 acres of BLM land within the proposed Project boundary in Los Angeles County (BLM 2016). The South Coast Resource Management Plan includes guidance pertaining to various resource areas, including aesthetics, biological resources, and cultural resources. Therefore, conformance with the plan is assessed and disclosed in this document where applicable.

Clean Water Act

The CWA (33 U.S.C §1251 et seq. [1972]) is managed by the EPA and sets water quality standards for contaminants in surface waters. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and programs in California, to the SWRCB and the nine RWQCBs.

Sections of the CWA (i.e., Sections 401, 402, and 404) provide regulatory context for impact assessments to:

- biological resources (i.e., lake, stream, and wetland habitats if considered jurisdictional waters of the US)
- geology and soils (sediment controls)
- hydrology and water quality

Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a Section 401 WQC is issued, verifying compliance with water quality requirements, or certification is waived. In California, the SWRCB and the nine RWQCBs have the primary responsibility for administering State and federal regulations related to water quality, including the Section 401 WQC. Based on review of a project, the SWRCB can issue, waive, or deny the WQC.

Section 402 of the CWA established the NPDES permitting program, which requires any discharge of pollutants into waters of the United States to comply with the provisions of an NPDES permit. The CWA 1987 amendments added Section 402(p) that provided a framework for regulating municipal and industrial stormwater discharges under an NPDES Program. Although the regulations allow for two permitting options (Individual Permits and General Permits), the SWRCB in California elected to adopt a single Statewide NPDES General Construction Permit that regulates stormwater discharges associated with construction activities that disturb one or more acres of land or projects that disturb less than one acre of land but are part of a larger common plan of development or sale resulting in disturbances that total one or more acres. The NPDES General Construction Permit requirements apply to construction activities that include clearing, grading, grubbing, and disturbances to the ground such as excavation. However, it does not apply to certain activities such as regular maintenance activities to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, as well as construction activities that disturb less than one acre of land (unless the construction activities are part of a larger common plan of development or sale with land disturbances occurring on one or more acres of land). Project applicants are required to submit an NOI with the SWRCB's Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site. Applicants are also required to submit a site-specific SWPPP for construction activities. The SWPPP would include a description of BMPs to minimize the discharge of pollutants from the site during construction as well as appropriate monitoring, sampling, and reporting.

Section 404 of the CWA prohibits discharge of fill or dredge material into waters of the United States, including wetlands. Wetlands are defined, for regulatory purposes, as areas inundated or saturated by surface water or groundwater; at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions (33 CFR § 328.3). If a project results in discharges of any dredging or fill materials into waters of the United States – including wetlands, before and after the project actions – then a permit must be obtained from the U.S. Army Corps of Engineers (USACE). Section 404 compliance is discussed further in Section 3.5 (Biological Resources), Section 3.7 (Geology and Soils), and Section 3.10 (Hydrology and Water Quality).

3.1.3.2 State Regulations

Porter-Cologne Water Quality Control Act of 1969

The SWRCB was established in 1967 by the California legislature and it absorbed the functions of the former State Water Rights Board and the State Water Quality Control Board. The nine RWQCBs were established through the passage of the Dickey Water Pollution Control Act of 1949. The SWRCB and nine RWQCBs together enforce the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) which established the California Water Code. The Porter-Cologne Act expanded the enforcement responsibilities of the SWRCB and nine RWQCBs. The nine RWQCBs have the primary responsibility for the coordination and control of water quality within their respective jurisdictional boundaries. Under the Porter-Cologne Act, water quality objectives (WQO) are limits or levels of water quality constituents or characteristics established for the purpose of protecting Beneficial Uses.

The Porter-Cologne Act requires the RWQCBs to establish WQO while acknowledging that water quality may be changed to some degree without unreasonably affecting Beneficial Uses. Designated Beneficial Uses, together with the corresponding WQO, and an antidegradation policy, also constitute water quality standards under the federal CWA. The WQO provide requirements for water quality standards and control.

3.1.3.3 Local General Plans

The South SWP Hydropower lies within the Los Angeles County's Antelope Valley and Santa Clarita Valley planning areas, each of which has an area plan (i.e., Antelope Valley Area Plan and Santa Clarita Valley Area Plan). The purpose of the Antelope Valley Area Plan is to achieve the community's shared vision of the future through the development of specific goals, policies, land use and zoning maps, and other planning instruments. The Santa Clarita Valley Area Plan is a component of the Los Angeles County General Plan, which provides goals, objectives, policies, and implementation actions that apply only to the unincorporated portions of the Santa Clarita Valley (LA County 2009).

As a State agency, DWR generally works to align its policies and procedures to conform with such plans to the extent feasible. Additionally, LADWP, as a local agency, generally works to align its policies and procedures to conform with such plans to the extent feasible. These local plans provide important context for management and the improvement of human and natural resources in these areas. Where applicable, the compatibility of the proposed Project is evaluated with respect to the applicable General Plan goals and policies or applicable ordinances in the impact analyses.

3.2 AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.2.1 Regulatory Setting

The proposed Project is primarily located on State of California and federal lands with minimal privately owned lands. The federal lands are primarily comprised of NFS lands managed by the USFS as part of the ANF or LPNF as well as some land administered by BLM.

The questions listed in the table above include terminology such as “State scenic highway” and a reference to “consistency with applicable regulations governing scenic quality”. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

The following regulatory considerations are important to the environmental analysis for aesthetics provided in the following sections.

3.2.1.1 Federal

Angeles and Los Padres National Forest Land Management Plans

Policies and programs associated with the ANF and LPNF apply to NFS lands. The ANF and LPNF LMPs, established under the NFMA, apply to the 2,000.5 acres of the proposed Project located on NFS lands (Figure 2.4-1). Regarding scenic resources, the LMPs include five scenic integrity objectives (SIO) derived from the landscape's attractiveness and the public's expectations or concerns: very high (unaltered), high (appears unaltered), moderate (slightly altered), low (moderately altered), and very low (heavily altered). Generally, landscapes that are most attractive and viewed from popular travel routes are assigned higher SIOs. Each SIO provides guidance for how the lands are to be managed to either preserve or achieve the desired SIO over time. It is important to note that the SIO does not necessarily represent current scenery conditions, but the desired condition that a national forest intends to either preserve or manage its lands over time. The ANF and LMPs include two applicable aesthetic management standards, as follows (USFS 2005):

- S9: Design management activities to meet the SIOs shown on the SIO Map.
- S10: SIOs will be met with the following exceptions:
    - Minor adjustments not to exceed a drop of one SIO level are allowable with the Forest Supervisor's approval.
    - Temporary drops of more than one SIO level may be made during and immediately following project implementation providing they do not exceed three years in duration.

The SIO designations for the proposed Project area are discussed below in Section 3.2.2 (Environmental Setting).

Bureau of Land Management South Coast Resource Management Plan

BLM’s South Coast Resource Management Plan guides the management of BLM lands within the proposed Project boundary. The Los Angeles County Management Area utilizes a visual resource management system to determine visual values, classes, and objectives. Visual resource management Class 3 (the applicable classification) requires retaining the existing character of the landscape and allows a moderate level of change to the characteristic landscape (BLM 1994).

3.2.1.2 State

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 and is managed by the Landscape Architecture Division of Caltrans. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors

through special conservation treatment. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

3.2.1.3 Local

Visual resource-specific policies in local general plans such as the Los Angeles County's Antelope Valley Area Plan and Santa Clarita Valley Area Plan are as follows.

Antelope Valley Area Plan

The *Antelope Valley Area Plan: Town & Country* includes a visual goal (Goal COS-5) stating that Antelope Valley's scenic resources, including scenic drives, water features, significant ridgelines, buttes, and hillside management areas, will be enjoyed by future generations with Policy COS 5.7 to help ensure that incompatible development is discouraged along designated scenic drives (Los Angeles County Department of Regional Planning 2015).

Santa Clarita Valley Area Plan

The *Santa Clarita Valley Area Plan: One Valley One Vision* includes a visual goal to provide a scenic and beautiful urban environment that builds on the community's history and natural setting with two objectives to meet this goal, as follows (Los Angeles County Department of Regional Planning 2012).

- Objective LU-6.1 - to maintain the natural beauty of the Santa Clarita Valley's hillsides, significant ridgelines, canyons, oak woodlands, rivers, and streams.
- Objective LU-6.2 - to provide attractive public and open spaces in places visited by residents and visitors, where feasible and appropriate.

3.2.2 Environmental Setting

The San Gabriel Mountains, which are located east of the South SWP Hydropower, rise 10,000 feet over the metropolitan areas of Los Angeles County. The desert floor of the Antelope Valley, located north of the South SWP Hydropower's Quail Lake, is carpeted with wildflowers in early spring. To the west, the Santa Clara canyons rise up from the Santa Clara River at elevations starting at about 1,200 feet and reach up to 5,000 feet. Quail Lake, Pyramid Lake, and Elderberry Forebay are located on the western edges of the Sierra Pelona Mountains. This range separates the Antelope Valley from the Santa Clarita Valley.

The Interstate 5 corridor, which may be defined as the area visible by travelers on Interstate 5 between State Highway 138 to the north and the community of Castaic to the south, functions as a gateway and transitional landscape from mountains to the valley for visitors to southern California. Elevations within the Interstate 5 corridor in the vicinity of the South SWP Hydropower range from approximately 2,100 to 3,000 feet.

The deep canyon holding Pyramid Lake, along with its various lesser side canyons, are a point of interest within this landscape.

The South SWP Hydropower is generally accessed from Interstate 5, and State Highways 14, 126, and 138. There are no State scenic highways in or adjacent to the proposed Project boundary. However, State Highway 138 (Rim of the World Scenic Highway) is considered eligible for designation as State scenic highways by Caltrans.

The southern part of the South SWP Hydropower vicinity includes steep to very steep ridges with sharp to rounded summits, and deep, narrow canyons. The lower elevation edge is marked by the urban interface with the community of Santa Clarita. The higher elevation edge is marked by a series of peaks and ridges.

The proposed Project includes NFS lands managed by the ANF and the LPNF. The SIO for NFS lands within and around the proposed Project boundary are predominately "High" (i.e., landscape appears unaltered) with small areas determined to be "Moderate" (i.e., landscape appears slightly altered) (USFS 2005).

Lands managed by BLM occupy a small area within the proposed Project boundary located on the eastern boundary of Elderberry Forebay. The BLM lands within the proposed Project boundary are managed to a visual resource management Class 3 (i.e., partially retain the existing character of the landscape; level of change to the characteristic landscape is moderate) (BLM 1994).

The planning area for the Antelope Valley Area Plan: Town & Country includes the South SWP Hydropower's Quail Lake and Pyramid Lake. The planning area for the Santa Clarita Valley Area Plan: One Valley One Vision (Los Angeles County Department of Regional Planning 2012) includes the South SWP Hydropower's Pyramid Dam, Angeles Tunnel, Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, and Castaic Transmission Line.

3.2.3 Environmental Impact Analysis

Would the proposed Project:

a) Have a substantial adverse effect on a scenic vista?

Finding: Less Than Significant Impact

A vista is a view from a location or composite views along a roadway or trail. Scenic vistas often refer to views of natural lands, but they may also be compositions of natural and developed areas or even entirely unnatural areas, such as a scenic vista of a rural town or agriculture area. Typically, a view that is widely considered a scenic vista has remarkable or unique scenery or resources that are indigenous to a specific area.

The land use agencies (USFS, BLM, DWR, LADWP, and local jurisdictions) have not designated scenic vistas in the proposed Project boundary; however, the Interstate 5 Corridor and State Highway 138 that bypass the proposed Project boundary provide

scenic views of Pyramid Lake and the surrounding environment. The proposed Project would appear generally similar in nature and character to the South SWP Hydropower facilities; no new facilities are proposed to be constructed under the new FERC license that could otherwise pose an adverse effect on a scenic vista.

The proposed Project administrative changes (including the proposed Project boundary change, addition of a lake level gage, addition of the Quail Detention Embankment, the removal of the SCE-owned Warne Transmission Line, and addition of Primary Project Roads) would not impact the scenic vistas because they do not entail ground disturbance, construction, or new facilities.

The proposed Project recreation facility improvements associated with the RMP are at existing developed South SWP Hydropower facilities and would not introduce additional adverse visual effects because they would be undertaken with USFS guidance to help bring the facilities more in conformance with current Forest Plan guidance. Construction may include localized ground disturbing activities that would be short in duration at existing facilities (Figure 2.4-1) and, therefore, would not significantly impact a scenic vista. In addition, consistent with current practices, the proposed Project recreation facility improvements would follow the Licensees' architectural standards and procedures and Forest Service guidance on NFS land at the time of the respective improvements. In addition, these facilities improvements are at existing recreation sites, would not entail substantial changes to the visual character of scenic vistas, and would have a less-than-significant impact.

When considered with the remaining ground disturbing PM&E activities – such as the installation of fencing or barricades to limit access to cultural resources, biological resources, or construction areas – there may be limited or temporary change to the localized visual character. However, visual contrast from such changes would either be none, or weak. Those activities would: (1) be subordinate to the existing visual character; (2) not result in blocked or impaired views; and (3) be temporary (on the order of weeks or months). PM&E-related tree removal activities associated with O&M, for example the Fire Prevention and Response Plan (i.e., Measure LU1) and the IVMP (i.e., Measure TR1), would be generally consistent with current practices and focused on limited areas near South SWP Hydropower facilities. The remaining PM&Es do not entail physical changes that would alter scenic vistas; therefore, the PM&Es associated with the proposed Project would result in a less-than-significant impact to a scenic vista.

Given the information above, the proposed Project prior to the application of the Visual Resources Management Plan (i.e., Measure VR1) and related PM&Es with visual resource considerations would not: (1) perceptibly change the existing physical features of the landscape that are characteristic of the locale; (2) introduce new features to the landscape that are perceptibly uncharacteristic of the locale (or become visually dominant in the viewshed); or (3) block or totally obscure the aesthetic features of the landscape and thus does not entail a significant impact to a scenic vista. The addition of Measure VR1 – Visual Resources Management Plan and related PM&Es may enhance the aesthetic character but are not required to reduce a potentially significant impact to less than significant.

The proposed Project, when evaluated with and without the related PM&Es, would have a less-than-significant impact on scenic vistas and no mitigation measures under CEQA are required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Finding: No Impact

A State scenic highway must be declared as such by Caltrans. There are no State-designated scenic highways within, or near, the proposed Project boundary. As such, the proposed Project, when evaluated with or without Measure VR1 – Visual Resources Management Plan, does not entail the potential for damage to scenic resources along such a highway. No impact would occur because there is no such State highway destination in the area.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?

Finding: Less Than Significant Impact

The proposed Project is located in a non-urbanized setting and would not degrade the character or quality of public views due to the limited changes that the proposed Project activities would have to the overall visual character of the proposed Project boundary. The proposed administrative changes would not entail physical disturbance or construction and thus would not alter public views. The proposed recreation facilities upgrades are located within South SWP Hydropower recreation areas and include temporary construction, with limited low profile and small footprint permanent physical adjustments. These changes would not degrade a public view, rather, they are designed to add to the aesthetic quality of South SWP Hydropower facilities. Therefore, there would be a less-than-significant impact.

Implementation of the remaining ground disturbing or earth moving PM&Es (see Section 3.1.1.2 [PM&E Impact Assessment Approach and Groupings]) includes activities such as road maintenance, vegetation removal, temporary exclusion fencing, revegetation, traffic signage, waste management controls, and erosion and sediment controls described in Section 2.4 (Proposed Project Changes). These PM&E activities are small in scale and short in duration, and therefore, are not anticipated to impact public views.

The aquatic resources and safety related PM&Es do not entail physical changes to the aesthetic character of the area.

Current development and operations of the proposed Project do not meet the ANF and LPNF LMP SIOs for the following reasons. First, many of the South SWP Hydropower facilities (e.g., Warne Powerplant, Pyramid Dam, Pyramid Dam spillway, Angeles

Tunnel Surge Chamber, Castaic Transmission Line towers) present moderate to high visual contrast due to their industrial and linear shapes and forms compared to the non-linear, irregular natural surroundings. Second, some of the South SWP Hydropower recreation facilities also present moderate visual contrast due to colorations, textures, and linear forms that differ from the surrounding irregular, natural landscapes, particularly the mountainous backdrop.

This represents the existing condition as the facilities were built prior to the 2005 LMPs and the SIOs are a goal and policy the USFS uses to manage lands to better achieve the objectives. The proposed Project would not greatly change the character of NFS lands, such that it would become visually incompatible or visually unexpected when viewed in the context of the South SWP Hydropower facilities. The proposed Project thus would have a less-than-significant impact to the visual character on NFS lands and no mitigation measures are required.

Specific to federal lands, the proposed Project would include activities that improve its compatibility with the ANF and LPNF LMPs. Consistent with the ANF and LPNF LMPs and the BLM's visual resource management Class 3, the proposed Project would also not greatly change the character of the area, such that it would become visually incompatible or visually unexpected when viewed in the context of the South SWP Hydropower facilities. As such, the proposed Project would have a less-than-significant impact on the visual character or public views of the site and its surroundings, and no mitigation measures under CEQA are required.

Since the proposed Project does not include substantial changes to the South SWP Hydropower aesthetic character such that it would become visually incompatible or visually unexpected when viewed in the context of the South SWP Hydropower facilities, the proposed Project would have a less-than-significant impact on visual character and public views of the site and its surroundings. As such, the impacts on scenic resources would be less than significant with and without implementation of the visual resource-related PM&E measures, and no mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Finding: Less Than Significant Impact

The proposed administrative changes and South SWP Hydropower recreation facilities improvements do not entail landscape-level physical changes to the environment and thus, do not entail the creation of a new source of substantial light or glare. The proposed Project recreation facilities improvements would be constructed during day light hours, which avoids significant construction lighting, and would continue to be operated as they are now and would have a less-than-significant impact. Although no new operational or maintenance light sources are planned as part of the proposed Project, there is the possibility that during normal O&M activities lighting at South SWP Hydropower facilities may need to be updated to address safety, energy conservation, or technological changes. These O&M activities could occur any time during the life of

the license and could result in a non-substantial change to the amount or hue of lighting and would result in a less-than-significant impact. Additionally, implementation of the PM&Es would not substantially alter the lighting or potential for glare at existing facilities and the proposed Project would continue to have a less-than-significant impact with implementation of the PM&E measures.

Therefore, the proposed Project would have no impact on South SWP Hydropower day or nighttime views in the area from new light or glare with or without the PM&Es and no mitigation is required.

3.2.4 Mitigation Measures

Based on the impact analysis (see Section 3.2.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Aesthetic Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.3 AGRICULTURE AND FORESTRY RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d) Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

3.3.1 Regulatory Setting

The questions listed in the table above include references to important farmlands as mapped by the Farmland Mapping and Monitoring Program (FMMP), Williamson Act contracts, and PRC definitions. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.3.1.1 Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act of 1981 (7 U.S.C. § 4201 *et seq*.) requires the Secretary of Agriculture establish and carry out a program to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with State, units of local government, and private programs and policies to protect farmland." (7 U.S.C. 4201[b]).

3.3.1.2 State

California Public Resources Code

The following PRC sections apply to the impact analysis below.

- PRC § 12220(g): "Forest land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including: timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

- PRC § 4526: "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including: Christmas trees. Commercial species are determined by the board on a district basis.

California Government Code

- Government Code § 51104(h): “Timberland” means privately owned land, or land acquired for State forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.

- Government Code § 51104(g): "Timberland production zone" or "TPZ" means an area which has been zoned pursuant to § 51112 or § 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone".

California Farmland Mapping and Monitoring Program

The FMMP, which monitors the conversion of the State’s farmland to and from agricultural use, was established by the California Department of Conservation (DOC),

under the Division of Land Resource Protection. The DOC compiles FMMP Important Farmland maps pursuant to § 65570 of the California Government Code (CGC). The FMMP is derived from the Natural Resources Conservation Service (NRCS) soils surveys, NRCS land inventory, and monitoring criteria as well as land use and water availability. The topography, climate, soil quality, and available irrigation water identified from these sources are evaluated in order to identify lands that have significant agricultural production values. The result is the FMMP layer, which classifies assessed lands into the following categories:

- Prime Farmland. Prime Farmland is land that has been used for irrigated agricultural production and meets the physical and chemical criteria for Prime Farmland as determined by the U.S. Department of Agriculture (USDA), NRCS. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- Farmland of Statewide Importance. Farmland of Statewide Importance is similar to Prime Farmland but generally includes steeper slopes or less ability to store soil moisture. In order to be classified as Farmland of Statewide Importance, the land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- Unique Farmland. Unique Farmland is farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards. Land must have been farmed at some time during the four years prior to the mapping date.

- Farmland of Local Importance. Farmland of Local Importance is land important to the local economy as determined by the County Board of Supervisors and a local advisory committee. This land includes dryland grain producing lands and farmlands that are presently irrigated but do not meet the soil characteristics of Prime Farmland or Farmland of Statewide Importance.

- Grazing Land. Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

- Urban and Built-Up Land. Urban and Built-Up Land is land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- Other Land. Other Land is land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres.

- Water. This category includes perennial water bodies with an extent of at least 40 acres.

California Open Space Subvention Act

The California Open Space Subvention Act (CGC § 16143) states that land will be deemed for open space uses of Statewide significance if it meets the following criteria:

a) Could be developed as prime agricultural land, or

b) Is open-space land as defined in § 65560 which constitutes a resource whose preservation is of more than local importance for ecological, economic, educational, or other purposes. The Secretary of the Resources Agency will be the final judge of whether the land is in fact devoted to open-space use of Statewide significance.

California Land Conservation Act

The California Land Conservation Act of 1965, also known as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments because they are based upon farming and open space uses as opposed to full market value.

The DOC assists all levels of government, and landowners in the interpretation of the Williamson Act related government code. Participating counties and cities are required to establish their own rules and regulations regarding implementation of the Williamson Act within their jurisdiction. These rules include but are not limited to enrollment guidelines, acreage minimums, enforcement procedures, allowable uses, and compatible uses.

3.3.1.3 Local

No local goals, plans, or policies relating to the protection of agriculture or forestry resources would apply to the proposed Project.

3.3.2 Environmental Setting

3.3.2.1 Regional Setting

According to the 2017 Los Angeles County Crop and Livestock Report, the overall value of agriculture in the County totaled $135,795,470, (Los Angeles County 2017). The

main agricultural commodities included nursery products; vegetable crops; field crops; livestock production; flowers and foliage; and fruit and nut crops, indicating that the County relies heavily on agricultural production operations and contains large portions of agricultural lands (Los Angeles County 2017).

3.3.2.2 Local Setting

Most of the lands within the proposed Project boundary are used for non-agricultural purposes such as hydropower operation, recreation, flood control, water supply, utilities, and open space.

Farmland

According to the FMMP, no farmland, classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance exists within the proposed Project boundary. Most of the area within the proposed Project boundary is not mapped by the FMMP; however, areas within the northern and southern parts of the proposed Project boundary are designated as “grazing land”, and as “Urban and Built-Up Land” (DOC 2020).

Additionally, there are no parcels within or adjacent to the proposed Project boundary that are designated as agriculture resource areas (Los Angeles County 2014). The ANF lands within the proposed Project boundary are zoned as Developed Area Interface, Back Country, and Back Country Motorized Use Restricted; Back Country Non-Motorized; Critical Biological Recommended Wilderness; and Existing Wilderness. Los Angeles County lands adjacent to the proposed Project boundary generally include land uses designated as Rural Land, Parks and Recreation, Rural Commercial, and National Forest (Los Angeles County 2020).

Furthermore, there are no lands within the proposed Project boundary that are under a Williamson Act contract (Los Angeles County 2020).

Forest and Timber Lands

The majority of land within the proposed Project boundary does not meet the definition of forest land or timberland (see Section 3.3.1 [Agriculture and Forestry Resources – Regulatory Setting]) and, rather, has low lying chaparral shrubs and arid lands with minimal vegetation. However, some areas in the proposed Project boundary, in particular near the Pyramid Lake Recreation Area and Castaic Lake (non-Project), which contain Blue Oak, Coastal Oak Woodland (COW), Montane Hardwood (MHW), and Juniper that could meet the definition of forest land. There are no lands zoned as timberland, nor are there timber land production zones within the proposed Project boundary (Los Angeles County 2020).

3.3.3 Environmental Impact Analysis

Would the proposed Project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Finding: No Impact

As discussed in Section 3.3.2 (Agriculture and Forestry Resources – Environmental Setting), most of the land within or adjacent to the proposed Project boundary is not designated, mapped by the DOC, or subject to the FMMP. No land within or adjacent to the proposed Project boundary is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. However, small portions of land in both the southern and northern portions of the proposed Project boundary are mapped and designated as "grazing lands" and "Urban and Built-Up Lands" (DOC 2020). Because no farmlands exist within the proposed Project boundary and the proposed Project does not propose to convert any existing land uses under the new FERC license, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, the proposed Project would have no impact on State-designated farmland.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), including the IVMP (i.e., Measure TR1), was designed or needed in order to reduce the potential farmland conversions, because there are no such risks under current or proposed Project conditions.

The proposed Project, when evaluated with and without the related PM&E measures, would not result in the conversion of farmland, and thus, would have no impact. Therefore, no mitigation is required.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

Finding: No Impact

The Williamson Act enables private landowners to contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. In return for this guarantee by landowners, the government jurisdiction assesses taxes based on the agricultural value of the land rather than the market value, which typically results in a substantial reduction in property taxes. There are no properties within the proposed Project boundary that are under such contracts (Los Angeles County 2020). Therefore, no properties would be converted to uses incompatible with a Williamson Act Contract. Given the above, the proposed Project would have no impact on existing land use zoning for agricultural use or Williamson Act contract lands.

There are no parcels within or adjacent to the proposed Project boundary zoned for agricultural use. The ANF lands within the proposed Project boundary are zoned as Developed Area Interface, Back Country, and Back Country Motorized Use Restricted; Back Country Non-Motorized; Critical Biological Recommended Wilderness; and Existing Wilderness. Los Angeles County lands adjacent to the proposed Project boundary are generally designated with land uses of Rural Land, Parks and Recreation, Rural Commercial, and National Forest (Los Angeles County 2020). Additionally, the proposed Project does not include novel land uses related to agricultural resources; as such, the proposed Project would not conflict with existing land use zoning.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), including the IVMP (i.e., Measure TR1), was designed or needed in order to reduce potential conflicts with agriculture zoning or Williamson Act contracts, because there are no such conflicts under current or proposed Project conditions.

Thus, the proposed Project, when evaluated with and without the related PM&E measures, would have no impact on existing zoning for agricultural use or Williamson Act contract lands.

c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code §12220[g]), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104[g])?

Finding: No Impact

As described in Section 3.3.1 (Agriculture and Forestry Resources – Regulatory Setting) above, ‘forestland” is defined by PRC § 12220(g) as land that can support 10 percent native tree cover of any species. Although some lands within the proposed Project boundary meet the definition of forest land as defined by PRC § 12220(g), there are no lands within the proposed Project boundary that are zoned as forest land, timberland, or timberland production zones (Los Angeles County 2020). Furthermore, the Licensees do not propose to seek land use designation or zoning changes within the proposed Project boundary, nor do the Licensees propose any changes to existing land uses and facilities on private, local, State, or federal land that would affect existing forestland (or any other) zoning.

Vegetation communities within the proposed Project boundary were identified in the Licensees’ CWHR studies in which habitats within the proposed Project boundary were mapped using the CDFW CWHR classification system. Those studies were conducted from October 1 through October 19, 2018. The communities mapped are as follows: Blue Oak – Foothill Pine (BOP); COW; Desert Riparian (DRI); Joshua Tree (JST); MHW; Pinyon – Juniper (PJN); Valley Foothill Riparian (VRI); Chamise – Redshank Chaparral (CRC); Coastal Scrub (CSC); Desert Wash (DSW); Mixed Chaparral (MCH); Sagebrush (SGB); Annual Grassland (AGS); Fresh Emergent Wetland (FEW); Wet Meadow (WTM); Urban; Barren (BAR); and Lacustrine (LAC). Forest lands are located

primarily in the southern and northern portions of the proposed Project boundary, near the Pyramid Lake Recreation Area and the non-Project Castaic Lake.

None of the PM&Es for the proposed Project would result in changes that conflict with forest zoning within the proposed Project boundary. Therefore, the proposed Project would not conflict with existing land use zoning for, or cause the rezoning of, forestland or timberland. As such, there would be no impact.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), including the IVMP (i.e., Measure TR1), was designed or needed to reduce potential conflicts with existing forestland or timberland zoning because there are no such conflicts under current or proposed Project conditions.

The proposed Project, when evaluated with and without the related PM&E measures, would have no impact on existing zoning for forestland, timberland, or timberland zoned timberland production.

d) Result in the loss of forestland or conversion of forestland to non-forest use?

Finding: No Impact

As discussed under question “c” above, the proposed Project boundary contains some land that meets the definition of forest land, as defined by PRC § 12220(g). However, the Licensees do not propose any changes to existing land uses and facilities on private, local, State, or federal lands that would affect existing forestland within the area, nor does the proposed Project include changes in use that would convert existing forest land to non-forest use. Therefore, there would be no impact.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), including the IVMP (i.e., Measure TR1), was designed, or needed to reduce conversion of existing forestland in the area, because there are no such conflicts under current or proposed Project conditions.

The proposed Project, when evaluated with and without the related PM&E measures, would not result in the conversion of farmland and therefore, would have no impact.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?

Finding: No Impact

As discussed above, the proposed Project boundary does not contain any designated important farmlands (question “a” and “b” above); rather, only approximately 50 acres are designated under the FMMP as potential grazing lands. Continued operation of the South SWP Hydropower under the proposed Project would not involve any significant land use or facilities use changes from the current South SWP Hydropower conditions.

Therefore, there would be no impact related to conversion of agriculture land to non-agricultural use.

In addition, although the proposed Project boundary does contain forested areas, the continued operation of the South SWP Hydropower facilities under the new FERC license would not include changes to such forested areas, or conversion of forest land to non-forest use. Therefore, since the proposed Project does not propose a conversion of farmland to non-agricultural use or conversion of forestland to non-forest use, no impacts would occur.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), including the IVMP (i.e., Measure TR1), was designed, or needed to reduce the conversion of existing farmland or forestland to non-agricultural or forest uses.

Thus, the proposed Project, when evaluated with and without the related PM&E measures, would have no impact on agricultural use or forestland conversion.

3.3.4 Mitigation Measures

Based on the impact analysis (see Section 3.3.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Agriculture and Forestry Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.4 AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

3.4.1 Regulatory Setting

The questions listed in the table above include terminology such as cumulatively considerable, criteria pollutant, non-attainment under applicable federal and State standards, and sensitive receptors. There is also a reference to consistency with an applicable air quality plan. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.4.1.1 Federal

Clean Air Act and National Ambient Air Quality Standards

The federal Clean Air Act (CAA), promulgated in 1963 and amended several times thereafter, including the 1990 CAA amendments, establishes the framework for modern air pollution control. The CAA directs the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ozone (O_3), CO, lead (Pb), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and particulate matter (PM). The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. Table 3.4-1 summarizes the NAAQS. Table 3.4-1 also lists the California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants and four other

pollutants, which are discussed below. Table 3.4-2 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the State of California.

Table 3.4-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1,3]	National Standards [2]	
			Primary [3,4]	Secondary [3,5]
Ozone	1 hour	0.09 ppm (180 µg/m^3)	N/A	N/A
	8 hour	0.07 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)
Carbon monoxide	8 hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	N/A
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	N/A
Nitrogen dioxide	Annual Average	0.03 ppm (57 mg/m^3)	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)
	1 hour	0.18 ppm (339 mg/m^3)	N/A	N/A
Sulfur dioxide	Annual Average	N/A	80 ug/m^3 (0.03 ppm)	N/A
	24 hour	0.04 ppm (105 mg/m^3)	0.14 ppm (365 µg/m^3)	N/A
	3 hour	N/A	N/A	0.5 ppm 1,300 µg/m^3
	1 hour	0.25 ppm (655 µg/m^3)	N/A	N/A
PM_{10}	Annual	20 µg/m^3	N/A	N/A
	24 hour	50 µg/m^3	150 µg/m^3	150 µg/m^3
$PM_{2.5}$	Annual	12 µg/m^3	15 µg/m^3	15 µg/m^3
	24 hour	N/A	35 µg/m^3	35 µg/m^3
Sulfates	24 hour	25 µg/m^3	N/A	N/A
Lead[6, 7]	30 day	1.5 µg/m^3	N/A	N/A
	Quarterly	N/A	1.5 µg/m^3	1.5 µg/m^3
	Rolling 3 Month Average[7]	N/A	0.15 µg/m^3	0.15 µg/m^3
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m^3)	N/A	N/A

Table 3.4-1. National and California Ambient Air Quality Standards (continued)

Pollutant	Averaging Time	California Standards [1,3]	National Standards [2]	
			Primary [3,4]	Secondary [3,5]
Vinyl Chloride[(6)]	24 hour	0.010 ppm (26 µg/m^3)	N/A	N/A
Visibility	1 observation	Extinction coefficient of 0.23 per kilometer; visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.	N/A	N/A

Source: CARB 2016
Notes:
[1]California standards for ozone, carbon monoxide, sulfur dioxide (1- and 24-hour), nitrogen dioxide, PM_{10} and $PM_{2.5}$ and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.
[2]National standards, other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean, are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
[3]Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 250°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 250°C and a reference pressure of 760 torr; ppm in this table refer to parts per million by volume (ppmv), or micromoles of pollutant per mole of gas.
[4]National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
[5]National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[6]CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
[7]National lead standard, rolling 3-month average: final rule signed October 15, 2008.
Key:
°C = degrees Celsius
CARB = California Air Resources Board
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
N/A = not applicable
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
ppm = parts per million
torr. = unit of pressure defined as 1/760 of a standard atmosphere

Table 3.4-2. State and Federal Criteria Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
O_3	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known TACs. Biogenic VOC may also contribute.	Low-altitude O_3 is almost entirely formed from ROG/VOC and NOx in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
CO	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical O_3. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
PM_{10}	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some TACs. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
$PM_{2.5}$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a TAC – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO_X, SO_X, ammonia, and ROG.
NO_2	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "NO_X" group of O_3 precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
SO_2	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Pb	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a TAC and water pollutant.	Pb-based industrial processes like battery production and smelters. Pb paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfate	Premature mortality and respiratory effects. Contributes to acid rain. Some TACs attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.

Table 3.4-2. State and Federal Criteria Air Pollutant Effects and Sources (continued)

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
H_2S	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, wastewater treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
VRP	Reduces visibility. Produces haze. Note: not directly related to the Regional Haze program under the FCAA, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a TAC.	Industrial processes.

Key:
CO = carbon monoxide
FCAA = Federal Clean Air Act
H_2S = hydrogen sulfide
NO_2 = nitrogen dioxide
NO_X = nitrogen oxides
O_3 = ozone
Pb = lead
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
ppm = ppm=parts per million
ROG = reactive organic gas
SO_2 = sulfur dioxide
SO_X = Oxides of sulfur
TAC = toxic air contaminant
VOC = volatile organic compound
VRP = visibility reducing particles

The CAA requires states to submit a State implementation plan (SIP) for areas in non-attainment for NAAQS. The SIP, which is reviewed and approved by the EPA, must demonstrate how the NAAQS would be achieved. Failing to submit a plan or secure approval can lead to denial of federal funding and permits. In cases where the SIP fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan.

Clean Air Non-Road Diesel Rule

To reduce emissions from off-road diesel equipment, the EPA established a series of increasingly strict emission standards for new engines. Locomotives and marine vessels are exempt from this rule. Manufacturers of off-road diesel engines are required to produce engines meeting certain emission standards based on the model year that the engine was manufactured according to the following compliance schedule:

- Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine hp category
- Tier 2 standards were phased in from 2001 to 2006
- Tier 3 standards were phased in from 2006 to 2008
- Tier 4 standards, which require add-on emissions-control equipment to attain them, were phased in from 2008 to 2015

3.4.1.2 State

The California Air Resources Board (CARB) is responsible for establishing and reviewing the State standards; compiling the California SIP and securing approval of that plan from the EPA, conducting research and planning, and identifying toxic air contaminates (TAC). CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles. CARB also oversees the activities of California's air quality management districts (AQMD), which are organized at the county or regional level. AQMDs are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal CAA and California CAA.

<u>California Clean Air Act and California Ambient Air Quality Standards</u>

In 1988, the State legislature adopted the California CAA, which established a Statewide air pollution control program. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA requires all AQMDs in the State to endeavor to meet the CAAQS by the earliest practical date. Each AQMD's clean air plan is specifically designed to attain the standards and must be designed to achieve an annual 5 percent reduction in district-wide emissions of each non-attainment pollutant or its precursors. When an AQMD is unable to achieve a 5 percent annual reduction, the adoption of all feasible measures on an expeditious schedule is acceptable as an alternative strategy (Health and Safety Code § 40914[b][2]). CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl), and visibility-reducing particles.

The CARB and local AQMDs are responsible for achieving CAAQS, which are to be achieved through district-level air quality management plans (AQMP) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to the CARB, which in turn, has delegated that authority to individual AQMDs. The CARB traditionally has established State air quality standards, maintains oversight authority in air quality planning, develops programs for reducing emissions from motor vehicles, develops air emission inventories, collects air quality and meteorological data, and approves SIPs.

The California CAA substantially adds to the authority and responsibilities of AQMDs. The California CAA designates AQMDs as lead air quality planning agencies, requires them to prepare air quality plans, and grants them authority to implement transportation control measures. The California CAA also emphasizes the control of indirect and area-wide sources of air pollutant emissions and gives local AQMDs explicit authority to regulate indirect sources of air pollution.

Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The *California Almanac of Emissions and Air Quality* presents the relevant concentration and cancer-risk data for the ten TACs that pose the most substantial health risk in California based on available data (CARB 2013). These TACs are as follows: acetaldehyde; benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel PM (DPM).

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

3.4.1.3 Local

South Coast Air Quality Management District

The 1977 Lewis Air Quality Management Act created the South Coast Air Quality Management District (SCAQMD) to coordinate air quality planning efforts throughout Southern California. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

Air Quality Management Plan

All areas designated as non-attainment under the CAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. The AQMP is the SCAQMD plan for improving regional air quality. It addresses CAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG).

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. It incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2016 AQMP includes the integrated strategies and measures needed to meet the NAAQS.

SCAQMD Significance Criteria

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD's *CEQA Air Quality Handbook*. Table 3.4-3 lists the daily thresholds for construction and operational emissions that have been established by the SCAQMD and it will be used in the analysis of air quality impacts for the proposed Project to determine significance.

Table 3.4-3. SCAQMD Air Quality Thresholds of Significance

Pollutant	Construction (pounds/day)	Operation (pounds/day)
Oxides of Nitrogen (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
Oxides of Sulfur (SO_X)	150	150
CO	550	550

Source: SCAQMD 1993
Key:
CO = Carbon Monoxide
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = Volatile Organic Compounds

3.4.1.4 Localized Significance Thresholds

SCAQMD has developed localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area. LSTs are derived based on the location of the activity (i.e., the source receptor area); the emission rates of NOx, CO, particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and particulate matter less than 10 microns in diameter (PM_{10}); the size of the Project Study Area, and the distance to the nearest exposed individual. The Project Study Area, and subsequently, the proposed

Project, are located within source receptor area Number 13 (Santa Clarita Valley). Table 3.4-4 lists the LST emission rates for a 2-acre site located within 500 meters of a sensitive use.

Table 3.4-4. SCAQMD Localized Significance Thresholds

Pollutant	Construction (pounds/day)	Operation (pounds/day)
NO_X	291	291
CO	8,933	8,933
PM_{10}	139	34
$PM_{2.5}$	80	20

Source: SCAQMD 2020
Key:
CO = Carbon Monoxide
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SCAQMD = South Coast Air Quality Management District

3.4.2 Environmental Setting

California is divided into 15 air basins, each of which is associated with one or more AQMDs. The area of Los Angeles County, in which the proposed Project is located, is within the South Coast Air Basin (SCAB) portion of the SCAQMD. The SCAB climate is determined by its terrain and geographical location. The SCAB is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the SCAB. The region lies in the semi-permanent, high-pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The proposed Project is situated within geographic areas that are currently designated by the EPA as attainment/maintenance for CO, PM_{10}, and NO_2, and non-attainment for O_3, $PM_{2.5}$, and lead for the NAAQS. Under the California CAA, the Los Angeles County portion of the SCAB is designated as a non-attainment area for O_3, $PM_{2.5}$, and PM_{10} for the CAAQS.

3.4.3 Environmental Impact Analysis

Would the proposed Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Finding: Less Than Significant Impact

For a project to be consistent with the 2016 AQMP, the pollutants emitted from a project should not exceed the SCAQMD daily threshold or cause a significant impact on air

quality (SCAQMD 2016). However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project is deemed consistent with the AQMP. The administrative changes and PM&Es associated with the proposed Project would not substantially change the long-term emissions. As discussed below, the proposed Project's short-term construction emissions would not exceed the SCAQMD's significance thresholds and would be localized. Therefore, the proposed Project would not conflict with applicable SCAQMD air quality plans and thus is expected to have a less-than-significant impact on applicable air quality plans.

The addition of Measure GS1 – Erosion and Sediment Control Plan and associated dust controls such as limiting vehicle speeds and watering to control fugitive dust, among other PM&Es with air quality control elements (see Section 2.4 [Proposed Project Changes]), would further codify existing practices for the proposed Project and thus would result in a less-than-significant and possible beneficial impact.

The proposed Project, when evaluated with and without related PM&E measures, is considered to be less than significant. As such, no mitigation is required.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?

Finding: Less Than Significant Impact

<u>Construction</u>

Short-term proposed Project-related ground disturbing activities, such as the recreation facilities improvements or non-native invasive plant species controls, may entail use of additional vehicles, construction equipment, and haul trucks on a temporary or an intermittent basis. The scale of activity typically would entail less than 10 additional construction vehicles and personal vehicles over current traffic. The most recent version of the CalEEMod model (Version 2016.3.2) was used to calculate the construction emissions associated with the proposed Project-related ground disturbance activities. This includes the proposed recreation improvements and assumes that all sites would be under construction concurrently as a worst-case scenario, even though the construction activities are anticipated to span the term of the new license under the schedules specified in each PM&E measure and would be infrequent. The detailed model output is included in Appendix C. Under a worst-case scenario, the construction-related emissions generated during peak construction days for the proposed Project are presented in Table 3.4-5. Because construction operations onsite must comply with dust control and other measures prescribed by SCAQMD Rules 402 and 403 so short-term construction impacts are minimized, compliance with these rules is assumed in Table 3.4-5. The PM_{10} and $PM_{2.5}$ emissions incorporate 55 percent control of fugitive dust as a result of watering and associated dust-control measures. The emissions presented in Table 3.4-5 are based on the best information available at the time of calculations. As shown in Table 3.4-5, both localized and regional construction emissions would remain below SCAQMD significance thresholds and are considered to be less than significant

using existing BMPs, prior to the application of the proposed PM&E with air quality specifications (i.e., Measure GS1 [Erosion and Sediment Control Plan]). As such, no mitigation measures are required.

Table 3.4-5. Construction Period Emissions

Construction[1]	Criteria Pollutants (Pounds per day)						CO_2e
	ROG	NO_X	CO	SO_X	PM_{10}[2]	$PM_{2.5}$[2]	
Regional Emissions							
Peak Daily Emissions	5.80	61.34	42.95	0.10	11.37	6.69	9,698.91
SCAQMD Threshold	75	100	550	150	150	55	N/A
Exceed Threshold?	No	No	No	No	No	No	N/A
Localized Emissions[3]							
Peak Daily Emissions	5.35	59.46	38.56	0.08	10.17	6.35	7,682.40
SCAQMD Threshold	N/A	291	8,933	N/A	139	80	N/A
Exceed Threshold?	N/A	No	No	N/A	No	No	N/A

Notes:
[1]The emissions are calculated using the assumption that all sites are under construction concurrently.
[2]PM_{10} and $PM_{2.5}$ emissions estimates assume compliance with SCAQMD Rule 403.
[3]Localized emissions thresholds are based on the following: source receptor area 13, 2-acre site area, and 500-meter receptor distance.
Key:
CO = carbon monoxide
CO_2e = Carbon Dioxide Equivalent
NO_X = nitrogen oxides
N/A = not applicable
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gas
SCAQMD = South Coast Air Quality Management District
SO_X = Oxides of Sulfur

The site stabilization associated with Measure GS1 – Erosion and Sediment Control Plan and the revegetation of disturbed areas associated with the IVMP (see Section 2.4 [Proposed Project Changes]), would further reduce fugitive dust emission for the proposed Project and thus would result in a less-than-significant impact.

Therefore, the potential impacts associated with criteria pollutant exceedances are considered to be less than significant with and without the related PM&E measures, and no mitigation is required.

Operation

The Licensees propose to operate the proposed Project as they have historically; changes are not proposed for facility operations or the construction of any new facilities or features that could adversely impact air quality. Moreover, the proposed Project does not include any new permanent sources of air pollutants, and no substantial changes in emissions are expected to occur for the term of the new FERC license.

South SWP Hydropower O&M and the use of recreation facilities would continue to generate some minor amount of air pollutant emissions, mainly in the form of automobile emissions, motorized watercraft emissions, and campfires during recreation facility use. However, these emissions would be locally minor, mostly seasonal, and similar to current conditions.

O&M under the proposed Project would not differ from South SWP Hydropower conditions and, therefore, would not result in a cumulatively considerable net increase of any criteria pollutant, including for 8-hour ozone, NO_2 (federal only), $PM_{2.5}$, and PM_{10}.

The proposed Project, including the IVMP and HPMP – ground disturbing PM&Es (see Section 3.1.1.2 [PM&E Impact Assessment Approach and Groupings]) — would also be similar to current operational activities and would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of any criteria pollutant that might categorize the proposed Project as non-attainment under an applicable federal or State ambient air quality standard. As such, a less-than-significant impact would occur.

The site stabilization associated with Measure GS1 – Erosion and Sediment Control Plan and the revegetation of disturbed areas associated with the IVMP (see Section 2.4 [Proposed Project Changes]), would further codify existing practices for the proposed Project and thus would result in a less-than-significant and possibly beneficial impact.

Therefore, the potential impacts related to ambient air quality are considered to be less than significant with and without the related PM&Es, and no mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Finding: Less than Significant Impact

The SCAQMD defines sensitive receptors as “any residence including private homes, condominiums, apartments, and living quarters, schools, preschools, daycare centers and health facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing” (SCAQMD 2016). There are no residential receptors located near proposed Project work areas for recreational facility improvements. The closest residential area to all of the proposed Project recreation work areas at Pyramid Lake is located in Castaic, approximately 17 miles southeast. The closest existing land uses to the Quail Lake improvements are located 0.5 to 1.5 miles to the east. If completed prior to construction, the proposed Centennial residential developments would be located approximately 0.5 miles north of the Quail Lake recreation improvements. In addition, there are no hospitals or schools in the vicinity of proposed Project work areas. Campers and recreational users would be in the vicinity of the proposed Project on a short-term and temporary basis.

Construction activities would result in short-term proposed Project-generated emissions of diesel particulate matter (DPM) from the exhaust of diesel-powered equipment. DPM contains gaseous hazardous air pollutants (HAP) including acetaldehyde, acrolein,

benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The dose to which receptors are exposed is the primary factor used to determine health risks. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. Health risk assessments, which determine the exposure of sensitive receptors to HAP emissions, are typically based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed Project. As presented earlier in Table 3.4-4, maximum daily particulate emissions, which include DPM, would be relatively low. Furthermore, the construction period would be relatively short (approximately six months), especially when compared to the 70-year exposure period. Combined with the highly dispersive properties of DPM, construction-related emissions of HAPs would not expose sensitive receptors to substantial emissions of HAPs. As such, any impact would be less-than-significant.

The proposed Project operation under the new FERC license does not entail any significant changes to current South SWP Hydropower operations and, therefore, new sources of pollutants are not anticipated in the proposed Project.

The proposed Project recreation facility improvements neither include increases in capacity, nor significantly differ in operations from current conditions. For example, since no additional campsites will be constructed, the future use of campfires, would remain substantially the same as the current use, or potentially become stricter with increasing fire hazards in the region.

The remaining aspects of the PM&Es (see Section 2.4 [Proposed Project Changes]) generally include repeated actions that are anticipated to be small in scale and short in duration, with minimal exposure of sensitive receptors to pollutant concentrations, if at all. The Visual Resources Management Plan (i.e., Measure VR1) and general maintenance include some short duration and infrequent painting of South SWP Hydropower buildings, fencing, and guardrails during the term of the new license. In addition, in some areas, the application of herbicides may be necessary in accordance with the IVMP (i.e., Measure TR1). The herbicides are applied by a qualified applicator and according to label instructions. Following label instructions reduces potential exposure due to drift through prescriptive limits for application temperature, humidity, wind speed, and method of application. Therefore, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations and thus impacts would be less than significant.

The addition of the protective elements in Measure GS1 – Erosion and Sediment Control Plan, Measure LU1 – Fire Prevention and Response Plan, and Measure WR2 – Hazardous Materials Management Plan, (see Section 2.4 [Proposed Project Changes]), would further codify existing practices for the proposed Project and thus would result in a less-than-significant and possibly beneficial impact.

Thus, the proposed Project, when evaluated with and without, the related PM&E measures, would have a less-than-significant impact from substantial pollutant concentration exposures to sensitive receptors. Therefore, no mitigation is required.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Finding: Less than Significant Impact

Ground disturbing activities under the proposed Project could result in emission of odors from construction equipment and vehicles (e.g., diesel exhaust or asphalt paving). It is anticipated that these odors would be short-term, limited in extent at any given time, and distributed throughout the proposed Project boundary during the duration of construction, and, therefore, would not inconvenience a substantial number of individuals. As such, a less-than-significant impact associated with this issue would occur with implementation of the proposed Project.

As previously discussed, no substantial change in emissions are expected to occur for the term of the new FERC license. Proposed Project O&M would result in a continuation of the same minor, localized air pollutant emissions that the South SWP Hydropower currently generates, including the potential for short duration and infrequent repainting of buildings, fences, and guardrails, or minor upgrades to recreation facilities. The proposed Project does not entail ongoing emissions or emissions associated with short-term O&M activities beyond current conditions; furthermore, the implementation of the PM&Es are not anticipated to cause or reduce emissions leading to odors near a substantial number of people.

As such, the potential impacts related to odors are considered to be less than significant with and without the related PM&E measures, and no mitigation is required.

3.4.4 Mitigation Measures

Based on the impact analysis (see Section 3.4.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Air Quality, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.5 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

This section provides technical information and reviews the proposed Project in sufficient detail to determine to what extent the proposed Project may affect special-status species, other fish and wildlife, and sensitive habitats (USFWS 1973).

3.5.1 Regulatory Setting

The questions listed in the table above include references to species protections afforded by the CDFW, BLM, or USFWS; State or federally protected wetlands; local policies or ordinances protecting biological resources; adopted habitat conservation plans; natural community conservation plans; or other approved local, regional, or State habitat conservation plans. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.5.1.1 Federal

Endangered Species Act

The federal ESA was passed by the U.S. Congress in 1973 to protect and recover imperiled species and the habitat upon which they depend (50 CFR § 17.12 for listed plants, 50 CFR § 17.11 for listed animals, and various notices in the Federal Register (FR) for proposed species and designated critical habitats). The federal ESA is administered by the USFWS and NMFS. The federal ESA lists protected species in danger of extinction throughout all or a significant region of the species range as “endangered” and species likely to become endangered as “threatened” within the foreseeable future (USFWS 2021a). The term “take”, under the Federal ESA means is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” with an endangered or threatened species (USFWS 1973).

Consultation with USFWS occurs when a proposed action of a project has the potential to affect federally listed species, as well as designated critical habitat for those species.

Pertinent prior consultations and applicable resulting BOs that affirmed measures to avoid and minimize the potential to affect federally listed species include the 2007 consultation regarding changes in South SWP Hydropower releases to Piru Creek (i.e., Pyramid reach) that simulate natural hydrology; (USFWS 2007); the 2016 consultation for periodic and ongoing maintenance activities at the Castaic Powerplant; (USFWS 2016); and the 2012 consultation regarding upgrades to and future O&M on the Castaic Transmission Line (USFWS 2012).These measures would continue to be implemented under baseline conditions.

As mentioned above, FERC is the lead federal agency for Section 7 ESA consultation. Informal Section 7 ESA consultation with the USFWS will be conducted by FERC as part of the NEPA compliance. The Licensees, as FERC’s designated non-federal representatives, initiated informal Section 7 ESA consultation with the Ventura USFWS office and requested the USFWS’ concurrence on September 9, 2020 for determinations that the proposed Project may affect. It is not likely to adversely affect the arroyo toad (*Anaxyrus californicus*), California condor (*Gymnogyps californianus*),

least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and California red-legged frog (*Rana draytonii*) and designated critical habitat for the arroyo toad, California condor, southwestern willow flycatcher, and California red-legged frog. The USFWS provided its concurrence on October 27, 2020 (USFWS 2020a).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. § 703 et seq.) protects migratory bird species and prohibits take (i.e., harm or harassment) through setting hunting limits and seasons and protecting occupied nests and eggs. The USFWS administers the MBTA and reviews actions that may affect species protected under the act. It should be noted that MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same, apply only to actions directed at migratory birds, their nests, or their eggs (USFWS 2021b).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) is the primary federal law protecting eagles. The USFWS oversees enforcement of this act. BGEPA prohibits the take of eagles without a permit (16 U.S.C. §§ 668-668c). BGEPA defines take as to "pursue, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb," and prohibits the take of individuals and their parts, nests, or eggs (USFWS 1973). In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present. If, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment, those impacts would qualify as take under the BGEPA definition.

USFWS is authorized to permit the take of eagle nests that interfere with resource development or recovery operations subject to regulations that became effective on November 10, 2009 (50 CFR 22.26, 22.27). Under these rules the USFWS can issue permits that authorize individual instances of take of bald and golden eagles when the take is associated with, but not the purpose of, an otherwise lawful activity and cannot practicably be avoided.

Clean Water Act: Sections 401, 402, and 404

The CWA as amended in 1972 is described in Section 3.0 (Environmental Checklist and Environmental Evaluation) of this document. Regarding the biological resources impact assessment, key components of the CWA pertain to water quality and dredge/fill placement in wetlands and other waters of the United States, as referenced in the impact analysis question "c". Other waters of the United States include lakes, rivers, streams, and their tributaries meeting the criteria under the CWA and the implementing regulations.

Wetlands are defined, for regulatory purposes, as areas inundated or saturated by surface water or groundwater; at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions (33 CFR § 328.3). If a project results in discharges of any dredge/fill materials into waters of the United States – including wetlands, before and after the project actions – then a 404 permit would be obtained from USACE as well as any applicable 401 WQCs from the SWRCB or RWQCB.

Angeles and Los Padres National Forest Land Management Plans

The ANF LMP was adopted in 2006 and is intended to provide guidance for management of NFS lands for a period of 10 to 15 years (USFS 2005a). The LPNF LMP was adopted in 2005 and describes the strategic direction at the broad program-level for managing the land and its resources over the next 10 to 15 years (USFS 2005b). The ANF and LPNF LMPs are described in Section 3.0 (Environmental Checklist and Environmental Evaluation) of this document. This document assesses the biological resource-related goals and policies as referenced in the FLA, as amended (DWR 2020).

Policies and programs associated with the ANF and LPNF, such as the ANF and LPNF LMPs, apply only to NFS lands within the proposed Project boundary, including 1,334.6 acres managed by the ANF and 665.9 acres managed by the LPNF.

3.5.1.2 State

California Endangered Species Act

CDFW has jurisdiction over plant and wildlife species listed as ST or endangered under CESA pursuant to § 2080 of the FGC. CESA prohibits the take of State-listed threatened or endangered species. CDFW defines take as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” (USFWS 1973). CDFW may authorize take under CESA through § 2081 of the FGC if that take is incidental to otherwise lawful activities and if certain conditions are met (CDFW 2020a). For species listed under the ESA and CESA on which the USFWS has issued an assessment of potential effects, the State is encouraged to rely on that assessment.

The State of California designates SSCs as wildlife and plant species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, and/or educational values. Under CESA these species do not have legal protection (CDFW 2017a).

In addition, prior to the enactment of CESA, CDFW created a designation to provide additional protection to rare species. This designation remains today and is referred to as “fully protected” species, and those listed “may not be taken or possessed at any time” (CDFW 2017b).

California Environmental Quality Act Guidelines Section 15380

The CEQA Guidelines mandates the assessment and disclosure of potential project-related impacts to federal and/or State listed species, as well as species not listed federally or by the State that may be considered rare, threatened, or endangered, if the species can be shown to meet specific criteria for listing outlined in CEQA Guidelines § 15380 (b). Species that meet these criteria can include “candidate species”, species “proposed for listing”, and “species of special concern.” Plants appearing in the California Native Plant Society (CNPS) California Rare Plant Ranking System meet CEQA’s Guidelines § 15380 criteria.

CEQA’s Guidelines § 15380 was included to address a potential situation in which a public agency is to review a proposed project that may have a significant effect on, for example a “candidate species”, which has not yet been listed by the USFWS or CDFW. Therefore, CEQA enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (CDFW 2016).

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Act places the State-level responsibilities for water rights and water quality protection on the SWRCB and directs the nine RWQCBs to develop and enforce water quality standards within their jurisdictions. The South SWP Hydropower is located in two RWQCB jurisdictions; Quail Lake is located within the Lahontan RWQCB jurisdiction while the remaining South SWP Hydropower facilities are located within the Los Angeles RWQCB jurisdiction. The Porter-Cologne Act requires any entity discharging waste, or proposing to discharge waste, within any region that could affect the quality of the “waters of the State” to file a “report of waste discharge” with the appropriate RWQCB. The appropriate RWQCB then would issue a permit, referred to as a waste discharge requirement. Waste discharge requirements implement water quality control plans and take into consideration the Beneficial Uses to be protected, the WQO reasonably required for that purpose, other waste discharges, and the need to prevent nuisances (California Water Code § 13263) (SWRCB 2021). Refer to Section 3.1.3 (Broad Regulatory Context) for a discussion of NPDES permitting.

Additionally, in April 2020 the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the State; (3) wetland delineation procedures; and (4) procedures for the submittal, review and approval of applications for WQCs and waste discharge requirements for dredge or fill activities.

California Fish and Game Code

The California FGC includes multiple sections that regulate fish and wildlife, and their aquatic habitat which were contemplated in the impact discussion. Key sections are discussed below.

Under FGC Code §§ 1600-1616, CDFW has the authority to regulate actions that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

Nesting migratory avian species are protected under FGC §§ 3503 (California Legislative Information 2021a), 3503.5 (California Legislative Information 2021b) and 3800 (California Legislative Information 2021c), which prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of take provisions require that proposed Project-related disturbance, within active nesting territories, be reduced or eliminated during critical phases of the nesting cycle (approximately March 1–August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young), or the loss of habitat upon which birds are dependent, is considered "taking", and it is potentially punishable by fines and/or imprisonment. Such taking would also violate federal law protecting listed migratory birds under the MBTA.

3.5.1.3 Local

The South SWP Hydropower is located within Los Angeles County, primarily on State and federal lands; however, there are privately owned lands in the vicinity of Quail Lake. Additionally, areas surrounding Angeles Tunnel, Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, and Castaic Transmission Line are subject to the Santa Clarita Valley Area Plan. Regarding biological resources, Los Angeles County Codes 22.56.2050 through 22.56.2260 include provisions for the protection of oak trees and the requirement of permits for removal. Hazardous trees are considered exempt from these provisions, as outlined in County Code 22.56.2070.

Los Angeles County General Plan

The Conservation and Natural Resources Element of Los Angeles County's 2015 General Plan includes three sections that deal with biological resources – open space, biological, and local later. Ten policies are included in the Open Spaces section of the General Plan, focusing primarily on acquisition of open space; increasing access to open space; and improving understanding and appreciation of natural areas. The Biological Resources section of the General Plan included 12 policies focusing primarily on conserving and enhancing natural resources; discouraging development in areas with significant biological resources; and restoring riparian and upland areas. Also, the General Plan contains a specific policy to ensure compatibility of development on NFS lands with Land and Resource Management Plans. The Local Water section has several policies that pertain to biological resources, including preserving, restoring and

purchasing open space to preserve the healthy function of watersheds (Los Angeles County 2015).

Santa Clarita Valley Area Plan

The 2012 Santa Clarita Valley Area Plan includes a conversation and open space element with seven objectives and attending policies to meet those objectives that pertain to biological resources. The seven objectives include conserving existing natural areas and restoring degraded areas, protecting areas with extraordinary resource values, protecting wildlife corridors, preventing development from impacting Forest Service lands, maintain urban forests, minimizing impacts of human activities on natural communities, and providing access to natural communities (Los Angeles County Department of Regional Planning 2012).

Habitat Conservations Plans and Natural Community Conservation Plans

No Habitat Conservation Plans or Natural Community Conservation Plans have been adopted within the proposed Project boundary (CDFW 2020b) and the Environmental Conservation Online System (USFWS 2020b).

3.5.2 Environmental Setting

This section describes the regional and local environmental setting for biological resources. As described in Section 3.1.2 (Resource Section Contents), this section, different than most sections, includes a methodology section to describe the extensive literature and field screening processes essential for establishing the biological resources setting.

3.5.2.1 Local Setting

The proposed Project is located in Los Angeles County, California. Elevation in the proposed Project boundary ranges from 1,490 feet to 3,325 feet above mean sea level. The majority of the proposed Project falls within the Upper Piru watershed (Hydrologic Unit Code 1807010205), with a small portion of the Little Piru watershed (Hydrologic Unit Code 1807010206) below Castaic Lake (CDFW 2020c).

3.5.2.2 Sensitive Natural Communities

Vegetation communities were identified in the Licensees' Special-Status Species and ESA-listed Terrestrial Wildlife Species – California Wildlife Habitat Relationships studies, in which habitat within the proposed Project boundary was mapped using the CDFW's CWHR classification system (Mayer 1988). Sensitive natural communities as defined by CDFW are those with a State rarity ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable).

The vegetation sampling portion of the studies were conducted from October 1 through October 19, 2018. Within the proposed Project boundary, 18 habitat types were determined to occur with the two most common being LAC which comprises almost 45

percent, and CSC, which is the most common terrestrial habitat type making up approximately 12 percent. The 18 habitat types found within the proposed Project boundary include:

- Annual Grassland (AGS)
- Barren (BAR)
- Blue Oak – Foothill Pine (BOP)
- Chamise – Redshank Chaparral (CRC)
- Coastal Oak Woodland (COW)
- Coastal Scrub (CSC)
- Desert Riparian (DRI)
- Desert Wash (DSW)
- Fresh Emergent Wetland (FEW)
- Joshua Tree (JST)
- Lacustrine (LAC)
- Mixed Chaparral (MCH)
- Montane Hardwood (MHW)
- Pinyon – Juniper (PJN)
- Sagebrush (SGB)
- Urban (URB)
- Valley Foothill Riparian (VRI)
- Wet Meadow (WTM)

Six sensitive natural communities were identified in 2018 and 2019 within the proposed Project boundary that meet CDFW's definition of sensitive (S1-S3). These are as follows: DRI, JST, VRI, DSW, and FEW. Refer to Section 3.5.2.3 below for additional discussion of wetland and riparian habitats.

3.5.2.3 Federally Protected Wetlands/Waters of the United States

As part of the *Botanical Resources Study*, the Licensees performed field surveys between May 1, 2017 and May 23, 2017 to map and assess wetland (and riparian) habitats using BLM's Properly Functioning Condition (PFC) assessment, which – since it does not look at soil conditions – may also yield and overestimate wetlands. During field surveys, a qualified team of field staff assessed the condition of wetland and riparian habitat using the PFC qualitative methods for wetland (i.e., lentic) and riparian areas adjacent to flowing water (i.e., lotic) (Prichard 2003; Dickard 2015).

Twenty-two lentic (i.e., wetland) areas were identified and assessed in the 2017 and 2018 surveys, for a total of approximately 85 acres. The areas identified included several disjunct areas that were similar and close in proximity, but not connected. For example, areas of cattail habitat that were similar in structure and composition but separated by a different type of vegetation or shoreline structure. Disjunct features in proximity were combined into a single feature for purposes of analysis and reporting. Ten features were found to have "Proper functioning condition," eight "Functional – at risk," and four "Nonfunctional." Areas were determined to be "Functional – at risk" or "Nonfunctional" for a variety of reasons, including limited vegetative structure and riprapped shorelines.

The Licensees identified nine lotic (i.e., riparian) areas in Gorman Creek; Pyramid reach, Pyramid Lake, and Castaic Creek; these total approximately 78.5 acres. Seven of the nine riparian areas were determined to exhibit "Proper functioning condition", and two areas, one at the inlet of Gorman Creek and Pyramid Lake (PL-10-Lo-A) and one at Castaic Creek (CC-4-Lo-B), were determined to be "Functional – at risk." A proper functioning wetland has high probability to withstand overland flow events as well as wind and wave action due to their ability to dissipate energy; filter sediment; develop floodplains; and other processes that make the system stable. A "functional – at risk" wetland is stable presently but over time has a high probability of degradation with overland flow events, wind action, and wave action (Dickard 2015). These two stream zones with surrounding riparian habitat were determined to be "functional – at risk" based on their simplified geomorphological structure (e.g., channelization) and limited ability to dissipate energy. None of these characteristics are due to operations or were created from conditions attributable to South SWP Hydropower operations, as the proposed Project would keep the flows consistent and at the same levels they are now in these areas.

3.5.2.4 Wildlife Movement Corridors

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to: (1) sustain species with specific foraging requirements; (2) preserve a species' distribution potential; and (3) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife movement corridors to be a sensitive resource.

Available data on existing movement corridors and linkages was accessed on September 17, 2020, via the CDFW BIOS 5 Viewer (CDFW 2020c). Data reviewed included the Essential Connectivity Areas layer [ds623], the Natural Landscape Blocks layer [ds621], and the Missing Linkages in California layer [ds420]. The western half of Pyramid Lake and the Piru Creek drainage are included in the essential connectivity area[2], but they are characterized as being 'less permeable' (CDFW 2014a). The entire proposed Project is surrounded by a natural landscape block (ID #41) (CDFW 2016). The northern tip of Elderberry Forebay is identified as one end of a missing linkage for mammals, called the Castaic Hwy 5 Undercrossing (CDFW 2014b). This missing linkage has been classified as a moderate threat to connectivity in the area for mammals, due to it being a 'choke point.' Additionally, the area between Elderberry Forebay and Quail Lake, which is included in the area along with Pyramid Lake, is identified as a South Coast Missing Linkage [ds419]. The area south of Quail Lake was identified primarily as a potential movement corridor for American badger (*Taxidea taxus*). The area north of Pyramid Lake was identified as a potential movement corridor for mountain lion (*Puma concolor*) and mule deer (*Odocoileus hemionus*). The area south of Pyramid Lake was identified by the South Coast Missing Linkages report as a potential movement corridor for California spotted owl (*Strix occidentalis occidentalis*), and the area north of Castaic Lake and the Elderberry Forebay was identified as a potential movement corridor for mountain lion and mule deer (Penrod et al. 2005).

Major non-South SWP Hydropower barriers to wildlife movement near or intersecting the proposed Project boundary include Interstate 5, which bisects the entire proposed Project boundary from north to south, State Highway 138 to the north, and the urban areas of Castaic and Santa Clarita to the south. Gorman Creek, Coyote Canyon, Cherry Canyon, Forest Road 6N43, and Big Oak Flat/Canton Canyon have been identified as areas that need improved wildlife overpass or undercrossing structures where they intersect with Interstate 5 to improve wildlife movement within the Sierra Madre-Castaic Linkage (South Coast Wildlands 2008).

Proposed Project-related infrastructure may function as localized barriers to wildlife that may delay or temporarily hinder movement. However, none of the features appear to represent major impediments or expose wildlife to risk by forcing them into more dangerous alternative routes. The overwhelming majority of lands adjacent to the proposed Project can be characterized as contiguous open space associated with the ANF and LPNF; they are capable of facilitating unburdened wildlife movement.

3.5.2.5 Special-Status Species

Special-status species include: (1) those that are endangered due to imminent possibility of extinction in the wild; and (2) those that are rare due to small numbers throughout their range. As such, any negative impacts to a species that is rare due to small numbers (or its habitat) that could make them endangered or put them in a position where they are likely to become endangered throughout all or most of the

[2] Essential connectivity areas are large remaining blocks of intact habitat or natural landscape and model linkages between them that need to be maintained, particularly as corridors for wildlife (CDFW 2014a).

species' range would also designate them as special-status species. All species listed on the federal ESA and CESA are included in this definition, but so are many other species that meet the definition. These species have been identified and assigned a status ranking by governmental agencies such as CDFW, USFWS, BLM, USFS, and non-profit organizations such as CNPS. Some common threats to a species' or population include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined as any species that is granted status by a federal, State, or local agency. This includes the following:

- Listed, proposed, or candidates for listing under the federal ESA (CFR § 17.11 – listed; 61 FR 7591, February 28, 1996 candidates)
- Listed or proposed for listing under the CESA (CESA; FGC 1992 § 2050 et seq.; 14 CCR § 670.1 et seq.)
- Designated as an SSC by CDFW
- Designated as FP by the CDFW (FGC §§ 3511, 4700, 5050, 5515)
- Species that meet the definition of rare or endangered under CEQA (14 CCR § 15380) including CNPS List Rank 1A, 1B, 2A, and 2B. DWR also reviewed CNPS guidance regarding CNPS rank 4 plants in CEQA analyses (CNPS 2020).
- Species designated as sensitive by the USFS (i.e., FSS) for the ANF and LPNF where they occur on NFS lands, including Watch List plants
- Species designated as sensitive by the BLM in California where they occur on BLM lands (BLM-S)

In 2018 a preliminary identification of potential habitat was first determined by a desktop review of information collected for the *Botanical Resources Study* in riparian areas and examination of publicly available aerial imagery. In addition, the Licensees accessed existing species records through the CNPS online Inventory of Rare and Endangered Vascular Plants of California and CDFW's California Natural Diversity Database (CNDDB). Plant species records were also reviewed on the CalFlora website. The database queries were each based on a search of the same area as described above. For a complete record of initial database queries and additional methodology, please refer to the FLA, which can be found at the relicensing website for the South SWP Hydropower (https://south-swp-hydropower-relicensing.com/).

On September 17, 2020, the USFWS databases were queried again to update the list of federally listed species and critical habitats that have the potential to be affected by the proposed Project. A query of CDFW's CNDDB on September 11, 2020, provided an updated list of processed and unprocessed occurrences for special-status species in USGS 7.5-minute quadrangles that overlap with the proposed Project boundary including Black Mountain, Burnt Peak, Cobblestone Mountain, Green Valley, La Liebre

Ranch, Lebec, Liebre Mountain, Mint Valley, Newhall, Piru, Val Verde, Warm Springs Mountain, and Whitaker Peak, California. In addition, the CNPS database was queried to identify special-status plant species with the potential to occur in the aforementioned USGS quadrangles. On September 25, 2020, the NMFS database was also queried in the USGS quadrangles that overlap with the proposed Project boundary to update the list of species and designated critical habitat under the jurisdiction of NMFS with the potential to occur. Lastly, the sensitive species lists maintained by NFS and BLM were reviewed to identify any plant and wildlife species that are recognized by the NFS as sensitive (i.e., FSS) on NFS lands and the BLM as sensitive (BLM-S) on BLM lands. Raw data from the database queries are provided in Appendix D, with the exception of the CNDDB RareFind 5 results as they are not available for public distribution.

From 2017 to 2020, the Licensees completed field studies in support of the FERC South SWP Hydropower relicensing, including multiple studies assessing and inventorying biological resources. These biological resource studies included vegetation mapping, wetland and riparian assessments; surveys and assessments for AIS, special-status plants, NNIP, special-status aquatic and semi-aquatic species, southwestern willow flycatcher, the western distinct population segment (DPS) of yellow-billed cuckoo (*Coccyzus americanus*), bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), California condor and least Bell's vireo; a field site assessment for California red-legged frog; and a habitat-based assessment for other special-status terrestrial wildlife (Licensees 2020). Biological information gathered during these field studies was considered when defining the environmental setting for the proposed Project. Results of these studies can be found in the FLA as amended and on the Licensees' South SWP Hydropower relicensing site (http://south-swp-hydropower-relicensing.com/).

The results of the USFWS, CDFW, CNPS, NMFS, NFS, and BLM queries, as well as field studies and the Application for New License for Major Project (i.e., the FLA, as amended), identified special-status species with the potential to occur in the proposed Project boundary and potentially impacted by proposed Project-related activities. Appendix E describes the habitat requirements for each of these species and provides conclusions regarding the potential for each species to be impacted by the proposed Project. In cases where a determination was made that no suitable habitat for a given species existed or the proposed Project boundary is outside the known range of a given species, that species is not analyzed further in this document.[3] Conversely, when information about the presence of a particular special-status species was unknown, but suitable habitat was present, the Licensees assumed the presence of the species.

To address question "a" of the checklist (see below), special-status species are further discussed in Section 3.5.3 (Biological Resources – Environmental Impact Analysis) below, in three groups: (1) those species listed under the federal ESA; (2) those species listed under CESA or as a State FP; and (3) all other special-status species, including

[3] For the purpose of this section, habitat is suitable for a given species if a) the species is known to utilize the habitat and/or b) a habitat has sufficient resources required for any necessary species' life stage activity (e.g., foraging, nesting, shelter).

those listed by the CDFW as SSC, the Forest Service as FSS, the BLM as BLM-S, and CNPS rare plant rankings.

Table 3.5-1 provides a summary of those species, their associated vegetation communities determined to have the potential to occur within the proposed Project boundary, and their potential to be affected by proposed Project-related activities. Additionally, Table 3.5-1 provides a summary of documented occurrences for each species in relation to the proposed Project boundary, including the vegetation communities each species could be associated with.

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
Plants			
marsh sandwort (*Arenaria paludicola*)	FE, SE, CRPR 1B.1, S1	Sandy soils in: • Brackish marsh and swamps	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is 64 miles to the west of the proposed Project boundary (USFWS 2018).
Nevin's barberry (*Berberis nervosa*)	FE, SE, CRPR 1B.1	Washes and dry creeks in: • Chaparral • CSC	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is approximately 2 miles north of the proposed Project boundary (CDFW 2020d).
slender mariposa- lily (*Calochortus clavatus* var. *gracilis*)	CRPR 1B.2, FSS, BLM-S, S3	• Chaparral • CSC • Valley and foothill grassland	Observed throughout proposed Project boundary; documented 37 occurrences (i.e., populations) during botanical inventory surveys.
Peirson's morning glory (*Calystegia peirsonii*)	CRPR 4.2, S4	• Chaparral • Cismontane woodland • CSC • Lower montane coniferous forest • Valley and foothill grassland	Observed throughout proposed Project boundary; documented 93 occurrences during botanical inventory surveys.
Mt. Pinos larkspur (*Delphinium parryi* ssp. *purpureum*)	CRPR 4.3, FSS, S4	• Chaparral • Mojavean desert scrub • PJN woodland	Observed one occurrence within the proposed Project boundary during botanical inventory surveys.
slender-horned spineflower (*Dodecahema leptoceras*)	FE, SE, S1	Sandy soils in: • Alluvial fan scrub	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is 2 miles south of the proposed Project boundary (CDFW 2020d).
southern California black walnut (*Juglans californica*)	CRPR 4.2, S4	Alluvial areas in: • Chaparral • Cismontane woodland • CSC • Riparian woodland	Observed at two locations within the proposed Project boundary during botanical inventory surveys.

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
Gambel's watercress (*Nasturtium* [*Rorippa*] *gambelii*)	FE, ST, CRPR 1B.1, S1	Freshwater and brackish marsh	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is approximately 30 miles south of the proposed Project boundary (USFWS 2018).
spreading navarretia (*Navarretia fossalis*)	FT, CRPR 1B.1, S2	Marshes, swamps, vernal pools, and playas in: • Chenopod scrub • Saltbush scrub	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is approximately 2 miles south of the proposed Project boundary (CDFW 2020d).
short-joint beavertail (*Opuntia basilaris* var. *brachyclada*)	CRPR 1B.2, FSS, BLM-S, S3	• Chaparral • Mojavean desert scrub • PJN woodland	Observed throughout proposed Project boundary; documented47 occurrences during botanical inventory surveys.
California orcutt grass (*Orcuttia californica*)	FE, SE, CRPR 1B.1, S1	Vernal pools in valley and foothill grassland	Not observed during botanical inventory surveys, and no occurrences previously recorded on site. Nearest known occurrence is approximately 5 miles southeast of the proposed Project boundary (CDFW 2020d).
Invertebrates			
vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools and other seasonally flooded depressions over an impervious substrate layer, and often occurring in an undulating landscape	The nearest known occurrences are in the Santa Clarita area of Los Angeles County, 12.8 and 13 miles from Elderberry Forebay
Crotch's bumblebee (*Bombus crotchii*)	State Candidate Endangered	Inhabits open grassland and scrub habitats (Williams et al. 2014).	Occurrence approximately 4.6 miles east of Quail Lake (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
San Emigdio blue butterfly (*Plebulina emigdionis*)	FSS	Host plant fourwing saltbush (*Atriplex canescens*), preferring riparian areas, as well as dry river courses and intermittent stream sides and in surrounding flat lands. Adults emerge from April to September (NatureServe 2020a).	Nearest known occurrence approximately 5.8 miles to the north of the proposed Project boundary (CDFW 2020d).
Fish			
Santa Ana sucker (*Catostomus santaanae)*	FT[4]	Piru Creek downstream of Pyramid Dam and upstream of Lake Piru (i.e., Pyramid reach of Piru Creek)	Known from Pyramid reach of Piru Creek. It is currently undetermined whether the population is hybridized with Owens sucker (*C. fumeiventris*).
unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)	FE, SE, FP	Isolated perennial headwater streams.	Nearest known occurrence documented approximately 7.6 miles downstream of Elderberry Forebay (CDFW 2020d).
steelhead, southern California DPS (*Oncorhynchus mykiss irideus*, pop. 10)	FE	Throughout Piru Creek basin.	Historically in Piru Creek drainage before construction of Santa Felicia Dam in 1955 (CDFW 2020d).

[4] The population within the Santa Clara River drainage basin is not covered by the ESA listing, which includes only populations in the Santa Ana, Los Angeles, and San Gabriel rivers drainage basins (65 FR 19686). Additionally, there is no designated critical habitat for Santa Ana sucker within the Santa Clara River and its tributaries.

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
Amphibians			
arroyo toad (*Anaxyrus [=Bufo] californicus*)	FE, SSC	JST, MCH, PJN, VRI	Known occurrences and designated critical habitat in Piru Creek and Castaic Creek upstream of Elderberry Forebay (CDFW 2020d; USFWS 2020b; USFWS 2020c). Observed most recently in 2020 within a segment of Pyramid reach and Agua Blanca Creek as part of annual monitoring (Dudek 2020).
yellow-blotched salamander (*Ensatina eschscholtzii croceater*)	FSS, BLM-S	Terrestrial in evergreen and deciduous forests in the Tehachapi Mountains, especially on shaded north-facing slopes and near streams (NatureServe 2020b).	Nearest known occurrence approximately 3.3 miles to the north outside of the proposed Project boundary (CDFW 2020d).
foothill yellow-legged frog (*Rana boylii*)	SE, FSS, BLM-S Note: other clades of the species are SE, ST, or SSC	AGS, BOP, BOW, CRC, COW, CSC, MCH, MHW, VRI, WTM	Occurred historically in Piru Creek but last observed on April 17,1970, near the mouth of the tributary, Turtle Canyon, 14 river miles downstream of Pyramid Dam (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
California red-legged frog (*Rana draytonii*)	FT, SSC	AGS, BOP, BOW, COW, CSC, FEW, MCH, MHW, VOW, VRI, WTM	Known historically from Piru Creek, including designated critical habitat in Pyramid reach, and observed most recently in 2005 more than 10 miles downstream of Pyramid Dam. Species has not been subsequently observed in the 5.5-mile segment of Pyramid reach and 1.5-mile segment of Agua Blanca Creek surveyed annually since 2010 (Dudek 2020). Also occurs on San Francisquito Creek 3 to 4.25 miles upstream of the Castaic Transmission Line crossing, including designated critical habitat (CDFW 2020d; USFWS 2020d).
western spadefoot (*Spea hammondii*)	SSC, BLM-S	AGS, BOP, CRC, CSC, FEW, LAC, MCH	Records from San Francisquito Canyon east of the proposed Project boundary and Grasshopper Canyon, approximately 3.37 miles south-southwest of Elderberry Forebay (CDFW 2020d).
Reptiles			
southern western pond turtle (*Actinemys [Emys] pallida*)	SSC, BLM-S, FSS	AGS, BOP, CRC, CSC, FEW, LAC, MCH,MHW, URB, VRI, WTM	Observed in the Pyramid reach during relicensing field studies and the Licensees' annual sensitive species surveys in a segment of Pyramid reach and Agua Blanca Creek. In addition, there has been one documented observation in Pyramid Lake and 16 turtles were found in the second sedimentation basin upstream of Elderberry Forebay in 2009 (the only year when the species has been found at this location).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
northern California legless lizard (*Anniella pulchra*)	SSC, FSS	Sparsely vegetated areas of beach dunes, chaparral, pine-oak woodland, desert scrub, sandy washes, and stream terraces (Nafis 2020).	Occurrence 1.2 miles west northwest of Quail Lake, plus many records for "California legless lizards" (*Anniella* sp.) in and around the proposed Project boundary, which could represent southern California legless lizard, northern California legless lizard, or intergrades of the two species (CDFW 2020d).
southern California legless lizard (*Anniella stebbinsi*)	SSC, FSS	Uses similar habitats as northern California legless lizard (Nafis 2020).	Nearest known occurrence approximately 20 miles to the west, but many records for "California legless lizards" within and around the proposed Project boundary, which could represent southern California legless lizard, northern California legless lizard, or intergrades of the two species (CDFW 2020d).
California glossy snake (*Arizona elegans occidentalis*)	SSC	AGS, CRC, COW, CSC, JST, MCH, PJN, SGB	Two records within the proposed Project boundary near Quail Lake (CDFW 2020d).
San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	Found in chaparral, woodland, and riparian habitats, primarily in hot and dry open areas with sparse foliage (Nafis 2020).	One known occurrence within the proposed Project boundary near Quail Lake (CDFW 2020d).
San Bernardino ring-necked snake (*Diadophis punctatus modestus*)	FSS	AGS, CRC, CSC, MCH, URB, VRI	Nearest known occurrence approximately 8.3 miles to the north of the proposed Project boundary (CDFW 2020d).
San Bernardino population of California mountain kingsnake (*Lampropeltis zonata parvirubra*)	FSS	AGS, BOP, COW, MCH, MHW, VRI, WTM	Nearest known occurrence approximately 45 miles southeast in ANF (CDFW 2020d).
coastal rosy boa (*Lichanura orcutti*)	BLM-S, FSS	BAR, CRC, CSC, DRI, JST, MCH, PJN	No documented occurrences.

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
coast horned lizard (*Phrynosoma blainvillii*)	SSC, BLM-S	MHC, VRI, AGS	two relicensing study observations in the vicinity of Pyramid Lake and one documented occurrence within proposed Project boundary (CDFW 2020d).
coast patch-nosed snake (*Salvadora hexalepis virgultea*)	SSC	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, JST, MCH, PJN, SGB, VRI	Nearest known occurrence approximately 13.5 miles to the west of the proposed Project boundary (CDFW 2020d).
two-striped gartersnake (*Thamnophis hammondii*)	SSC, BLM-S, FSS	AGS, CRC, CSC, LAC, MCH, MHC, MHW, VRI	Observed in Pyramid reach during relicensing surveys and Licensees' annual sensitive species surveys in a segment of Pyramid reach and Agua Blanca Creek, and one individual observed by the Licensees in 2009 in the third (lowermost) sedimentation basin upstream of Elderberry Forebay. Also documented upstream of the proposed Project on Castaic Creek (CDFW 2020d).
South Coast gartersnake (*Thamnophis sirtalis infernalis*)	SSC	Marsh and upland habitats near permanent, shallow, low-gradient water and dense riparian vegetation (Thomson et al. 2016).	Occurred historically on the lowermost Piru Creek (regarded by Jennings and Hayes 1994 as extirpated) and along the Santa Clara River in Ventura County (where populations are identified as "extant"). No occurrences are documented in the CNDDB from the area surrounding the proposed Project boundary (CDFW 2020d).
Birds			
northern goshawk (*Accipiter gentilis*)	SSC, BLM-S, FSS	BOP, CRC, COW, MCH, SGB, VRI; MHW, PJN	Occurrence approximately 66 miles to the north (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
tricolored blackbird (*Agelaius tricolor*)	ST, SSC, BLM-S	AGS, FEW, URB, VRI, WTM	Five known recorded occurrences within proposed Project boundary (CDFW 2020d). Observed during relicensing studies and during operations at Quail Lake.
grasshopper sparrow (*Ammodramus savannarum*)	SSC	AGS, WTM	Nearest known occurrence is less than 0.5 mile away from the proposed Project boundary (CDFW 2020d).
golden eagle (*Aquila chrysaetos*)	BEGPA, FP, BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, FEW, JST, MCH, MHW, PJN, SGB, URB, VRI, WMT	Species has been observed perching near Quail Lake and soaring over Pyramid Lake, within the proposed Project boundary. In addition, two individuals were observed during relicensing studies within the proposed Project boundary, one at Pyramid Lake and one at Quail Lake.
short-eared owl (*Asio flammeus*)	SSC	AGS, CSC, FEW, SGB, URB, VRI, WTM; BOP, CRC, COW, DRI, DSW, JST, MCH, PJN	Nearest known occurrence approximately 32 miles to the east (CDFW 2020d).
long-eared owl (*Asio otus*)	SSC	AGS, BOP, CRC, COW, DRI, MCH, MHW, SGB, VRI, WTM	Nearest known occurrence approximately 20 miles to the north of the proposed Project boundary (CDFW 2020d).
burrowing owl (*Athene cunicularia*)	SSC, BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, JST, MCH, PJN, SGB, URB, VRI, WTM	One adult observed on rip-rap near Elderberry Forebay during the relicensing studies. One CNDDB occurrence documented within the proposed Project boundary in February 2018 (CDFW 2020d).
redhead (*Aythya americana*)	SSC	FEW, LAC	Not tracked by CNDDB (CDFW 2020d). Reported at Pyramid Lake and Quail Lake (eBird 2020a; eBird 2020b).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
Swainson's hawk (*Buteo swainsoni*)	ST, BLM-S	AGS, BAR, BOP, CRC, COW, MCH, MHW, PJN, SGB, URB, VRI, WTM	Observed several times soaring or foraging near Lower Quail Canal during operations.
mountain plover (*Charadrius montanus*)	SSC, BLM-S	AGS, BAR, SGB	Nearest known occurrence approximately 16 miles east of the proposed Project boundary (CDFW 2020d).
northern harrier (*Circus cyaneus*)	SSC	AGS, BAR, BOP, COW, CSC, DRI, FEW, LAC, PJN, SGB, URB, VRI, WMT; CRC, DSW, MCH; MHW, MHC	Observed during relicensing studies and during operations in the vicinity near Quail Lake and Peace Valley Pipeline.
western yellow-billed cuckoo, western DPS (*Coccyzus americanus occidentalis*)	FT, SE, FSS	VRI	One observation in 1979 along the Santa Clara River between the mouths of Castaic Creek and Piru Creek about 11.8 miles from Elderberry Forebay (CDFW 2020d). Not detected during relicensing studies.
olive-sided flycatcher (*Contopus cooperi*)	SSC	BOP, CRC, MCH, MHW	Not tracked by CNDDB (CDFW 2020d).
white-tailed kite (*Elanus leucurus*)	FP, BLM-S	AGS, BAR, BOP, CRC, COW, CSC, FEW, MCH, URB, VRI, WTM	Nearest known occurrence approximately 5 miles to the south (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
southwestern willow flycatcher (*Empidonax traillii extimus*)	FE, SE	DRI, VRI	Presence of one southwestern willow flycatcher site (i.e., an area with one or more southwestern willow flycatcher territories) in the "Santa Clara River – Upper Piru Creek" (USFWS 2002a). No detections during USGS surveys of the Pyramid reach in 2006 (Durst et al. 2008) or 2018 (Madden et al. 2019). Only migrating willow flycatchers of undetermined subspecies detected during relicensing studies.
American peregrine falcon (*Falco peregrinus anatum*)	FP	AGS, BAR, BOP, CRC, COW, CSC, DRI, FEW, LAC, MCH, MHW, PJN, SGB, URB, VRI, WTM	Observed at Pyramid Lake during relicensing studies.
common loon (*Gavia immer*)	SSC	LAC	Reported at Pyramid Lake and Quail Lake (eBird 2020a; eBird 2020b).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
California condor (*Gymnogyps californianus*)	FE, SE, FP	AGS, BAR, BOP, BOW, CRC, COW, CSC, LAC, MCH, MHC MHW, PJN, SGB, SMC, VOW	Observed soaring over Pyramid Lake during relicensing studies (Licensees 2018a; Licensees 2018b). Also documented by recent (2014-2019) telemetry data roosting at various locations within 0.5 mi of the proposed Project boundary, but almost entirely outside of it, mostly on steep slopes west of Pyramid Lake (pers. comm. Brandt 2020). These data include detections of as many as 12 individual condors in one year (2019). The Licensees have observed California condor feeding on the ground east of Elderberry Forebay along Ridge Route Road outside of the proposed Project boundary (Licensees 2018c). Additional observations of California condor have been recorded along Ridge Route Road (observed January 21, 2019) (pers. comm. Brandt 2020) and on the guard rail on Templin Highway (Licensees 2018d), both locations are outside the proposed Project boundary.
bald eagle (*Haliaeetus leucocephalus*)	BGEPA, SE, FP, FSS, BLM-S	AGS, BAR, BOP, COW, CRC, CSC, DRI, FEW, LAC, MCH, MHW, PJN, SGB, VRI, WTM	Observed 27 times during relicensing studies within the proposed Project boundary, the majority of which were around Quail Lake and Pyramid Lake.
yellow-breasted chat (*Icteria virens*)	SSC	CSC, DRI, VRI	Nearest known occurrence approximately 8.5 miles to the south of the proposed Project boundary (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
loggerhead shrike (*Lanius ludovicianus*)	SSC	AGS, BAR, CRC, CSC, MCH, URB, VRI	One loggerhead shrike was observed in SGB habitat near Lower Quail Canal during relicensing studies. In addition, DWR staff have observed this species multiple times perching and nesting just outside the proposed Project boundary near the Alamo Powerplant (a non-Project facility). The nearest CNDDB occurrence is located approximately 400 feet from the proposed Project boundary within Grasshopper Canyon, west of Castaic Dam (CDFW 2020d).
coastal California gnatcatcher (*Polioptila californica californica*)	FT, SSC	AGS, CRC, CSC, MCH	Occurrences in Mint Canyon, Newhall and Lebec quadrangles including two separate occurrences outside of the proposed Project boundary; one occurrence 1.5 miles west of Quail Lake and another occurrence 1.5 miles near San Francisquito Creek (CDFW 2020d).
Oregon vesper sparrow (*Pooecetes gramineus affinis*)	SSC	AGS	Not tracked by CNDDB (CDFW 2020d). Vesper sparrow reported at Quail Lake (eBird 2020b).
purple martin (*Progne subis*)	SSC	AGS, BOP, COW, FEW, LAC, MHW, URB, VRI, WTM	Nearest known occurrence approximately 8.8 miles to the north of the proposed Project boundary (CDFW 2020d).
bank swallow (*Riparia riparia*)	ST, BLM-S	AGS, BAR, CSC, DRI, LAC, SGB, URB, VRI; FEW, MCH, WTM	Nearest known occurrence approximately 17.5 miles to the south of the proposed Project boundary (CDFW 2020d).
yellow warbler (*Setophaga petechia*)	SSC	CRC, CSC, MCH, URB, VRI	Observed near Gorman Creek, Quail Lake, Bear Trap Boat-in area of Pyramid Lake, and Piru Creek arm of Pyramid Lake during relicensing studies.
California spotted owl (*Strix occidentalis occidentalis*)	SSC, BLM-S, FSS	BOP, COW, MHW, VRI	Occurrence known within proposed Project boundary along Piru Creek south of Pyramid Lake (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
Le Conte's thrasher (*Toxostoma lecontei*)	SSC	DSW, JST	Nearest known occurrence approximately 18 miles from the proposed Project (CDFW 2020d).
least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	VRI	Detected at Elderberry Forebay in migration during relicensing studies; within 0.5 mile of the Castaic Transmission Line (CDFW 2020d); and nesting territories on Pyramid reach 14 river miles downstream of Pyramid Dam (Madden et al. 2019).
gray vireo (*Vireo vicinior*)	SSC, BLM-S, FSS	CRC, MCH, PJN	Nearest known occurrence approximately 52 miles to the north of the proposed Project boundary (CDFW 2020d).
yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	SSC	AGS,FEW, LAC, WTM	Nearest known occurrence approximately 36 miles to the north of the proposed Project boundary (CDFW 2020d).
Mammals			
pallid bat (*Antrozous pallidus*)	SSC, FSS, BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, JST, MCH, MHW, PJN, SGB, URB, VRI, WTM	Nearest known occurrence within a mile of the proposed Project boundary (CDFW 2020d).
ringtail (*Bassariscus astutus*)	FP	AGS, BAR, CRC, CSC, MCH, VRI	Not tracked by CNDDB (CDFW 2020d). None observed during relicensing studies.
Townsend's big-eared bat (*Corynorhinus townsendii*)	SSC, FSS, BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, JST	Nearest known occurrence approximately 6.2 miles to the north of the proposed Project boundary (CDFW 2020d).
spotted bat (*Euderma maculatum*)	SSC, BLM-S	AGS, BOP, COW, CSC, DRI, DSW, JST, PJN, SGB, URB, VRI, WTM	Nearest known occurrence is approximately 2.8 miles south of the proposed Project boundary (CDFW 2020d).
western mastiff bat (*Eumops perotis californicus*)	SSC, BLM-S	AGS, BAR, CRC, CSC, MCH, MHC, MRI, URB, VRI	Nearest known occurrence approximately 5.8 miles to the west of the proposed Project boundary (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
western red bat (*Lasiurus blossevillii*)	SSC	AGS, BOP, CRC, COW, CSC, FEW, LAC, MCH, MHW PJN, URB, VRI, WTM	Nearest known occurrence approximately 26.7 miles to the south of the proposed Project boundary (CDFW 2020d).
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC	AGS, BOP, CRC, COW, CSC, DRI, DSW, JST, MCH, MHW, PJN, SGB, URB, VRI, WTMI	Nearest known occurrence less than 0.2 mile of the proposed Project boundary (CDFW 2020d).
California leaf-nosed bat (*Macrotus californicus*)	SSC, BLM-S	BAR, CSC, MCH, VRI	Nearest known occurrence approximately 14.4 miles to the south of the proposed Project boundary (CDFW 2020d).
small-footed myotis (*Myotis ciliolabrum*)	BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, FEW, JST, LAC, MCH, MHW, PJN, SGB, URB, VRI, WTM	Nearest known occurrence approximately 10 miles to the north of the proposed Project boundary (CDFW 2020d).
long-eared myotis (*Myotis evotis*)	BLM-S	AGS, BAR, BOP, CRC, COW, CSC, DRI, FEW, JST, LAC MCH, MHW, PJN, SGB, URB, VRI, WTM	Nearest known occurrence approximately 41.7 miles to the southeast of the proposed Project boundary (CDFW 2020d).
fringed myotis (*Myotis thysanodes*)	BLM-S, FSS	AGS, BAR, BOP, CRC, COW, CSC, MCH, PJN, SGB, URB; DRI, DSW, JST, LAC, MHW	Nearest known occurrence less than 0.2 mile from the proposed Project boundary (CDFW 2020d).
Yuma myotis (*Myotis yumanensis*)	BLM-S	AGS, BOP, CRC, COW, CSC, FEW, MCH, MHW, PJN, SGB, URB, VRI, WTM; DRI, DSW, JST, LAC	Nearest known occurrence is approximately 1.3 miles from the proposed Project boundary (CDFW 2020d).
southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	AGS, CSC, DRI, DSW, MCH, PJN, SGB, VRI	Nearest known occurrence approximately 5.2 miles to the east of the proposed Project boundary (CDFW 2020d).
Tehachapi pocket mouse (*Perognathus alticola inexpectatus*)	SSC, FSS	BOP, COW, VRI	One occurrence documented within the proposed Project boundary (CDFW 2020d).

Table 3.5-1. Special-Status Species Known or With the Potential to Occur Within the Proposed Project Boundary and Associated Potential Habitat (continued)

Species	Special-Status Designation	Potential Habitat Within Proposed Project Boundary	Nearest Documented Occurrence to the Proposed Project[1]
San Joaquin pocket mouse (*Perognathus inornatus*)	SSC, BLM-S	AGS, BAR, COW, MCH	Nearest known occurrence is approximately 2 miles to the west of the proposed Project boundary (CDFW 2020d).
American badger (*Taxidea taxus*)	SSC	AGS, BAR, BOP, CRC, COW, CSC, DRI, DSW, JST, MCH, MHW, PJN, SGB, VRI, WTM	Nearest known occurrence approximately 150 feet from the proposed Project boundary (CDFW 2020d).

Notes:
[1]Based on database search of the USGS quadrangles surrounding the proposed Project and Pyramid reach, and other sources.
CNPS Special-status Designations:
1B.1 = Plants rare, threatened, or endangered in California and elsewhere. California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
1B.2 = Plants rare, threatened, or endangered in California and elsewhere.
4.2 = Watch List: Plants of limited distribution. Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
4.3 = Watch List: Plants of limited distribution. Not very threatened: less than 20 percent of occurrences threatened (low degree and immediacy of threat or no current threats known)
California State Rankings (Source: CNDDB 2021):
S1 - Critically imperiled; at very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2 - Imperiled; at high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 - Vulnerable; at moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 - Apparently secure; at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
Associated Vegetation Communities
AGS = Annual Grassland
BAR = Barren
BOP = Blue Oak- Foothill Pine
COW = Coastal Oak Woodland
CRC = Chamise-Redshank Chaparral
CSC = Coastal Scrub
DRI = Desert Riparian
DSW = Desert Wash
FEW = Fresh Emergent Wetland
JST = Joshua Tree
LAC = Lacustrine
MCH = Mixed Chaparral
MHW = Montane Hardwood
PJN = Pinyon- Juniper
SGB = Sagebrush
URB = Urban
VRI = Valley Foothill Riparian
WTM = Wet Meadow

Key:
ANF = Angeles National Forest
BGEPA = Bald and Golden Eagle Protection Act
BLM = Bureau of Land Management
BLM-S= Bureau of Land Management Sensitive
CNDDB = California Natural Diversity Database
CRPR = California Rare Plant Rank
FE = Federally Endangered
FT = Federally Threatened
FP = Fully Protected
FSS = Forest Service Sensitive
LPNF = Los Padres National Forest
SE = State Endangered
ST = State Threatened
SSC =Species of Special Concern

3.5.3 Environmental Impact Analysis

Would the proposed Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Finding: Less Than Significant Impact

Based on the results of the literature review, past surveys, relicensing studies, and other available data as summarized in the Licensees' FLA, as amended (Licensees 2020), numerous special-status species are known to occur or have the potential to occur within the proposed Project boundary (see above, in Table 3.5-1). The species or species groups identified below were determined to have the potential to occur in areas where there are proposed Project activities and therefore, potential proposed Project impacts are further assessed. Significance findings are stated within each species or species group subsections.

3.5.3.1 Federal Threatened and Endangered Species

A total of 16 species listed as threatened or endangered under the federal ESA have the potential to occur in the area examined by the Licensees that encompasses the proposed Project boundary, Pyramid reach, and Castaic Creek, including:

- Six plants – slender-horned spineflower (FE, SE), marsh sandwort (FE, SE), Nevin's barberry (FE, SE), Gambel's watercress (FE, ST), spreading navarretia (FT), and California orcutt grass (FE, SE)
- One invertebrate – vernal pool fairy shrimp (FT)
- Two fishes – southern California DPS of steelhead (FE), and unarmored threespine stickleback (FE, SE, FP)
- Two amphibians – arroyo toad (FE, SSC) and California red-legged frog (FT, SSC)
- Five birds – western DPS yellow-billed cuckoo (FT, SE, FSS), California condor (FE, SE, FP), coastal California gnatcatcher (FT, SSC), southwestern willow flycatcher (FE, SE), and least Bell's vireo (FE, SE)

In Section 5.4.3.1 of Exhibit E in the Licensees' FLA, the life history and habitat requirements corresponding to these 16 species are provided (Licensees 2020). While potential impacts to Santa Ana sucker in Piru Creek resulting from the proposed Project are analyzed below, the population of Santa Ana sucker within the Santa Clara River drainage basin is not covered by the ESA listing (FT), which includes only populations in the Santa Ana, Los Angeles, and San Gabriel rivers drainage basins (65 [FR] 19686).

Additionally, there is no designated critical habitat for Santa Ana sucker within the Santa Clara River and its tributaries.

In an October 27, 2020 letter to the Licensees, USFWS concurred with the Licensees' determination that the proposed Project may affect, but is not likely to adversely affect, arroyo toad, California red-legged frog, California condor, least Bell's vireo, southwestern willow flycatcher, and designated critical habitat for the arroyo toad, California red-legged frog, southwestern willow flycatcher, and California condor.

Threatened or Endangered Plant Species

Regarding the six plant species, the Licensees did not find any historical records of federal ESA-listed plants or designated critical habitat for plants within the proposed Project boundary. Suitable habitat for these species is largely absent, and none of these plants were observed during focused field surveys performed during appropriate bloom periods in 2018-2019. As such, the Licensees made an ESA determination of no impact to those ESA-listed plants species and their designated critical habitats. The proposed Project would, therefore, have no impact on federal ESA-listed plant species.

Threatened or Endangered Invertebrates

The vernal pool fairy shrimp has not been documented to occur within the proposed Project boundary nor is there designated critical habitat within or adjacent to the proposed Project boundary. In addition, no vernal pools potentially suitable for this species have been found within the proposed Project boundary. Vernal pool fairy shrimp does not occur in perennial waters or in streams; there is no potential that the species could be affected by O&M of any of the South SWP Hydropower reservoirs. Therefore, the proposed Project would have no impact on vernal pool fairy shrimp or its designated critical habitat.

Threatened or Endangered Fishes

Based on available information, FT or endangered fish species are not likely to occur in the proposed Project boundary or downstream in the Pyramid reach (i.e., Piru Creek between Pyramid Dam and Piru Lake). There is no designated critical habitat for any fish species in either area. The southern California DPS of steelhead[5] may have occurred historically, but steelhead have not existed in Pyramid reach since the construction of the UWCD Santa Felicia Dam, which forms Lake Piru and blocks all upstream steelhead migration (FERC 2008). Flows below Santa Felicia Dam are controlled by UCWD in accordance with the Santa Felica Water Release Plan under Article 403 of UWCD's FERC Project No. 2153 hydropower license and an associated BO issued by NMFS.

Unarmored threespine stickleback is also not known to occur in Piru Creek. Most known unarmored threespine stickleback populations were extirpated prior to federal ESA

[5] Steelhead is the anadromous form of rainbow trout (*O. mykiss*), which migrates from the ocean to streams for spawning. Under land-locked conditions, steelhead does not occur.

listing in 1970, either through hybridization or competition with the more common partially armored form of threespine stickleback (USFWS 1985). Threespine sticklebacks within Piru Creek are believed to be limited to the partially armored form (Swift et al. 1993). Critical habitat has not been designated for unarmored threespine stickleback within the proposed Project boundary. The proposed Project would, therefore, have no impact on unarmored threespine stickleback.

Observations of Santa Ana sucker have been documented in Pyramid reach by the Licensees and other researchers. However, it is currently unknown whether these represent the species or hybrids of Santa Ana sucker and Owens sucker (*C. fumeiventris*). Regardless, these fish are not covered by the ESA listing of Santa Ana sucker, which includes only populations in the Santa Ana, Los Angeles, and San Gabriel river basins (65 FR 19686). The Santa Ana sucker was thought to be historically introduced into the Santa Clara River watershed at the time the species was federally listed in 2000, and there is no designated critical habitat for the species within the proposed Project boundary or Pyramid reach.

Santa Ana sucker or hybrid suckers, and land-locked rainbow trout in Pyramid reach could potentially be affected by the proposed Project through changes in operational flows. However, the proposed changes in outflows from Pyramid Lake are not significant (see Section 2.4 [Proposed Project Changes]) and are intended to more accurately represent the inflow, and thus, more accurately simulate the natural system of the Piru Creek basin. As such, flow-related impacts would be less than significant. The only other foreseeable mechanism for potential impacts would pertain to construction-related sediment influxes. Ground disturbance related to recreation facilities upgrades or other PM&Es involving ground disturbance – none of which are located downstream of Pyramid Lake – are not anticipated to have substantial turbidity impacts because the Licensees implement sediment control BMPs as part of existing operations that would continue to be implemented during the term of the new license. In addition, releases into the Pyramid reach from the radial gates and the stream release structure, where the intake is located over 200 feet deep fully underwater, are located about a mile away from the developed recreation facilities where improvements are being proposed. As such, it is anticipated that the proposed Project would have a less-than-significant impact on fish in Pyramid reach.

Inclusion of several of the aforementioned measures in the new FERC license would ensure that the measures currently occurring under baseline conditions in Pyramid reach, which benefit the native fish populations, are maintained in the future. Specifically, implementation of the PM&E measures listed below would accomplish the following:

- Measure WR1 – Pyramid Lake Water Surface Elevations: Would require the continued maintenance of a minimum pool and limit WSE fluctuations in Pyramid Lake for the benefit of fisheries and recreation.

- Measure WR2 – Hazardous Materials and Management Plan Implementation: Would continue implementation of avoidance and minimization measures to

protect water quality associated with inadvertent releases of hazardous materials.

- Measure GS1 – Erosion and Sediment Control Plan: Would carry forward implementation of existing BMPs designed to reduce the potential for erosion or sedimentation related to any South SWP Hydropower-related construction activities, which helps protect water quality and Pyramid reach fish populations.

In summary, the proposed Project would result in minor changes to baseline conditions and would have a less-than-significant impact on Pyramid reach fish populations. Furthermore, the proposed Project includes measures to codify existing practices and procedures, in order to continue to maintain Pyramid reach fish populations.

Threatened or Endangered Amphibian Species

Arroyo toad and California red-legged frog may be affected by the proposed Project. Arroyo toad is known to occur in multiple areas associated with the South SWP Hydropower, including Piru Creek upstream and downstream of Pyramid Lake, and Castaic Creek upstream of Elderberry Forebay. Critical habitat for arroyo toad has been designated in each of these areas, partially overlapping with the proposed Project boundary on Castaic Creek. Individual arroyo toads, including egg mass clutches and tadpoles, have been found in the lower portion of Pyramid reach from Ruby Canyon to Blue Point Campground just above the inlet to Lake Piru, and in Agua Blanca Creek, a tributary to Pyramid reach; in Piru Creek upstream of Pyramid Lake; and in Castaic Creek upstream of Elderberry Forebay. Arroyo toad is not known to occur on San Francisquito Creek and surveys within the Barren Ridge Renewable Transmission Project area at San Francisquito Creek did not detect the species at the Castaic Transmission Line crossing (POWER 2012). The Licensees did not conduct protocol-level arroyo toad surveys during relicensing studies because there is ample existing available information to evaluate effects of the proposed Project to this species. Arroyo toad surveys were conducted in Pyramid reach in 2004 and 2005 and annually from 2010 through the present as part of the South SWP Hydropower license. Pre-construction surveys have also been performed periodically upstream of Elderberry Forebay prior to required maintenance activities at the Castaic Powerplant facilities in the storm bypass channel; spoils pile deposition area; and Elderberry Forebay and Elderberry Forebay Tailrace Bay. During the Licensees' various relicensing field studies covering a span of two years, one incidental sighting of this species occurred. That sighting was as an adult located immediately upstream of the area where annual surveys are conducted in the Pyramid reach.

USFWS concurred with FERC that South SWP Hydropower releases into Pyramid reach that simulate the natural hydrology of the Piru Creek basin are beneficial to arroyo toad (USFWS 2007; USFWS 2009). The continued O&M of the Castaic Powerplant facilities is in conformance with an August 31, 2016, USFWS BO, which provided specific avoidance and minimization measures identified in the BO that were incorporated into USACE's Regional General Permit No.47, issued to LADWP on

October 24, 2016 (USFWS 2016). Those measures would continue to be implemented under baseline conditions.

There are known historical occurrences of California red-legged frog from Piru Creek upstream and downstream of the South SWP Hydropower location on Piru Creek. The most recent known detections of California red-legged frog are from Pyramid reach and Agua Blanca Creek in 2005, within designated critical habitat (Sandburg 2006). Although the species has not been detected during subsequent annual sensitive species surveys – which have been performed since 2010 in Pyramid reach from Ruby Canyon to at least 1 mile downstream of Bluepoint Campground (a distance of at least 5.5 RM), or in the contiguous one-mile section of Agua Blanca Creek – a population is presumed to still exist. USFWS concurred with FERC that South SWP Hydropower releases into Pyramid reach that simulate the natural hydrology of the Piru Creek basin, and which now represent baseline conditions, are beneficial to California red-legged frog (USFWS 2007). These releases provide benefit by reducing introduced predator populations and will not adversely affect the primary constituent elements of designated California red-legged frog critical habitat for the same reason.

A California red-legged frog population has also been documented on San Francisquito Creek, east of Castaic Lake, where critical habitat is designated. POWER (2012) states that USGS surveys found California red-legged frog at San Francisquito Creek as recently as 2010. However, the proposed Project is not anticipated to result in adverse impacts on California red-legged frog in San Francisquito Creek for the following reasons. First, while the existing Castaic Transmission Line crosses over San Francisquito Creek, the nearest known California red-legged frog breeding site is approximately 4 miles upstream. Second, the stream is shallow flowing and dries intermittently at the transmission line crossing, which does not present potential suitable California red-legged frog breeding habitat. Lastly, none of the proposed Project-related activities would result in impacts on habitat in the creek at the crossing location.

There are no known records of California red-legged frog from Castaic Creek and potential breeding habitat does not occur. USFWS (2016) identified no potential effects on California red-legged frog from sediment removal and other maintenance activities which occur periodically for the Castaic Powerplant upstream of Elderberry Forebay, citing evidence that California red-legged frog is not likely to be present.

The Licensees' *ESA-Listed Amphibians, California Red-legged Frog Study* determined that four areas associated with the South SWP Hydropower met the minimum requirements for potential California red-legged frog breeding habitat, which must hold standing water continuously for at least 20 weeks in most years. These areas include the Gorman Bypass Channel, Gorman Creek, the Piru Creek arm of Pyramid Lake, and Pyramid reach. Potential habitat in some of these locations may be limited or largely precluded by the presence of introduced predators including fish, American bullfrog (*Lithobates catesbeianus*), and exotic crayfish (e.g., *Procambarus clarkia* and *Pacifastacus leniusculus*), species which are significant factors in the range wide decline of California red-legged frog (USFWS 2002b). Potential habitat in Pyramid reach may occur particularly where seasonal drying periodically eliminates these introduced

predators. Gorman Creek, a seasonal stream which flows into Pyramid Lake, is not otherwise affected by South SWP Hydropower O&M. However, Gorman Creek is situated adjacent to the Gorman Bypass Channel and Interstate 5, which may represent dispersal barriers for California red-legged frog and would make occurrence of California red-legged frog unlikely.

The proposed Project boundary change, designation of Primary Project Roads, and other administrative changes that are part of the proposed Project would not alter conditions within known or potential habitat for arroyo toad or California red-legged frog when compared to baseline conditions. Therefore, implementation of administrative changes under the proposed Project would have no impact on these species or their habitats.

Recreational facility upgrades under the RMP include physical upgrades to existing recreation sites, recreation crowd management, reduction of litter accumulation, and monitoring to identify any changes in future recreational use. The RMP does not include development of new recreation sites and updates to South SWP Hydropower sites are limited in scope to previously disturbed areas. Upgrades also include measures to concentrate future recreational use in and around South SWP Hydropower recreation sites, thereby increasing protection of more sensitive habitats. Therefore, the RMP would have a neutral or beneficial impact on arroyo toad and California red-legged frog, and their known or potential habitats.

Implementation of Measures GS1 – Erosion and Sediment Control Plan, WR1 – Pyramid Lake Water Surface Elevations, WR2 – Hazardous Materials Management Plan, AR2 – Pyramid Lake Fish Stocking, LU1 – Fire Prevention and Response Plan, and LU2 – Project Safety Plan would have no impact on arroyo toad or California red-legged frog as they are measures that codify South SWP Hydropower-related practices into the new FERC license and, therefore, would not result in any changes to baseline conditions. The IVMP and Measure AR1 – Pyramid Reach Flow Releases also largely codify South SWP Hydropower operations, with some differences that could result in changes to baseline conditions. Specifically, the IVMP includes a provision to revegetate natural landscapes after disturbance and conserve native vegetation resources, measures which are not substantively different from South SWP Hydropower operations but provide additional guidance compared to the existing license for protecting sensitive natural communities. Measure AR1 – Pyramid Reach Flow Releases would use a slightly higher multiplier to calculate ungaged natural inflow to Pyramid Lake, but it is not otherwise substantively different from current South SWP Hydropower operations. Measure AR1 – Pyramid Reach Flow Releases is not likely to significantly affect arroyo toad and California red-legged frog or their habitats.

Implementation of the HPMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan could result in changes to baseline conditions that may affect potential amphibian habitats, whereas Measure VR1 – Visual Resources Management Plan would have no foreseeable impact. Changes to baseline conditions that could result from implementing Measure VR1 – Visual Resources Management Plan are limited to visual quality changes of various proposed Project features, and no changes

in habitats. Implementing the HPMP has a limited potential to result in changes to baseline conditions associated with minor excavation or installation of barriers that may require ground disturbance. However, the BMPs for South SWP Hydropower-related construction activities that would be implemented under Measure GS1 – Erosion and Sediment Control Plan would minimize the potential for sedimentation related to ground disturbance, including any that may result from implementing the HPMP. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, including protections for wetland and riparian habitats, known occurrences of special-status species, pre-construction surveys prior to non-routine South SWP Hydropower activities, and measures to be implemented during pesticide use, would be entirely beneficial to and protective of arroyo toad, California red-legged frog, and their known or potential habitats. Given the findings of this impact analysis, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan is neither required to reduce a potential impact to a less-than-significant level nor is it considered a mitigation measure under CEQA.

Therefore, the proposed Project would have a less-than-significant impact on arroyo toad and California red-legged frog and their habitats.

Threatened and Endangered Avian and Mammal Species

There are no federally-listed mammal species with the potential to occur in the proposed Project boundary. Suitable habitat for the western DPS yellow-billed cuckoo, California condor, coastal California gnatcatcher, southwestern willow flycatcher, and least Bell's vireo exists within the proposed Project boundary.

Western DPS Yellow-billed Cuckoo

The nearest known historical occurrence of western DPS yellow-billed cuckoo is an individual bird observed in 1979 along the Santa Clara River between the mouths of Castaic Creek and Piru Creek, about 11.8 miles from Elderberry Forebay (CDFW 2020d). Surveys for western DPS yellow-billed cuckoo, following accepted survey protocols, were performed by the Licensees under the *ESA-Listed Riparian Bird Species, Southwestern Willow Flycatcher, Least Bell's Vireo, and Yellow-billed Cuckoo Habitat Evaluations Study*. No individuals of this species were detected during those surveys nor were any incidentally detected during the other relicensing studies, and potentially suitable habitat was determined to be limited. Although surveys were performed in habitat patches as small as 2.2 acres and as large as 88.4 acres, known breeding habitat in California occurs mostly in larger patches (i.e., greater than 200 acres in size) of Fremont cottonwood and willows, and only rarely in patches smaller than 37 acres (Halterman et al. 2016; 79 FR 78548). The larger patches of riparian habitat are all in areas where the Licensees perform no vegetation maintenance or other activities that could disturb migrating or nesting birds or reduce existing habitats. Therefore, South SWP Hydropower-related activities are not anticipated to adversely affect western DPS yellow-billed cuckoo or its potential habitats.

California Condor

California condors are known to fly high over the South SWP Hydropower area, reflecting the proximity of the Sespe California Condor Sanctuary and Sespe-Piru designated critical habitat, and the wide-ranging nature of this species associated with the search for carrion. However, no California condor nests are known to occur within or adjacent to the South SWP Hydropower. Condor roosting, including communal roosting (i.e., two or more individuals using the same roost location at the same time), has been documented by recent (2014-2019) telemetry data near the South SWP Hydropower (pers. comm. Brandt 2020); however, these roosts are almost entirely outside of the proposed Project boundary. The documented roost sites are on steep slopes south and west of the Piru Creek arm of Pyramid Lake, as well as other locations on Pyramid Lake. All of the documented California condor roosts are in locations where Licensees perform no O&M activities and are not near any recreation facilities. As a result, South SWP Hydropower-related activities are not anticipated to have adverse effects on known California condor roosts.

Potential threats to California condor includes ingestion of lead ammunition, the use of which is illegal in California in areas occupied by California condor; and the ingestion of microtrash. The occurrence and ingestion of lead ammunition is unrelated to the proposed Project, whereas microtrash is a potential by-product associated with littering. The proposed Project would control littering to reduce potential incidences of microtrash. Concessionaires would continue to be required to manage trash and litter at the Pyramid Lake Recreation Area. The Licensees also regularly inspect and clean picnic tables, campsites, fire rings, grills, barbeque stands, and provide trash receptacles and waste disposal services, as needed. The Licensees' RMP (i.e., Measure RR1) includes a litter control program that addresses littering, litter accumulation, and litter dispersion at developed recreation sites and in undeveloped areas, including shorelines of Pyramid Lake and Quail Lake. Specific elements of the litter control program pertinent to reducing microtrash include frequent (at least once a week) emptying of trash containers, with higher frequency (up to three times a day) during periods of high recreational use, litter patrols within and near the proposed Project boundary, additional signage and public education for visitors, and additional litter control measures, such as providing "pack it in, pack it out" garbage bags for visitors.

Ongoing, but limited use of rodenticides to protect public health and the safe operation of South SWP Hydropower infrastructure would have a less-than-significant impact on California condors. California condor primarily feed on the carcasses of large mammals, carcasses of rabbits, squirrels, and other smaller mammals are also consumed. As described by USFWS (1996) "…deaths from one or more range poisons, including various rodenticides, may have occurred historically, but convincing documentation of the occurrence and magnitude of such losses has not been documented." While a scavenger might consume a rodent carcass that was killed on the South SWP Hydropower with rodenticides, rodenticide use is infrequent enough in the South SWP Hydropower that toxic bioaccumulation of rodenticides, which could sicken or kill any condor individuals, would not be anticipated. DWR uses rodenticides on an 'as-needed'

basis at indoor facilities, recreation areas, and facility infrastructures. While uncommon, population explosions of non-game rodents can result in public safety and structural concerns. Prior to using a rodenticide, the feasibility of using non-chemical methods is evaluated to avoid potential effects of carcass consumption by scavenging wildlife, including California condor. The application of non-restricted rodenticides is in accordance with label instructions. All rodenticides are used in compliance with the California Department of Pesticides Regulation statutes and regulations. To date, the Licensees have no evidence of wildlife being harmed due to the use of rodenticides in these limited circumstances.

Continued natural flow release operations under Measure AR1 – Pyramid Reach Flow Releases would represent a slight modification of the current Article 52 and would have no effect on California condor or its critical habitat, because the species is not dependent upon aquatic habitat, and there are no foreseeable effects on foraging habitat or food availability (FERC 2008).

In summary, the proposed Project would have a less-than-significant impact on California condor.

Coastal California Gnatcatcher

Individuals of coastal California gnatcatcher have not been observed within the proposed Project boundary. The coastal California gnatcatcher is largely unaffected by South SWP Hydropower-related activities because patches of potential habitat (i.e., coastal sage scrub and chaparral) primarily occur in areas where the Licensees perform no vegetation management or other O&M activities. The only possible exception to this is routine maintenance on the Castaic Transmission Line. Vegetation management along the Castaic Transmission Line is required by and performed in compliance with vegetation clearance standards of the North American Reliability Council. USFWS (2012) concluded that O&M of the Castaic Transmission Line would have minimal impacts to coastal California gnatcatcher by incorporating protective measures during the use of herbicides. Routine maintenance on the existing Castaic Transmission Line includes inspections on the ground and by air patrols several times per year; tree trimming to maintain the required 10-foot minimum clearance from conductors to vegetation; clearing flammable brush vegetation within a 10-foot radius at the base of transmission line towers; and clearance immediately adjacent to access roads, as needed (POWER 2012). Routine and emergency operations include briefing crews and adherence to special-status species procedures. The IVMP addresses vegetation control along the Castaic Transmission Line and other areas. It includes provisions for the safe application of herbicides and re-vegetating disturbed areas, which would avoid potential adverse effects on coastal California gnatcatcher, if present in areas where South SWP Hydropower-related activities would occur. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would include: (1) pre-construction surveys prior to non-routine proposed Project activities throughout the proposed Project boundary and all proposed O&M at Elderberry Forebay; (2) the use of protective buffers and biological monitoring as needed; (3) avian protection upgrades during transmission line pole replacements and repairs; and (4) pesticide use

guidelines. Given the findings of this impact analysis, neither the IVMP nor Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are required to reduce a potential impact to a less-than-significant level, nor are they considered mitigation measures under CEQA.

In summary, the proposed Project would have a less-than-significant impact on coastal California gnatcatcher and its potential habitats.

Southwestern Willow Flycatcher and Least Bell's Vireo

Southwestern willow flycatcher and least Bell's vireo are both closely associated with riparian habitat along low-gradient streams and lentic habitat. There are no recent records of southwestern willow flycatcher in the proposed Project boundary or other areas affected by the proposed Project, although designated critical habitat for southwestern willow flycatcher occurs along Pyramid reach downstream of Pyramid Lake. Studies by other agencies are ongoing in the Pyramid reach for those two species and other species. Known occurrences of willow flycatcher (sub-species not determined) are limited to detections during the migration period (i.e., birds resting or foraging during migration). The other subspecies of willow flycatcher are much more common than southwestern willow flycatcher; therefore, detection of willow flycatchers during migration is not significant. The results of the Licensees' relicensing study performed in 2018 and 2019, documented potential habitat for southwestern willow flycatcher and least Bell's vireo within the proposed Project boundary, but did not document any evidence of breeding. Non-breeding willow flycatchers, probably representing the northern subspecies of willow flycatchers in migration, were detected at multiple survey sites during the migratory period at Quail Lake, Pyramid Lake, Gorman Creek, and Elderberry Forebay in 2018. No individuals were detected downstream below Pyramid Dam. However, brown-headed cowbirds were detected on multiple occasions at survey sites in Gorman Creek, Pyramid Lake, and Elderberry Forebay. Additionally, in 2019, surveys only detected a single migrant of willow flycatcher of undetermined subspecies at Elderberry Forebay.

There are no known records of least Bell's vireo breeding within the proposed Project boundary, but there are multiple observations of the species within 0.5 miles of the Castaic Transmission Line, and recently documented breeding territories along the Pyramid reach approximately 14 river miles downstream of Pyramid Dam (CDFW 2020d; Madden et al. 2019). The Licensees' relicensing study surveys detected least Bell's vireo twice, most likely the same individual, at Elderberry Forebay during the migration period of this species. The survey results cannot predict whether least Bell's vireo or southwestern willow flycatcher might nest in the existing South SWP Hydropower boundary in the future at any time during a new FERC license period, particularly if either species increases in abundance or distribution.

Most of the potential habitat within the proposed Project boundary consists of relatively small, isolated patches, particularly at Quail Lake and Elderberry Forebay, where riparian vegetation is limited by site topography and hydrologic conditions that would not be altered by proposed Project activities. As such, occurrences may continue to be

limited to non-breeding willow flycatchers and least Bell's vireos. The larger patches of riparian habitat along Gorman Creek; the Piru Creek arm upstream of Pyramid Lake; and Liebre Gulch are in areas where the Licensees perform no vegetation maintenance or other activities that could disturb birds.

The proposed Project boundary change, designation of Primary Project Roads, and other administrative changes that are part of the proposed Project would not alter potential habitat for southwestern willow flycatcher or least Bell's vireo when compared to baseline conditions. The proposed change in the existing South SWP Hydropower boundary reduces the land area within the existing South SWP Hydropower boundary, excluding public areas where there are no South SWP Hydropower facilities and are not used, nor are necessary for South SWP Hydropower O&M. These areas would continue to be administered by the NFS, BLM, and State of California, respectively.

The RMP does not include development of new recreation sites, and updates to existing sites are limited in scope to previously disturbed areas. Therefore, implementation of updates to recreational facilities under the RMP would have a less-than-significant impact on southwestern willow flycatcher and least Bell's vireo and their potential habitats.

Implementation of Measures GS1 – Erosion and Sediment Control Plan, WR1 – Pyramid Lake Water Surface Elevations, WR2 – Hazardous Materials Management Plan, AR2, LU1 – Fire Prevention and Response Plan, and LU2 – Project Safety Plan would have no impact on southwestern willow flycatcher and least Bell's vireo as they are measures that codify existing environmentally sound South SWP Hydropower-related operation and practices into the new FERC license and, therefore, would not result in any changes to baseline conditions. Measure AR1 – Pyramid Reach Flow Releases is virtually identical to the existing provisions governing flows from Pyramid Lake into Pyramid reach; the exception to this is a more accurate estimation of ungaged flow into Pyramid Lake and clarification regarding operations if unsafe conditions occur. These differences are not likely to significantly affect southwestern willow flycatcher or last Bell's vireo or their habitats. The IVMP largely codifies South SWP Hydropower vegetation management practices; road maintenance; and recreation site management; it also includes requirements for nesting bird surveys prior to hazard tree removal, depending on timing and habitat type. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan may result in changes in baseline conditions that are beneficial to southwestern willow flycatchers, least Bell's vireo, and other sensitive species. Provisions of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would include: (1) pre-construction surveys prior to non-routine proposed Project activities throughout the proposed Project boundary and all proposed O&M at Elderberry Forebay; (2) the use of protective buffers and biological monitoring as needed; (3) avian protection upgrades during transmission line pole replacements and repairs; and (4) pesticide use guidelines. Given the findings of this impact analysis, neither the IVMP nor Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are required to reduce a potential impact to a less-than-significant level, nor are they considered mitigation measures under CEQA.

Implementing the HPMP has a limited potential to result in changes to baseline conditions associated with minor excavation or installation of barriers for cultural resources protections, but these are not likely to significantly affect southwestern willow flycatcher or least Bell's vireo or their potential habitats.

In summary, the proposed Project would have a less-than-significant impact on southwestern willow flycatcher and least Bell's vireo and their potential habitats.

3.5.3.2 California Endangered and Threatened Species and Fully Protected Species

Excluding western DPS yellow-billed cuckoo, southwestern flycatcher, California condor, coast California gnatcatcher, and least Bell's vireo which are listed under both the federal ESA and CESA, ten species are listed under CESA or FP under California law. The ten species are:

- Crotch's bumblebee (State Candidate Endangered)
- foothill yellow-legged frog (SE, FSS, BLM-S),
- tricolored blackbird (ST, SSC),
- golden eagle (FP, FSS),
- Swainson's hawk (ST, BLM-S),
- white-tailed kite (FP),
- American peregrine falcon (FP),
- bald eagle (SE, FP),
- bank swallow (ST, BLM-S), and
- ringtail (FP).

Potential effects of the proposed Project on the ESA-listed species are discussed in Section 3.5.3.1 (Biological Resources – Federal Threatened and Endangered Species) above and not repeated below. Potential effects of the proposed Project on the 10 remaining CESA or FP species are discussed below.

<u>State Threatened or Endangered and Fully Protected Amphibian Species</u>

The foothill yellow-legged frog historically occurred on Piru Creek downstream of Pyramid Lake, but there have been no observations of this species at this location since 1970, and the frog is since regarded as extirpated (CDFW 2020a; Adams et al. 2017). No foothill yellow-legged frogs were detected during the Licensees' *Special-Status Aquatic Amphibians and Semi-Aquatic Snakes Study* or incidentally during other

studies. In addition, environmental deoxyribonucleic acid (eDNA) sampling, which included results from 60 locations, distributed at 500-meter (approximately 1,640 feet) intervals throughout Pyramid reach, found no detection of foothill yellow-legged frog eDNA. The visual survey results, eDNA sampling results, and the historical information described above, support the findings that the species has been extirpated in the proposed Project area; therefore, the proposed Project would have no impact on foothill yellow-legged frog.

State Threatened or Endangered and Fully Protected Avian Species

The suitable nesting, wintering, and/or foraging habitat for seven CESA and/or FP bird and raptor species is present within the proposed Project boundary (Table 3.5-1). Of those species, tricolored blackbird, golden eagle, Swainson's hawk, American peregrine falcon, and bald eagle have been observed within the proposed Project boundary. Ground disturbance as well as vegetation and tree clearing during the nesting season could result in direct effects on nesting birds should they be present in construction or O&M disturbance areas. Furthermore, noise and other human activity may result in nest abandonment if nesting birds are present near a work area.

The addition of the existing Quail Detention Embankment to the Warne Power Development; designation of Primary Project Roads; addition of existing Gage No. 11109525 to the Castaic Power Development, and other administrative changes that are part of the proposed Project would not alter potential habitat for CESA-listed of FP bird species when compared to baseline conditions. Therefore, implementation of administrative changes in the proposed Project would have no impact on CESA-listed and FP avian species or their potential habitats.

Recreational facility upgrades under the RMP include physical upgrades to South SWP Hydropower recreation sites, recreation crowd management, and reduction of litter accumulation. The RMP does not include development of new recreation sites, and updates to existing sites are limited in scope to previously disturbed areas. Upgrades also include measures to concentrate future recreational use in and around South SWP Hydropower recreation sites, thereby increasing protection of more sensitive habitats. Therefore, the RMP would have a less-than-significant impact on avian species listed under CESA and as a State FP or their potential habitats.

Implementation of the following PM&E measures would have no impact on avian species listed under CESA, or listed as a State FP as they are measures to codify South SWP Hydropower-related practices into the new FERC license and, therefore, would not result in any changes to baseline conditions: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR2 – Pyramid Reach Flow Releases, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 –Project Safety Plan, and the HPMP. Measure AR1 – Pyramid Reach Flow Releases is also virtually identical to the existing provisions governing flows from Pyramid Lake into Pyramid reach and is therefore not likely to significantly affect avian species or their habitats compared to baseline conditions. Implementing Measure CR1

has a limited potential to result in changes to baseline conditions associated with minor excavation or installation of barriers for cultural resources protection, but these are not likely to significantly affect CESA-listed or FP avian species or their habitats.

The IVMP primarily includes South SWP Hydropower practices along with adding a requirement to perform nesting bird and/or roosting bat surveys prior to hazard tree removal. This measure would help minimize effects on CESA-listed or FP avian species if activities occur during the nesting season. Additionally, implementation of the IVMP would include the removal of areas of NNIPs, as well as revegetation of some of those areas, both of which may improve habitat for CESA-listed and FP avian species. Therefore, the IVMP would have a beneficial impact on avian species and their potential habitats. However, given the findings of this impact analysis, the IVMP is neither required to reduce a potential impact to less than significant nor considered a mitigation measure under CEQA.

Multiple new protective measures for CESA-listed or FP avian species are included in Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, along with South SWP Hydropower wildlife protections. New protective measures in Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan include the following: protections to wetland, riparian, and other sensitive habitats, protections for known occurrences of sensitive species; seasonal restrictions for scheduled vegetation management and hazard tree removal; pre-construction surveys and biological monitors for South SWP Hydropower O&M at Elderberry Forebay; pre-construction surveys prior to non-routine proposed Project activities; the use of protective buffers; and avian protection upgrades during transmission line pole replacements and repairs. All of these measures would reduce proposed Project impacts on CESA-listed or FP avian species; therefore, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would have a beneficial impact on their potential habitats. However, given the findings of this impact analysis, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan is neither required to reduce a potential impact to a less-than-significant level, nor is it considered a mitigation measure under CEQA.

Measure VR1 – Visual Resources Management Plan would have no foreseeable impact on CESA-listed or FP avian species, as the only changes to baseline conditions are treatment or staining of certain proposed Project features (e.g., chain-link fences, guardrails, and light standards), and repainting or replacing elements of existing facilities.

The proposed Project would have a less-than-significant impact on CESA-listed and FP avian species and their habitats.

Fully Protected Ringtail

Suitable foraging and denning habitat for the ringtail occurs within the proposed Project boundary. This species is predominantly nocturnal and closely associated with permanent water sources such as streams/rivers, hollow snags, logs, trees, and cavities in talus and other rocky areas. Consistent with the analysis discussed above for other

species, the application of administrative changes, construction activities proposed for upgrades to recreational facilities (i.e., the RMP), and implementation of the following PM&E measures as part of the proposed Project would result in less-than-significant impacts to ringtail: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. Additionally, the IVMP includes a provision for surveying hazard trees for roosting bats and nesting birds prior to their removal, which would indirectly also protect ringtail utilizing any hazard trees as habitat, since the hazard trees would not be removed if ringtail is found during surveys. This would further lessen the proposed Project's impact on the species. There are multiple components of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan that would provide additional protection for ringtail, including seasonal restrictions on vegetation management, which coincide with the ringtail's breeding season (February through June); pre-construction surveys before non-routine South SWP Hydropower O&M; and protections for known occurrences of sensitive species (Los Padres Forest Watch 2013). However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on ringtail and their potential habitat.

State Candidate Crotch's bumblebee

The proposed Project boundary contains suitable habitat for Crotch's bumblebee. Crotch's bumblebee inhabits drier grass and shrublands than other bumblebee species and prefers selected native wildflowers, including milkweed, lupine, sage, phacelia, clarkia, buckwheat and poppy (Los Padres Forestwatch 2019). Nesting habitat for this species can be found underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees (Los Padres Forestwatch 2019). Consistent with the analysis discussed above for other species, the application of administrative changes, construction activities proposed for upgrades to recreational facilities (i.e., the RMP), and implementation of the following PM&E measures as part of the proposed Project would result in less-than-significant impacts to Crotch's bumblebee: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. Additionally, the IVMP includes a provision for removing non-native invasive plant species and revegetating some of the disturbed areas of non-native invasive plant species removal that may improve Crotch's bumblebee habitat by promoting the growth of local native plants. There are multiple components of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan that would provide additional protection to the species, including pre-construction surveys before non-routine proposed Project O&M

and protections for known occurrences of special-status species and sensitive habitats. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on Crotch's bumblebee and its potential habitat.

3.5.3.3 Other Special-Status Species

An additional 54 special-status species not listed or a candidate under the ESA or CESA are known or have the potential to occur within the proposed Project boundary. Of these there are 5 plants, 4 aquatic species, 10 terrestrial reptiles, 20 avian species, 10 bat species, and 5 mammal species.

Other Special-Status Plants

Five special-status plant species were observed when the Licensees conducted a botanical inventory of the proposed Project boundary, two of which were categorized by CNPS with a California Rare Plant Rank (CRPR) 1B.2 and three of which were categorized with a CRPR 4. In total, 180 occurrences of the following five CRPR special-status plant species were observed during field surveys including slender mariposa lily (CRPR 1B.2), Peirson's morning glory (CRPR 4.2*),* Mt. Pinos larkspur (CRPR 4.3), southern California black walnut (CRPR 4.2), and short-joint beavertail (CRPR 1B.2). The proposed Project has the potential to impact these fives species but these impacts are expected to be minor in most areas of the proposed Project boundary such as in areas where no recreation or none to minimal operations and maintenance activities occur. Access to the South SWP Hydropower facilities are through existing access roads. The few occurrences of Mt. Pinos larkspur in the proposed Project boundary were rated as good; the two occurrences of southern California black walnut were rated as good to fair.

Peirson's morning glory, southern California black walnut, and Mt. Pinos larkspur are listed as CRPR 4 categorizing them as watch list species that range from being moderately threatened in California (Peirson's morning glory and southern California black walnut) to not very threatened in California (Mt. Pinos larkspur) (CNPS 2019). Mt. Pinos Larkspur is also listed by USFS as a FSS species (USFS 2013). These three species, although of limited distribution throughout California, are experiencing a moderate to low degree of immediacy of threat on their overall viability. The Licensees' *Botanical Resources Study* identified one occurrence of Mt. Pinos larkspur near the connection point of the Castaic Transmission Line to the Haskell Canyon Switching Station; two occurrences of southern California black walnut, one near the Castaic Powerplant and the other on the periphery of an access road to the Castaic Transmission Line; and 93 occurrences of Peirson's morning glory, with one occurrence observed on the east side of Interstate 5 in the Liebre Gulch arm of Pyramid Lake and the remaining occurrences observed near the Castaic Powerplant vicinity and along the Castaic Transmission Line alignment. There are no proposed Project-related recreation

activities in those areas. Additionally, very minimal routine operations and maintenance activities occur on the east side of Interstate 5 in the Liebre Gulch arm of Pyramid Lake.

Similarly, slender mariposa lily and short-joint beavertail are both listed as CRPR 1B.2; both are moderately threatened in California, with only a moderate degree of immediacy and threat against their overall viability (CNPS 2019). The Licensees' *Botanical Resources Study* identified 37 occurrences of slender mariposa lily and 47 occurrences of short-joint beavertail.

Slender mariposa lily populations were observed throughout the proposed Project boundary with one occurrence observed at the Serrano Boat-in Picnic Area. The majority of the occurrences will be subject to the proposed Project effects mentioned above for other sensitive species with the population at the Serrano Boat-in Picnic Area subject to these effects, as well as continued pedestrian traffic and general use of the picnic area. These activities are expected to potentially impact a small number of individuals, but are not expected to have an overall impact on the species' overall viability or habitat.

The majority of the short-joint beavertail populations found within the proposed Project boundary occur in areas that are void of proposed Project activities and/or low disturbance areas. However, one population observed occurs at the Los Alamos Campground. Therefore, while most short-joint beavertail are only subject to the proposed Project effects mentioned above for other sensitive species the population at Los Alamos Campground may also be subject to effects from recreational activity. These activities include, continued pedestrian and vehicle traffic on trails and roadways, as well as the general use of the campground. These activities are expected to potentially impact a small number of individuals, but are not expected to have an impact on the species' overall viability or habitat.

With the application of the proposed Project administrative changes; construction activities proposed for upgrades to recreational facilities (i.e., the RMP); and implementation of the following PM&E measures as part of the proposed Project, the proposed Project would result in little or no changes from baseline conditions for the aforementioned special-status plant species. Implementation of the IVMP includes provisions for special-status plant protection, revegetation, wetland protection, and limitations on herbicide use. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would provide additional protections to these species, including pre-construction surveys prior to non-routine South SWP Hydropower activities; protections for known occurrences of special-status species and wetland, riparian, and other sensitive habitats; and measures to be implemented when pesticides are used. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on special-status plant species.

Other Special-Status Aquatic Species

No other special-status fish species occur in South SWP Hydropower impoundments or in Pyramid reach. Therefore, the proposed Project would have no impact on other special-status fish species.

Other special-status aquatic or semi-aquatic species that may be affected by the proposed Project include western spadefoot, southern western pond turtle, two-striped gartersnake, and South Coast gartersnake. Southern western pond turtle and two-striped gartersnake occur in Pyramid reach and both likely occur at least seasonally within the proposed Project boundary upstream of Elderberry Forebay. Additionally, both species may occur in some years in the Castaic sedimentation basins upstream of Elderberry Forebay, as indicated by Licensees' observations in September 2009. A single observation of southern western pond turtle was also recorded incidentally during relicensing studies at Pyramid Lake. Potential breeding habitat for western spadefoot is scarce or absent within the proposed Project boundary; there are no records of occurrence, and the species was not found during the Licensees' studies. The proposed Project is also on the periphery, or possibly outside the range of the South Coast gartersnake, with no known occurrences within the proposed Project boundary or on Pyramid reach.

As discussed above, with the application of administrative changes, construction activities proposed for recreational facilities (i.e., the RMP), and implementation of the following PM&E measures as part of the proposed Project, the proposed Project would result in little or no changes from baseline conditions for the aforementioned aquatic and semi-aquatic species: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. Implementation of the IVMP includes provisions for revegetation, wetland protection, and limitations on herbicide use that would be beneficial to aquatic and semi-aquatic species. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would provide additional protections to these species, including pre-construction surveys prior to non-routine South SWP Hydropower activities; protections for known occurrences of special-status species and wetland, riparian, and other sensitive habitats; and measures to be implemented when pesticides are used. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to less-than-significant, nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on western spadefoot, southern western pond turtle, two-striped gartersnake and South Coast gartersnake.

Other Special-Status Terrestrial Reptiles

There are 10 terrestrial special-status reptile species with potential habitat in the proposed Project boundary: northern California legless lizard (SSC, FSS), southern California legless lizard (SSC), California glossy snake (SSC), San Diegan tiger whiptail (SSC), red diamond rattlesnake (SSC), San Bernardino ring-necked snake (FSS), San Bernardino population of California mountain kingsnake (FSS), coastal rosy boa (BLM-S, SSC), coast horned lizard (SSC), and coast patch-nosed snake (SSC). Of these, both the southern and northern California legless lizards, the California glossy snake, the San Diegan tiger whiptail, and the coast horned lizard have been observed in the proposed Project boundary.

Consistent with the analysis discussed under special-status aquatic species, with the application of administrative changes; construction activities proposed for upgrades to recreational facilities (i.e., the RMP); and implementation of the following PM&E measures, the proposed Project would result in less-than-significant impacts on special-status reptiles: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. The IVMP includes a provision for removing non-native invasive plant species and revegetating some of those disturbed areas that may improve special-status reptile habitat for some species. Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would also provide additional protection to the special-status reptile species through pre-construction surveys before non-routine South SWP Hydropower O&M occur, and protections for known occurrences of special-status species and wetland, riparian and other sensitive habitats. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under CEQA. The proposed Project would have a less-than-significant impact on special-status reptiles and their potential habitat.

Other Special-Status Avian Species

There is suitable nesting, wintering, and/or foraging habitat for 20 special-status avian species, as well as other migratory birds within the proposed Project boundary; however, those species are not listed in Table 3.5-1. Of those species listed in Table 3.5-1 above, burrowing owl, northern harrier, loggerhead shrike, yellow warbler, and California spotted owl have all been observed within the proposed Project boundary. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under FGC § 3503. Ground disturbance, as well as vegetation and tree clearing during the nesting season, could result in direct effects on nesting birds should they be present in construction or proposed Project O&M impact areas. Furthermore, noise and other human activity may result in nest abandonment if nesting birds are present near a work area.

Consistent with the analysis discussed above for other species, with the application of administrative changes; construction activities proposed for recreational facilities (i.e., the RMP); and implementation of the following PM&E measures, the proposed Project would result in less-than-significant impacts on special-status avian species: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. The IVMP primarily includes South SWP Hydropower practices, along with the additional requirement that the Licensees survey hazard trees for nesting birds and/or roosting bats prior to hazard tree removal. Therefore, the IVMP would help prevent impacts on special-status avian species during the nesting season. Additionally, implementation of the IVMP would include the removal of NNIPs in areas inundated with infestations, as well as revegetation of some of those disturbed areas – both of which may improve habitat for special-status avian species. Therefore, the IVMP would have a beneficial impact on special-status avian species and their potential habitats. However, given the findings of this impact analysis, the IVMP is neither required to reduce a potential impact to a less-than-significant level nor considered a mitigation measure under CEQA.

Multiple protective measures for special-status avian species are included in Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, along with South SWP Hydropower wildlife protections. The measures include: protections for wetland, riparian and other sensitive habitats, as well as for known occurrences of special-status species; seasonal restrictions for scheduled vegetation management and hazard tree removal; pre-construction surveys and biological monitors for proposed Project O&M at Elderberry Forebay; pre-construction surveys prior to non-routine proposed Project activities; the use of protective buffers; and avian protection upgrades during transmission line pole replacements and repairs. All of these measures would reduce proposed Project impacts on special-status avian species. Therefore, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would have a beneficial impact on special-status avian species and their potential habitats. However, given the findings of this impact analysis, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan is neither required to reduce a potential impact to a less-than-significant nor is it considered a mitigation measure under CEQA.

Overall, the proposed Project would, therefore, have a less-than-significant impact on special-status avian species and their potential habitats.

Other Special-Status Bats

Suitable habitat for pallid bat, Townsend's big-eared bat, spotted bat, western mastiff bat, western red bat, California leaf-nosed bat, small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis occurs in the proposed Project boundary. These species may utilize a variety of habitats and structures for roosting and foraging throughout the proposed Project, as well as in adjacent areas. Townsend's big-eared bats prefer cave or mine roosting, but they may utilize areas within the proposed Project

boundary for both roosting and foraging. Pallid bats, western mastiff bats, western red bats, and long-eared myotis may be found roosting in rock crevices, structures, or hollow trees, and they may also utilize habitats within the proposed Project boundary for roosting and foraging. Spotted bats, fringed myotis, and Yuma myotis may use habitats within the proposed Project boundary to roost in rock crevices on cliffs, or in caves or buildings, as well as to feed and forage. California leaf-nosed bats are known to roost in caves and abandoned mine tunnels during the day, while night roosts include buildings, rocks, porches, mines, and caves. As such, California leaf-nosed bats may use available habitat within the proposed Project boundary for roosting, as well as foraging. Small-footed myotis shelter and roost in small groups of around 50 individuals in mines, natural crevices, buildings, caves, and bridges.

Consistent with the analysis discussed above under other special-status species, with the application of administrative changes, construction activities proposed for upgrades to recreational facilities (i.e., the RMP), and implementation of the following PM&E measures, the proposed Project would result in less-than-significant impacts on special-status bats: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. The IVMP primarily includes South SWP Hydropower practices, along with the additional requirement that the Licensees perform roosting bat surveys prior to hazard tree removal, which would help reduce impacts to special-status bats. However, given the findings of this impact analysis, the IVMP is neither required to reduce a potential impact to a less-than-significant level, nor is it considered a mitigation measure under CEQA.

Multiple protective measures for special-status bats are included in Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, along with South SWP Hydropower wildlife protections. The measures include: protections for wetland, riparian, and other sensitive habitats, as well as for known occurrences of special-status species; seasonal restrictions for scheduled vegetation management and hazard tree removal; pre-construction surveys and biological monitors for proposed Project O&M at Elderberry Forebay; and pre-construction surveys prior to non-routine proposed Project activities. All of these measures would help reduce proposed Project impacts on special-status bats. However, given the findings of this impact analysis, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan is neither required to reduce a potential impact to a less-than-significant level, nor is it considered a mitigation measure under CEQA.

As a standard practice under current operations, DWR and LADWP conduct preconstruction surveys and biological resource avoidance measures and protections, which would continue as part of the proposed Project, and disturbance from normal O&M is not anticipated to change from existing conditions. Overall, the proposed Project would, therefore, have a less-than-significant impact on special-status bats and their potential habitats. As a result, mitigation measures are not necessary to reduce this

impact under CEQA. PM&E Measures would not serve as mitigation measures under CEQA, but they would codify and enhance existing practices designed to avoid and minimize impacts to special-status bats and their habitat. Implementation of PM&E measures is expected to further reduce potential impacts to special-status bats and their habitat and, therefore, could result in a beneficial environmental impact, when compared to the baseline conditions.

Other Special-Status Mammals

Five special-status terrestrial mammal species have the potential to occur within the proposed Project boundary: San Diego black-tailed jackrabbit (SSC), southern grasshopper mouse (SSC), Tehachapi pocket mouse (SSC, FSS), San Joaquin pocket mouse (SSC), and American badger (SSC). Of these five special-status terrestrial mammal species, only Tehachapi pocket mouse has been observed within the proposed Project boundary.

Consistent with the analysis discussed above under other special-status species, with the application of administrative changes; construction activities proposed for upgrades to recreational facilities (i.e., the RMP); and implementation of the PM&E measures listed below, the proposed Project would result in less-than-significant impacts on special-status terrestrial mammals: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR1 – Pyramid Reach Flow Releases, Measure AR2, Measure LU1 – Fire Prevention and Response Plan, Measure LU2 – Project Safety Plan, Measure VR1 – Visual Resources Management Plan, and the HPMP. The IVMP includes a provision for removing non-native invasive plant species in infested areas, and revegetating some of those disturbed areas, which may improve special-status terrestrial mammal habitat. Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would also provide additional protection for these species through pre-construction surveys before non-routine proposed Project O&M; protections for known occurrences of special-status species; and protections for wetland, riparian, and other sensitive habitats. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level, nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on special-status terrestrial mammals and their potential habitat.

As a standard practice under current operations, Licensees implement pre-construction surveys and biological resource avoidance measures and protections for new ground-disturbing activities (see Section 2.3.4.4 [Terrestrial Vegetation and Wildlife Protection Activities]) which would continue as a part of the proposed Project, and disturbance from normal O&M is not anticipated to change from existing conditions. Therefore, the overall proposed Project would have less-than-significant impacts on special-status mammals.

As a result of the less-than-significant finding for this impact, mitigation measures are not necessary to reduce this impact under CEQA. PM&E measures would not serve as mitigation measures under CEQA, but they would codify and enhance existing practices designed to avoid and minimize impacts to terrestrial mammals and their habitat. Implementation of PM&E measures is expected to further reduce potential impacts to special-status mammals and their habitat and, therefore, could result in a beneficial environmental impact, when compared to the baseline conditions.

Recreationally Important Fish Species

The existing fisheries in Quail Lake and Pyramid Lake are composed entirely of non-native fish species (Licensees 2020). Pyramid Lake is managed for a recreational warmwater fishery, as well as a seasonal cold-water fishery for stocked trout. CDFW considers the existing fish population in Pyramid Lake to be in good condition (CDFW 2013). Quail Lake supports a recreational warmwater fishery that is not maintained through stocking; however, the results of the Licensees' relicensing *Quail Lake Fisheries Assessment Study* found that game fish populations in Quail Lake are healthy and in good condition (Licensees 2020).

The proposed Project boundary change and other administrative changes that are part of the proposed Project would not alter conditions in Pyramid Lake and Quail Lake when compared to baseline conditions and would, therefore, have no impact on recreationally important fish populations. The proposed improvements to South SWP Hydropower-related recreational facilities (i.e., the RMP) as described above in Section 2.4.4 (Proposed Improvement to Recreation Facilities), would be incrementally implemented over a period of 20 years. The proposed improvements would incorporate BMPs implemented under Measure GS1 – Erosion and Sediment Control Plan, which would help minimize impacts on aquatic resources resulting from proposed Project-related construction. Furthermore, implementing the RMP would also require additional actions intended to better address recreational use and crowd management, as well as to reduce littering and litter accumulation around South SWP Hydropower recreation facilities. In combination, these changes from baseline conditions would have a less-than-significant impact on recreationally important fish populations in Quail Lake and Pyramid Lake.

Proposed PM&E measures have the potential to impact recreationally important fish populations in Quail Lake and Pyramid Lake if implementation changes conditions in those reservoirs when compared to baseline conditions. As discussed above for threatened and endangered fish species, the following PM&E measures would codify South SWP Hydropower-related practices in the new FERC license, and would not result in any changes to baseline conditions in Piru Creek upstream of Pyramid Lake or in South SWP Hydropower reservoirs: Measure GS1 – Erosion and Sediment Control Plan, Measure WR1 – Pyramid Lake Water Surface Elevations, Measure WR2 – Hazardous Materials Management Plan, Measure AR2, the IVMP, Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, Measure LU1 – Fire Prevention and Response Plan, and Measure LU2 – Project Safety Plan. Rather, inclusion of several of the aforementioned measures in the FERC license would ensure

that the measures currently occurring under baseline conditions at Pyramid Lake and Quail Lake – which benefit the recreational fishery – are maintained in the future. Specifically, implementation of the following PM&E measures would entail:

- Measure WR1 – Pyramid Lake Water Surface Elevations: Would require the continued maintenance of a minimum pool and limit WSE fluctuations in Pyramid Lake for the benefit of fisheries and recreation.

- Measure WR2 – Hazardous Materials and Management Plan Implementation: Would continue implementation of avoidance and minimization measures in order to protect water quality associated with inadvertent releases of hazardous materials.

- Measure AR2 – Pyramid Lake Fish Stocking Measure: Would continue current efforts to maintain the recreational trout fishery by requiring the continuation of seasonal trout stocking and periodic angler surveys in Pyramid Lake.

- Measure GS1 – Erosion and Sediment Control Plan: Would carry forward implementation of existing BMPs that are designed to reduce the potential for erosion related to any proposed Project-related construction activities, which would be protective of water quality and recreationally important fish populations.

- Measure TR1 – IVMP: Would continue implementation of existing BMPs designed to reduce the potential for impacts to aquatic habitats and species related to the application of herbicides for the purpose of vegetation management, which would be protective of water quality and recreationally important fish populations.

Other proposed PM&E measures that have the potential to result in changes to baseline conditions as they relate to recreationally important fish populations include: Measure AR1 – Pyramid Reach Flow Releases, Measure VR1 – Visual Resources Management Plan, and Measure CR1. Measure AR1 – Pyramid Reach Flow Releases is a codification of South SWP Hydropower O&M practices for releases from Pyramid Dam to Pyramid reach. The measure includes a minor modification to the calculations for ungaged inflow to Pyramid Lake, which would more accurately simulate the natural hydrograph. Additionally, the measure includes additional language to clarify the steps that would be taken in the event of unsafe reservoir conditions. Modifications to release calculations are expected to result in a negligible change in release flows, which equates to approximately a one percent change from baseline conditions. As releases from Pyramid Lake would not change substantially from baseline conditions, Measure AR1 – Pyramid Reach Flow Releases would have a less-than-significant impact on recreationally important fish populations in Pyramid Lake. Furthermore, Measure AR1 – Pyramid Reach Flow Releases would have no impact on recreationally important fish populations in Quail Lake as it would result in no change to Quail Lake inflow or outflow.

Implementation of Measure VR1 – Visual Resources Management Plan would change baseline conditions through the application of treatments or staining to certain proposed

Project features, which would have no impact on recreationally important fish populations. Implementing Measure CR1 has the limited potential to result in minor changes from baseline conditions through the implementation of actions and processes intended to protect cultural and historic resources. Some avoidance measures for historic/cultural resources that are included in Measure CR1 could result in small scale ground-disturbing activities (e.g., construction or installation of berms, barriers, barricades, or other features designed to restrict public access) that have the potential to temporarily result in sedimentation, and thereby, impact water quality in Pyramid Lake and Quail Lake, along with the fish populations there. However, the BMPs for proposed Project-related construction activities that would continue to be implemented under Measure GS1 – Erosion and Sediment Control Plan would prevent the potential for sedimentation related to construction and other ground-disturbing activities. Therefore, implementation of Measure CR1 would have a less-than-significant impact on recreationally important fish populations in Quail Lake and Pyramid Lake.

In summary, the proposed Project would result in minor changes to baseline conditions and would have a less-than-significant impact on recreationally important fish populations.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish or U.S. Fish and Wildlife Service?

Finding: Less Than Significant Impact

Six sensitive natural communities were identified in the proposed Project boundary. These communities are as follows: DRI, JST, VRI, DSW, FEW, and WTM. Two of these – VRI and DRI – are also considered riparian habitats. These riparian habitat and/or sensitive natural communities have been documented in areas that may be affected by routine maintenance activities, and recreational activities both within and outside of the proposed Project boundary.

With the application of administrative changes; construction activities proposed for upgrades to recreational facilities (i.e., the RMP); and implementation of the following PM&E measures as part of the proposed Project, the proposed Project would result in little or no changes from baseline conditions for the aforementioned sensitive natural communities: the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan. Implementation of the IVMP includes provisions for revegetation, wetland protection, and limitations and measures to be implemented when herbicides are used. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would provide additional protections to sensitive natural communities, including pre-construction surveys prior to non-routine South SWP Hydropower activities; protections for known wetland, riparian, and other sensitive habitats; and measures to be implemented if pesticides are used. However, given the findings of this impact analysis, the IVMP and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under

CEQA. Therefore, the proposed Project would have a less-than-significant impact on riparian habitat and other sensitive natural communities.

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Finding: Less Than Significant Impact

Twenty-two wetland areas were identified in the proposed Project boundary. The South SWP Hydropower has minor impacts to features along Gorman Creek and the Gorman Creek inlet at Pyramid Lake due to the infrastructure and infrequent operations of the Gorman Bypass Channel. These effects are relatively minor given the wetland area persists despite the diversion and are expected to remain insignificant during the term of the new FERC license.

In addition to the features associated with Gorman Creek, the Licensees found three features at Elderberry Forebay that are not functioning properly and lack vigor in riparian-wetland vegetation, likely due to fluctuating lake levels and disturbance to natural flows. Although these effects are expected to continue, they would not become more substantial under the proposed Project as compared to current conditions.

The proposed Project includes four PM&Es that are protective to wetland and littoral habitats: Measure AR1 – Pyramid Reach Flow Releases, Measure WR1 – Pyramid Lake Water Surface Elevations, the IVMP, and Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan. Measure AR1 – Pyramid Reach Flow Releases would, with minor modification to the inflow calculation to improve accuracy, continue the existing license Article 52 natural hydrograph flow releases – which mimic the natural hydrograph – in Pyramid reach to the extent operationally feasible and consistent with safety requirements. Measure WR1 would continue the existing limits on water surface fluctuations at Pyramid Lake. The IVMP includes measures for controlling non-native invasive plant species, protecting special-status species, and re-vegetating disturbed areas. Therefore, with the application of Measures WR1 – Pyramid Lake Water Surface Elevations, AR1 – Pyramid Reach Flow Releases, and the IVMP, the proposed Project (i.e., proposed O&M and PM&E activities) would have no impact on State- or federally-protected wetlands.

With the application of administrative change; construction activities proposed for upgrades to recreational facilities (i.e., the RMP); and implementation of the following PM&E measures as part of the proposed Project, the proposed Project would result in little or no changes from baseline conditions for the aforementioned special-status wetland plant species, and their associated wetland habitats: Measures AR1 – Pyramid Reach Flow Releases, WR1 – Pyramid Lake Water Surface Elevations, TR2 – Sensitive Aquatic and Terrestrial Aquatic and Terrestrial Wildlife Management Plan, and the IVMP. Measure AR1 – Pyramid Reach Flow Releases would, with minor modification to improve the accuracy of the inflow calculation, continue the existing license Article 52 natural hydrograph flow releases – which mimic the natural hydrograph – in Pyramid

reach to the extent operationally feasible and consistent with safety requirements. Measure WR1 – Pyramid Lake Water Surface Elevations would continue the existing limits on water surface fluctuations at Pyramid Lake. The IVMP includes measures for controlling non-native invasive plant species; protecting special-status species; and re-vegetating disturbed areas. Implementation of Measure TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan would provide additional protections to these resources, including pre-construction surveys prior to non-routine South SWP Hydropower activities; protections for known occurrences of special-status plant species and wetland, riparian, and other sensitive habitats; and measures to be implemented when pesticides are used. However, given the findings of this impact analysis, Measures AR1 – Pyramid Reach Flow Releases, WR1 – Pyramid Lake Water Surface Elevations, TR2 – Sensitive Aquatic and Terrestrial Wildlife Management Plan, and the IVMP are neither required to reduce a potential impact to a less-than-significant level nor are they considered mitigation measures under CEQA. Therefore, the proposed Project would have a less-than-significant impact on special-status wetland plant species, and their associated wetland habitat.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Finding: Less Than Significant Impact

There is no construction of new or updated facilities associated with the proposed Project that would erect additional barriers to wildlife movement. None of the proposed Project changes to baseline conditions alter the facilities or O&M in such a way as to increase or decrease wildlife movement. As discussed in question “a” above, the proposed Project facilities would remain largely unaltered from the baseline, except for minor updates to the South SWP Hydropower recreation areas. The proposed Project includes Measure AR1 – Pyramid Reach Flow Releases, which would, with minor modification, continue the existing license Article 52 operating guidelines for flow releases – which mimic the natural hydrograph – in Pyramid reach to the extent operationally feasible and consistent with safety requirements. Additionally, South SWP Hydropower operations would not be changed aside from minor administrative updates; the addition of non-native invasive plant management, including removal from infested areas; and additional wildlife protections. The removal of NNIPs may slightly improve natural habitats, but not enough to increase the permeability of wildlife movement corridors. Therefore, the proposed Project would have a less-than-significant impact on established native resident or migratory wildlife corridors, and nursery sites with and without PM&E measures.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: No Impact

Los Angeles County Codes 22.56.2050 through 22.56.2260 include provisions for the protection of oak trees and the requirement of permits for removal. The proposed Project would not remove oak trees unless they are considered hazardous and require removal for safety purposes. Hazardous trees are considered exempt from these provisions, as outlined in Los Angeles County Code 22.56.2070. Therefore, the proposed Project (i.e., proposed O&M and PM&E activities) would have no impact to trees protected by Los Angeles County.

f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?

Finding: No Impact

Although the Licensees are not required to follow the provisions of local or regional plans, they typically attempt to do so. However, there are no adopted Habitat Conservation Plans or Natural Community Conservation Plans within the proposed Project boundary (CDFW 2020c); therefore, there would be no impact.

3.5.4 Mitigation Measures

Based on the impact analysis (see Section 3.5.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Biological Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.6 CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

3.6.1 Regulatory Setting

Regulations pertinent to multiple resource sections are described at the beginning of Section 3.0 (Environmental Checklist and Environmental Evaluation). The following regulatory considerations provide additional information for the environmental analysis specific to Cultural Resources. The questions listed in the table above include references to the CEQA Guidelines §15064.5 and terminology such as “historic resource” and “archaeological resource”, which include in their definition “unique archaeological resources”. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.6.1.1 Federal

National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to consider the effects of their undertaking on historic properties. Historic properties are defined by the ACHP regulations (36 CFR Part 800) and consist of any prehistoric or historical archaeological site, building, structure, historic district, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR § 800.16[l]). For the purposes of NHPA and this IS/MND, an “action” or “undertaking” is FERC’s issuance of a new license for the proposed Project. In turn, the “action” by the Licensees under the proposed Project is the acceptance of a new license together with

the terms and conditions including the proposed PM&E measures to continue hydropower operations of the South SWP Hydropower.

To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological, historical, and architectural properties) must be inventoried and evaluated for listing in the NRHP. The NPS under the USDOI developed guidance which specifies that for a property to qualify for the NRHP, it must meet one of the National Register Criteria for Evaluation by being associated with an important historic context, and retaining historic integrity of those features necessary to convey its significance (USDOI 2002:3). The NPS guidance also states that "The significance of a historic property can be judged and explained only when it is evaluated within its historic context. Historic contexts are those patterns or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear." (USDOI 2002:7)

For projects involving a lead federal agency, cultural resource significance is evaluated in terms of eligibility for listing in the NRHP. For a property to be considered for inclusion in the NRHP, it must be at least 50 years old and meet the criteria for evaluation set forth in 36 CFR § 60.4.

The quality of significance in American history, architecture, archaeology, engineering, and culture must be present in districts, sites, buildings, structures, and objects that possess integrity of design, setting, materials, workmanship, feeling, and association. They must also meet one or more of the four criteria for inclusion on the NRHP:

- Criterion A - Association with events that have made a significant contribution to the broad patterns of history;
- Criterion B - Association with the lives of persons significant in the past;
- Criterion C - Embodiment of distinctive characteristics of a type, period, or method of construction, the work of a master, high artistic values, or a significant and distinguishable entity whose components may lack individual distinction;
- Criterion D - History of yielding, or the potential to yield, information important in prehistory or history.

If a cultural resources professional who meets the Secretary of Interior's Qualification Standards determines a particular resource meets one of these criteria, it is considered as an eligible historic property for listing in the NRHP. Among other criteria considerations, a property that has achieved significance within the last 50 years is not considered eligible for inclusion in the NRHP unless certain exceptional conditions are met. Any action as part of an undertaking that could impact an NRHP-eligible or NRHP listed historic property is subject to review and consultation under Section 106 of the NHPA. NRHP listed or eligible historic properties are considered and managed in accordance with the regulations set forth at 36 CFR Part 800 and any applicable PA or Memoranda of Agreement with the SHPO and, if applicable, the ACHP.

3.6.1.2 State

California Register of Historical Resources

The CRHR is addressed in PRC § 5024.1. The term historical resource includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of the PRC (PRC § 5020.1[j]).

Historical resources may be designated as such through three different processes:

1. Official designation or recognition by a local government pursuant to local ordinance or resolution (PRC § 5020.1[k]);
2. A local survey conducted pursuant to PRC § 5024.1(g);
3. The property is listed in or eligible for listing in the NRHP (PRC § 5024.1[d][1]).

The process for identifying historical resources is typically accomplished by applying the criteria for listing in the CRHR. The CRHR states that a historical resource must be significant at the local, State, or national level under one or more of the following criteria in association with events that have made a significant contribution to the broad patterns of:

1. California's history and cultural heritage;
2. It is associated with the lives of persons important in our past;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;
4. It has yielded, or may be likely to yield, information important in prehistory or history (CCR 14 § 4852).

To be considered a historical resource for the purpose of CEQA, the resource must also have integrity, which is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR (14 CCR § 4852[c]).

Unique Archeological Resources

The PRC also requires a lead agency to determine whether or not a project would have a significant effect on unique archaeological resources (PRC § 21083.2[a]).

The PRC defines a unique archaeological resource as follows.

- An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
    - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
    - Has a special and particular quality such as being the oldest of its type or the best available example of its type;
    - Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2).

In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of a historical resource. As a result, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR.

Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 25 U.S.C. 3001)

Under the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001) and 43 CFR Part 10, the USFS and the BLM are responsible for the protection of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are discovered on ANF, LPNF, and BLM lands, respectively. NAGPRA requires that all human remains and potential human remains be treated with respect and dignity at all times. In the event that suspected human remains are discovered during proposed Project activities on USFS or BLM lands, all activities in the immediate area would cease, and appropriate precautions would be taken to protect the remains and any associated cultural items from further disturbance. Thus, it is the USFS' and BLM's responsibility to follow the procedures outlined in 43 CFR § 10.4, Inadvertent Discoveries.

California Health and Safety Code § 7050.5

Regarding the discovery of human remains on non-federal lands, § 7050.5 of the California Health and Safety Code (CHSC) states the following:

a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided

in PRC § 5097.99. The provisions of this subdivision shall not apply to any person carrying out an agreement developed pursuant to subdivision (l) of PRC §5097.94 or to any person authorized to implement PRC §5097.98.

b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with §27460) of Part 3 of Division 2 of Title 3 of the CGC, that the remains are not subject to the provisions of CGC §27491 or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in PRC § 5097.98. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC) (CHSC §7050.5).

Of particular note to cultural resources is subsection (c). After notification, the NAHC would follow the procedures outlined in PRC § 5097.98, which include notification of most likely descendants (MLD), if possible, and recommendations for treatment of the remains. The MLD would have 24 hours after notification by the NAHC to make their recommendation (PRC § 5097.98). In addition, knowing or willful possession of Native American human remains or artifacts taken from a grave or cairn is a felony under State law (PRC § 5097.99).

<u>Graves Protection and Repatriation Act of 2001</u>

Sections 8010 and 8011 of the CHSC also address the protection of Native American human remains and cultural items as the California Native American Graves Protection and Repatriation Act (CalNAGPRA) of 2001. The intent of the Legislature is to:

- Apply the State's repatriation policy consistently with the provisions of NAGPRA
- Provide a mechanism whereby California Indian tribes that file repatriation claims for human remains and cultural items under either NAGPRA or CalNAGPRA may request assistance in ensuring responses to those claims in a timely manner

- Provide a mechanism whereby California tribes that are not federally recognized may file claims with agencies and museums for repatriation of human remains and cultural items

3.6.1.3 Local

Los Angeles County General Plan

The Los Angeles County 2035 General Plan was adopted by the Los Angeles County Board of Supervisors on October 6, 2015. The Conservation and Natural Resources Element governs the natural and cultural resources of the County. The General Plan has the following relevant goals and policies related to the protection of historic, cultural, and paleontological resources:

- Goal C/NR 14: Protected historic, cultural, and paleontological resources
- Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible
- Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources
- Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings
- Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with SB 18 (2004)
- Policy C/NR 14.5: Promote public awareness of historic, cultural, and paleontological resources
- Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources

The Los Angeles County Historical Landmarks and Records Commission considers and recommends to the Board of Supervisors local historical landmarks within the County that are defined to be worthy of registration by the State of California, either as California Historical Landmarks or as Points of Historical Interest. The Los Angeles County Historical Landmarks and Records Commission may also comment for the Board on applications relating to the NRHP. They are also charged with fostering and promoting the preservation of historical records. In its capacity as the memorial plaque review committee of Los Angeles County, the commission screens applications for donations of historical memorial plaques and recommends to the Board plaques worthy of installation as County property.

Southern California Association of Governments

The SCAG's Regional Comprehensive Plan's Open Space and Habitat-Natural Lands Action Plan institutes constrained policies and best practices regarding the protection of cultural resources, specifically:

- OSN-6: SCAG should encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites

3.6.2 Environmental Setting

3.6.2.1 Prehistoric, Ethnographic, and Historic Context Summary

Archaeological evidence and historical documentation indicate that the South SWP Hydropower region has a long history of human occupation. The earliest of these occupations, during the prehistoric era, is believed to have begun about 10,950 Before Present (B.P.) (PaleoIndian Period) and continued to the Historic Contact Period, dating to around the mid-1700s with the arrival of the Spanish missionaries.

The proposed Project and the surrounding area are within the traditional ethnographic territory of the Tataviam and Inland Chumash (Heizer 1978; King and Blackburn 1978). The name Tataviam were given to those tribes that occupied the area just south of Kitanemuk Country (Tejon Indian Tribe). The traditional territory of the Tataviam is considered to be centered on the upper Santa Clara River drainage, in areas east of Piru Creek. Beyond this general configuration, however, scholars have debated the boundaries of Tataviam territory (King 2004:6). It is believed that the Tataviam language is part of the Takic, a sub-family of the larger Uto-Aztecan linguistic group that includes a wide variety of language groups encompassing most of the Great Basin and even extending as far south as the Basin of Mexico. However, little is known about the Tataviam language. The Uto-Aztecans are believed to have arrived in the Mojave Desert about 5000 years B.P., expanding their occupation in California through about 3900 B.P. during the time when the Gypsum Complex of the Middle Archaic Period appears in the archaeological record; although this incursion into the area is not observed in the archaeological record until about 1500 B.P. The Tataviam are one of the several regional groups enrolled with, and represented by, the FTBMI who identify themselves as a village community of made up of a coalition of lineage communities. Documentation on FTBMI's lifestyles is limited until the Spanish period of missionization (1776 through 1821), although archaeological data indicates that the FTBMI lived in villages of varying population size, obtained and prepared food in similar ways to neighboring groups, and were virtually all baptized at the San Fernando Mission by 1810. At the time of historic contact, the total population is estimated to have been less than 1,000 people.

The historic period of southern California can be broken down into three major periods: Spanish (1769-1822), Mexican (1823-1848), and American (1848-present). From the early seventeenth century up to the middle of the nineteenth century, Spanish and

Mexican governments established colonies, towns, and religious centers throughout the northern borderlands of the Spanish colonial empire. A total of 21 missions were established along the California coastline during the Spanish Period, from San Diego in the south to Sonoma in the north. Mexico won its independence from Spain in 1822, signaling the waning of the mission system and shifting the control of many ranchos to the newly formed Mexican government. By 1835, nearly all missions in southern California had been secularized with ranchos established on their lands. The American Period was ushered in when the U.S. occupied California for two years following Mexico's capitulation in the Mexican-American war, which ended in 1848 with the signing of the Treaty of Guadalupe. The discovery of gold in the Sacramento region at almost the same time, followed by the rush and huge increase in population, quickly precipitated California's entry into the Union in 1850. The American Period continues today.

Local developments during the historic era included the establishment of forest reserves (including the Zaca Lake and Pine Mountain Reserves that initially included the LPNF) with the 1891 Forest Reserve Act, establishing timber management, and flood and fire control. Other reserves were added, and in 1907 the Santa Barbara National Forest was designated. Other forests continued to be added until the LPNF was designated in 1938. By 1933, the Civilian Conservation Corps was in place and was providing a work force for the USFS to build local trails and roads.

The completion of the Ridge Route in 1915 and the development of affordable automobiles in the 1920s, combined with the construction of improved, useable roads, resulted in population growth as new locations were becoming accessible and communities such as Castaic, Gorman, and Lebec were established. These communities grew as rail lines were installed; automobile rest stops, filling stations, and garages set up shop; and post offices, schools, and markets flourished.

Water scarcity in the rapidly-growing region of southern California directly prompted the development of a large-scale water control and carrying project that became known as the SWP (of which the South SWP Hydropower facilities would later become an integral component). The Feather River Project was the initial work of the SWP that was to be the construction of a multipurpose dam and reservoir on the Feather River near Oroville, California. The goal of the SWP was to provide flood control, produce electricity, and create a large reservoir to feed a system of aqueducts that would transport water from Oroville to the Bay Area, the San Joaquin Valley, and continue south from there into southern California. With the completion of the Feather River Project, the SWP was born. The first water deliveries were made in 1962.

The SWP as a water project naturally turned to hydroelectric power to offset the power needs to operate the water supply operations, but it also reflected an increasing interest in clean and renewable energy production in California. The SWP is one of the largest water conveyance systems in the world and is comprised of multiple components, of which South SWP Hydropower is just one.

The first component of the South SWP Hydropower to be completed was the establishment of Quail Lake by DWR in 1967, with subsequent alterations to the lake facilities spanning multiple decades. From Quail Lake, the South SWP Hydropower was extended through the Lower Quail Canal, which was initially completed circa 1971, with substantial alteration in the early 1990s. South SWP Hydropower facilities located between the Lower Quail Canal and Pyramid Lake were not immediately constructed. Pyramid Lake was formed in 1973 after the completion of Pyramid Dam, the Gorman Bypass Channel completed circa1974-1976, the Peace Valley Pipeline completed in 1979, and the Warne Powerplant completed in 1983. The Angeles Tunnel, the principal outlet from Pyramid Lake to the Castaic Powerplant, was completed in 1971. The Castaic Powerplant's establishment date is 1973, though at that time only three penstocks were generating power. The powerplant building was completed by 1973, as were the switchyard, a warehouse, a maintenance building, a repair shop, and auxiliary support buildings that were later removed from the powerplant property. Additional auxiliary support buildings and structures were added to the powerplant property in the 1980s (Lloyd et al. 2020; Lloyd and Leonard 2020).

3.6.2.2 Identification of Historical Resources

The cultural resource investigation for the South SWP Hydropower relicensing identified 56 previously recorded and newly identified archaeological sites, including one presumed site, within the APE (shown in Table 3.6-1 below). The presumed site, the Cordova Ranch, is inundated by Elderberry Forebay and has not been previously recorded. A small portion of one additional site, P-19-001354 (CA-LAN-1354/05-01-53-0040), was previously recorded within the APE, but not located during the survey. Site P-19-001354 was originally recorded in 1978 as a very sparse lithic scatter with scattered faunal bones recorded across more than 8 miles of a northeast-southwest trending ridgeline overlooking Liebre Gulch. The mapped site location intersects with the APE around the general area of the Spanish Point Boat-in Picnic Area and the Vista Del Lago Visitor Center at Pyramid Lake. No artifacts, features, or faunal remains associated with this site were observed within the APE, possibly due to past earth-moving activities that has substantially altered the landscape. The extent, nature, and location of the site outside of the APE is unknown.

Site P-19-000324 (CA-LAN-324) is inundated by Elderberry Forebay, but it has been determined to be NRHP and CRHR-eligible based on the results of previous excavations. Site P-19-000990 (CA-LAN-990H) is the Old Ridge Route and the segment within the ANF is listed on the NRHP; however, the segment within the APE does not contribute to the resources' significance. Thirty-four (34) of the 56 sites are not eligible for NRHP or CRHR listing, and the 20 sites listed as unevaluated would be avoided and therefore, would not be impacted by the proposed Project. Ten (10) of the 20 unevaluated resources are prehistoric sites located fully underwater at Pyramid Lake.

Table 3.6-1. Archaeological Sites Within the APE

Primary Number	Trinomial	USFS No./ Temporary No.	Description	NRHP and CRHR Eligibility[1]
Prehistoric Archaeological Sites				
P-19-000324	CA-LAN-324	05-01-19-00324	Habitation site, cremation remains, cemetery, house pits, roasting pits, rock cairns, bedrock mortars	Eligible[2]
P-19-000392	CA-LAN-392	05-01-53-00051	Midden, lithic scatter	Unevaluated
P-19-000393	CA-LAN-393	05-01-53-00052	Midden, lithic scatter	Unevaluated
P-19-000394	CA-LAN-394	05-01-53-00053	Midden, bedrock mortars, cooking stones	Unevaluated
P-19-000395	CA-LAN-395	05-01-53-00054	Lithic scatter	Unevaluated
P-19-000396	CA-LAN-396	05-01-53-00055	Midden, lithic scatter, rock cairns	Unevaluated
P-19-000438	CA-LAN-438	05-01-53-00056	Midden, lithic scatter, hearth feature	Unevaluated
P-19-000439	CA-LAN-439	05-01-53-00057	Lithic scatter	Unevaluated
P-19-000442	CA-LAN-442	05-01-53-00058	Lithic scatter	Unevaluated
P-19-000443	CA-LAN-443	05-01-53-00059	Lithic scatter	Unevaluated
P-19-000444	CA-LAN-444	05-01-53-00060	Lithic scatter and bedrock mortar	Unevaluated
Historical Archaeological Sites				
–	–	HDR-SSWP-SITE-003	Road and culvert	Not Eligible[3]
–	–	HDR-SSWP-SITE-004	Concrete access road, possibly doubling as a dike	Not Eligible[3]
–	–	HDR-SSWP-SITE-005	Water control features	Not Eligible[3]
–	–	HDR-SSWP-SITE-006	Road	Unevaluated
–	–	HDR-SSWP-SITE-006.2	Concrete ditch	Not Eligible[3]
–	–	HDR-SSWP-SITE-007	Refuse scatter	Unevaluated
–	–	HDR-SSWP-SITE-008	Road, refuse scatter, collapsed structure, fence line	Unevaluated
–	–	HDR-SSWP-SITE-009	Extensive refuse scatter	Unevaluated
–	–	HDR-SSWP-SITE-010	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-012	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-013	Powerline access road	Not Eligible[3]

Table 3.6-1. Archaeological Sites Within the APE (continued)

Primary Number	Trinomial	USFS No./ Temporary No.	Description	NRHP and CRHR Eligibility[1]
–	–	HDR-SSWP-SITE-014	Lake Hughes Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-015	Road and bridge	Unevaluated
–	–	HDR-SSWP-SITE-016	Foundation, ditch, road, industrial refuse	Unevaluated
–	–	HDR-SSWP-SITE-017	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-019	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-021	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-023	Old Highway 99; also Pyramid Lake Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-025	San Francisquito Canyon Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-026	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-027	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-028	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-029	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-030	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-031	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-032	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-033	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-034	Road and concrete pad	Not Eligible[3]
–	–	HDR-SSWP-SITE-035	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-036	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-037	Road	Not Eligible[3]

Table 3.6-1. Archaeological Sites Within the APE (continued)

Primary Number	Trinomial	USFS No./ Temporary No.	Description	NRHP and CRHR Eligibility[1]
–	–	HDR-SSWP-SITE-038	Road	Not Eligible[3]
–	–	HDR-SSWP-SITE-039	Water trough and fence line	Not Eligible[3]
–	–	HDR-SSWP-SITE-040	Concrete pads	Not Eligible[3]
–	–	HDR-SSWP-SITE-041	Bell Systems manhole	Not Eligible[3]
–	–	HDR-SSWP-SITE-042	Concrete pad	Not Eligible[3]
–	–	HDR-SSWP-SITE-043	Water pipes	Not Eligible[3]
–	–	HDR-SSWP-SITE-044	Concrete pad	Not Eligible[3]
P-19-000990	CA-LAN-990H	05-01-53-00032	Modern segment of Old Ridge Route outside ANF	Eligible[4] – segment in APE not contributing
P-19-002333	–	05-01-53-02333	Structural remnants	Unevaluated
P-19-003081	–	05-01-53-00214	Placer mining site	Unevaluated
P-19-186905	–	05-01-53-00283	Ruby-Clearwater-Warm Springs Road Complex	Not Eligible[3]
P-19-188491	–	05-01-53-00340	Dry Canyon Road (USFS 5N29)	Not Eligible[3]
–	–	–	Cordova Ranch	Unevaluated[5]
Multicomponent Archaeological Site				
P-19-002401	CA-LAN-2401/H	05-01-53-00168	Prehistoric – lithic scatter, cupule boulder, portable milling slick, rock shelter Historic – roads, retaining walls, refuse scatter, cisterns, foundations, horse trough	Unevaluated

Notes:
[1]The confidential privileged reports Lloyd et al. 2020, and Lloyd and Leonard 2020 include full NRHP/CRHR evaluations.
[2]SHPO concurred with this evaluation in a letter dated January 9, 2020. Site is inundated by Elderberry Forebay and inaccessible.
[3]SHPO concurred with these evaluations in letters dated January 9, 2020 and January 22, 2020.
[4]SHPO concurrence provided in a letter dated January 9, 2020. Segments of the resource (P-19-000990) have been previously evaluated (elsewhere) as eligible for listing on the NRHP with the SHPO's concurrence. Per the SHPO's January 9, 2020 letter, this segment in the APE does not contribute to the significance of the resource and does not require any further consideration or management to avoid adverse effects or significant impacts.
[5]The location of Cordova Ranch is shown on the Violin Canyon, California USGS topographic quad (1937). The location would be examined during the new FERC license term if/when the site is exposed during any scheduled outage at Elderberry Forebay, in order to determine whether evidence (e.g., archaeological deposit) of the ranch still exists, document any evidence encountered, assess the condition and integrity of the identified evidence, and address the potential NRHP/CRHR eligibility of the site, if present.
Key:
APE = Area of Potential Effects
ANF = Angeles National Forest
CRHR = California Register of Historical Resources
NRHP = National Register of Historic Places
SHPO = State Historic Preservation Officer
USFS = U.S. Department of Agriculture, Forest Service

The historical built environment resources investigation identified 13 built resources in the APE, comprised of groupings of individual buildings, structures, or objects designed and constructed to operate as a unit (Table 3.6-2). Other historical built environment resources located within the proposed Project boundary, however, are outside of the APE because they are owned, operated, and/or maintained by other agencies and organizations and are not subject to the activities of the proposed Project. All 13 of the historical built environment resources were evaluated for NRHP and CRHR eligibility. The Licensees recommended that seven of these resources are individually NRHP-eligible and six resources are not individually NRHP-eligible. The SHPO concurred with these findings.

The Licensees also found that there is insufficient integrity and significance, when reviewing all of the historical built environment resources together, for the South SWP Hydropower to be considered eligible as an NRHP historic district, with Criterion Consideration G being applied. Consultation with the SHPO has, to date, been inconclusive regarding the historic district, and per the SHPO's direction and agreed to by the Licensees, further consultation regarding the historic district will be deferred to occur under the new license through the provisions in the HPMP.

Table 3.6-2. Project-Specific Historical Built Environment Resources in APE

Category and Building/Structure Designation	NRHP and CRHR Eligibility[1]
Quail Lake	No[2]
Lower Quail Canal	No[2]
Pyramid Lake	No[2]
Pyramid Dam	Yes (Criterion A/1)[3]
Pyramid Dam Service Spillway	Yes (Criterion A/1)[3]
Pyramid Dam Emergency Spillway	Yes (Criterion A/1)[3]
Angeles Tunnel Intake	Yes (Criterion A/1)[3]
Angeles Tunnel	Yes (Criterion A/1)[3]
Angeles Tunnel Surge Chamber	Yes (Criterion A/1)[3]
Castaic Powerplant Penstocks	No[2]
Castaic Powerplant	No[2]
Castaic Transmission Line	No[2]
Elderberry Forebay Spillway (P-19-190941)	Yes (Criterion A/1)[3]

Notes:
[1]The confidential privileged reports Lloyd et al. 2020, and Lloyd and Leonard 2020 provide full NRHP/CRHR evaluations.
[2]No = Not Eligible for the NRHP, SHPO concurred in a letter dated July 31, 2020.
[3]Yes = Eligible for the NRHP, SHPO concurred in a letter dated January 9, 2020.
Key:
APE = Area of Potential Effects
CRHR = California Register of Historical Resources
NRHP = National Register of Historic Places
SHPO = State Historic Preservation Officer

3.6.3 Environmental Impact Analysis

Would the proposed Project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Finding: Less Than Significant Impact

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource would be significantly impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the NRHP, the CRHR, or a local register of historic resources pursuant to § 5020.1(k) of the PRC.

Proposed administrative changes to South SWP Hydropower include the reduction of area within the existing South SWP Hydropower boundary, the removal of the Warne Transmission Line, the addition of Primary Project Roads, Quail Detention Embankment, and an existing lake level gage to the FERC license. Real property transfers (i.e., reducing/increasing the area managed under the FERC license) are typically considered to be undertakings subject to the review process under Section 106 of the NHPA. The NHPA Section 106 regulations state that the transfer or sale of a historic property (i.e., a cultural resource eligible for listing on the NRHP) out of federal ownership or control constitutes an adverse effect when undertaken without adequate and legally enforceable restrictions or conditions to provide the long-term preservation of the property's historic significance. Decreasing the existing South SWP Hydropower boundary, as described above in Section 2.4.1.1 (Proposed Project Boundary), would result in the exclusion of four unevaluated archaeological sites currently located within the existing South SWP Hydropower boundary.

Archaeological site P-19-001015 is an unevaluated prehistoric lithic scatter located on lands managed by the ANF. This site is located within the portion of the existing South SWP Hydropower boundary which will be relinquished by the proposed Project. The proposed Project does not directly impose physical impacts to the site and would not indirectly result in an increase of use or exposure as a result of the proposed Project that could substantially impact the resource if it were determined to be eligible for listing. The ANF's continued management of the land on which the site is located on would require that Section 106 of the NHPA and other relevant cultural and environmental laws be implemented before an action could be undertaken that could potentially impact the resource. As such, the site would continue to be afforded similar levels of protection under the NHPA, as implemented by the ANF. Its exclusion from the existing South

SWP Hydropower boundary would not result in a significant impact on a historical resource as the site would continue to be managed by the ANF.

The other three sites excluded by the proposed Project's decreased boundary consist of P-19-003221 and P-19-003222, both prehistoric quarry sites, and P-19-003228, a prehistoric bedrock mortar site. These sites were not evaluated for their potential listing in the NRHP or CRHR. However, each of those three sites are located on lands owned by the State of California, and thus, current usage and existing conditions would be maintained as they would continue to be managed in a similar fashion under the provisions of all appropriate environmental compliance laws and regulations, including cultural and tribal resources consultation, as necessary. The proposed administrative removal of the Warne Transmission Line would also not result in any adverse effects because the SCE-owned transmission line will continue to be owned, operated and maintained and, thus, managed by the SCE. Additionally, there are no physical activities under the proposed Project that would occur in or near those sites.

As discussed in Section 2.3.1 (Existing South SWP Hydropower Facilities), Primary Project Roads were subject to the inventory and evaluation effort described in the confidential privileged cultural resource technical reports prepared as part of the Licensees' cultural resources investigation (Lloyd et al. 2020; Lloyd and Leonard 2020). Fourteen (14) archaeological resources were identified in association with the addition of the Primary Project Roads within the proposed Project boundary. All 14 resources are unpaved roads primarily used to access the Angeles Tunnel or the Castaic Transmission Line. None of the roads are eligible for NRHP or CRHR listing and, therefore, none of them qualify as a historical resource.

Finally, the existing lake level gage proposed for inclusion within the proposed Project boundary does not meet the minimum age criteria for consideration of NRHP and CRHR eligibility and, therefore, does not qualify as a historical resource. As such, the administrative changes under the proposed Project including the proposed Project boundary change, removal of the Warne Transmission Line, and addition of Primary Project Roads, Quail Detention Embankment, and an existing lake level gage would have no impact on historical resources.

As described in Section 2.4.4 (Proposed Improvements to Recreation Facilities), the Licensees are proposing upgrades to eight South SWP Hydropower recreation facilities. These improvements would be implemented within the first 20 years of operation under the new FERC license. These facilities are listed below:

- Quail Lake Day Use Area
- Emigrant Landing Day Use Area
- Vista Del Lago Visitor Center
- Vaquero Day Use Area/Spanish Point Boat-in Picnic Area

- Serrano, Bear Trap, and Yellow Bar Boat-in Picnic Areas
- Los Alamos Campground

The built environment features at the facilities listed above do not meet the 50-year-old minimum age criterion for NRHP and/or CRHR consideration and were not recorded or evaluated for the relicensing Cultural Resources Study. However, each facility would meet the 50-year-old minimum age criterion for consideration during the term of the new FERC license. Improvements to these facilities, prior to their meeting the minimum age criteria, would not be considered an impact to a historical resource. Under the proposed Project conditions, as under existing conditions, all improvements are anticipated to be largely in-kind and would occur primarily in areas of previous disturbance and/or within redeposited or fill sediments. However, analysis of each improvement would follow a series of general assessment and avoidance measures, some of which are required by law, and potential impacts would be considered less than significant.

Additionally, proposed Project improvements may also include minor ground-disturbing activities associated with the upgrades. Although unlikely, subsurface disturbances could potentially unearth, destroy, or damage undiscovered prehistoric or historic-era archaeological sites. If previously undiscovered sites are found during recreation facility upgrades and are determined to represent a historical resource as defined by CEQA, the existing Cultural Resource Protection Activities (described in Section 2.3.4.8) implemented in accordance with State and federal regulations would apply and potential impacts would be avoided. Therefore, the proposed cultural resources PM&E (i.e., the HPMP, or Measure CR1) does not alter current practices and is not required in order to reduce potentially significant impacts to less than significant. Rather, it codifies and enhances South SWP Hydropower conditions, avoidance measures, and protection protocols.

Proposed Project O&M activities are generally not anticipated to change from baseline conditions, and South SWP Hydropower protective measures are sufficient to avoid significant impacts as defined under CEQA. The anticipated license requirements for aquatic resource protections will include a de minimis adjustment to the inflow calculation methods for release into Pyramid reach. Previous archaeological surveys within Pyramid reach did not identify any cultural resources that would be affected by minor changes to these flows (McKenna 2004). Therefore, this adjustment is not sufficient to cause a significant impact.

Development of each of the PM&Es described in Section 2.4.4 (Proposed Improvements to Recreation Facilities) has been conducted in accordance with the avoidance measures for all eligible and unevaluated cultural resources as stipulated in the HPMP (i.e., Measure CR1).

Implementation of the proposed Project would not impact any known historical resources since there are already general assessment and avoidance measures in practice, which constitutes part of the baseline.

Improvements and/or ground-disturbing activities associated with the proposed Project and any of the PM&Es (e.g., erosion controls) may result in the exposure of previously unidentified prehistoric or historic cultural resources. If these resources were determined to meet the criteria of an historical resource as defined by CEQA, the existing general assessment and avoidance measures would apply and potential impacts would be considered less than significant.

Given the findings of this impact analysis, the addition of Measure CR1 is not required in order to reduce a potential historic resource impact to a less-than-significant level because the Licensees' already implement general assessment, avoidance, and protective measures for ground disturbing activities that comply with State and federal regulations. Therefore, no mitigation is required.

Although not necessary as mitigation given the South SWP Hydropower cultural resource protection practices, the HPMP codifies and enhances existing practices, which provide a comprehensive site protection and mitigation program that would be in place throughout the term of the new FERC license. The HPMP contains measures regarding: (1) avoidance procedures; (2) ongoing review and analysis of proposed Project O&M activity; (3) the NRHP and CRHR evaluation of archaeological sites and historic built environment resources when necessary; (4) the thresholds for when a proposed Project activity becomes a new project; and (5) procedures to be followed in the case of an inadvertent discovery of an archaeological resource or exposure of human remains. However, because this PM&E measure is not necessary to reduce potentially significant impacts to less than significant, it is not considered a mitigation measure under CEQA.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Finding: Less Than Significant Impact

Archaeological resources under CEQA may meet the definition of either a historical resource or unique archaeological resource. A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. A substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource would be significantly impaired when a project demolishes or materially alters – in an adverse manner – those physical characteristics of a historical resource that convey its historical significance and justify its inclusion in, or eligibility for inclusion in, either the CRHR or a local register of historic resources pursuant to § 5020.1(k) of the PRC. With regard to unique archaeological resources, in PRC § 21083.2(b) CEQA states that when a project would cause damage to a unique archaeological resource, reasonable efforts must be made to preserve the resource in place or left in an undisturbed state.

Implementation of the proposed Project would not impact any known unique archaeological resources. The application of the Licensees' current general resource assessment and avoidance measures will address and protect any previously unidentified prehistoric or historic cultural resources exposed during recreation improvements and/or ground-disturbing activities associated with the proposed Project. Additionally, any of the PM&Es (e.g., Erosion and Sediment Control Plan [GS1] and the RMP, among other measures) that could result in exposure of previously unidentified prehistoric or historic cultural resources are both addressed and protected with existing measures. If these resources were determined to meet the criteria of a historical resource as defined by CEQA, the current general resource assessment and avoidance measures would facilitate impact avoidance and additional measures are not required.

Given the analysis above, the addition of the HPMP (i.e., Measure CR1) is not required to reduce potential impacts to archaeological resources to a less-than-significant level. Rather, it codifies and enhances existing practices. Therefore, no mitigation is required.

The proposed Project, when evaluated with and without related PM&E measures, is considered to have less-than-significant impacts to the significance of an archeological resource. Therefore, no mitigation is required.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less Than Significant Impact

CHSC – including CalNAGPRA (Ch. 818, Stats. of 2001) – and NAGPRA both recognize the need and provide measures to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction. No evidence of prehistoric or early historic interments were identified in the proposed Project APE as part of the cultural resources inventory efforts. However, this does not preclude the existence of buried human remains within the APE.

Implementation of the proposed Project would not impact any known human remains. However, any improvements or ground-disturbing activities associated with the proposed Project, and implementation of the PM&Es (e.g., Erosion and Sediment Control Plan [GS1] and the RMP among other erosion measures), may result in the discovery of previously unidentified human remains. However, under current and ongoing Licensee practices, the general assessment and avoidance measures would apply and potential impacts would be considered less than significant.

The proposed Project, when evaluated with and without related PM&E measures, is considered to have a less-than-significant impact in the case of the discovery of human remains. Given the analysis above, the addition of Measure CR1 - HPMP is not required to reduce potential impacts to human remains to a less-than-significant level. Rather, it codifies and enhances existing practices. Therefore, no mitigation is required.

3.6.4 Mitigation Measures

Based on the impact analysis (see Section 3.6.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Cultural Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.7 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.7.1 Regulatory Setting

The questions listed in the table above include references to earthquake hazard reductions, the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, the Division of Mines and Geology Special Publication 42, and the Table 18-1-B of the Uniform Building Code (UBC). In addition, the table includes questions about erosion and topsoil controls and wastewater disposal systems, both of which are regulated by the CWA. and the Porter Cologne Act Finally, the table includes terminology such as “paleontological sites” and “unique geologic features”. As such, the following regulations, plans, and policies were identified as pertinent to the discussion of potential impacts to geology and soils.

3.7.1.1 Federal

Earthquake Hazards Reduction Act of 1977

The Earthquake Hazards Reduction Act of 1977 established the National Earthquake Hazards Reduction Program (NEHRP) to reduce the risks of life and property from future earthquakes in the U.S. through the establishment and maintenance of an effective earthquake hazards reduction program. The NEHRP Reauthorization Act significantly amended this program in 1990 by refining the description of the agency responsibilities, program goals, and objectives. The four principal goals of the NEHRP are:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems
- Improve earthquake hazards identification and risk assessment methods, and their use
- Improve the understanding of earthquakes and their effects

The NEHRP Reauthorization Act designates the Federal Emergency Management Agency as the Lead Agency of the program and assigns it several planning, coordinating, and reporting responsibilities.

Code of Federal Regulations

Title 18 of CFR Subpart 12D includes regular inspection requirements for water power projects, which are specific to dams that are more than 32.8 feet in height above the streambed, have an impoundment of more than 2,000 AF, or that have a high hazard potential (18 CFR § 12.30). Dams that meet one of these criteria must be inspected pursuant to 18 CFR § 12.32, which states the following:

> *In accordance with the procedures in section 12.35, the project works of each development to which this subpart applies, excluding transmission and transformation facilities and generating equipment, must be periodically inspected and evaluated by or under the responsibility and direction of at least one independent consultant, who may be a member of a consulting firm, to identify any actual or potential deficiencies, whether in the condition of those project works or in the quality or adequacy of project maintenance, surveillance, or methods of operation, that might endanger public safety (18 CFR § 12.32).*

This inspection includes review and assessment of data concerning settlement, movement, erosion, seepage, leakage, cracking, deterioration, seismicity, and other factors that could potentially affect dam facilities (18 CFR §12.35).

Uniform Building Code

Sections 1803 and 1804 of the UBC, Chapter 18, Division 1 establish the methodology and scope for geotechnical investigations. They require an assessment of a variety of factors such as slope stability, soil strength, adequacy of load-bearing soils, the presence of compressible or expansive soils, and the potential for liquefaction. The required content of the geotechnical report includes recommendations for foundation type and design criteria as stated in UBC § 1803.6, and the required content and recommendations for a seismic site hazard report are included in UBC § 1803.7. Recommendations can include foundation design provisions that are intended to mitigate the effects of landslides, fault rupture, seiche, expansive soils, liquefaction, differential settlement, and other seismic hazards at the site (i.e., rock fall). In general, mitigation can be accomplished through a combination of ground modification techniques (i.e., stone columns, reinforcing nail and anchors, deep soil mixing), selection of an appropriate foundation type and configuration, and use of appropriate building and foundation structural systems. UBC § 1804, Excavation, Grading, and Fill, requires the preparation of a geotechnical report where a building would be constructed on compacted fill (UBC 1994). The UBC § 1803.2 mandates that special foundation design consideration be employed if the soil expansion index is 20 or greater as shown in Table 3.7-1.

Table 3.7-1. Classification of Potential Expansion of Soils Using Expansion Index

Expansion Index	Potential Expansion
0-20	Very Low
21-50	Low
51-90	Medium
91-30	High
Above 130	Very High

Source: UBC 1994

The International Building Code (IBC) replaced earlier regional building codes (including the UBC) in 2000 and established consistent construction guidelines for the U.S. In

2006, the IBC was incorporated into the 2007 California Building Standards Code, and currently applies to all structures being constructed in California. Therefore, the national model codes are incorporated by reference into the building codes of local municipalities. The California Building Standards Code includes building design and construction criteria that take into consideration the State's seismic conditions.

Clean Water Act

The CWA pertains to various resource-specific impact analyses (i.e., biological resources and water quality, among others). As such, the CWA is described at the beginning of Section 3.1 (Introduction). Specific to geology and soils, the CWA focuses on sediment control for waters of the United States. Section 401 regulates discharges into navigable waters. Section 402 regulates point and non-point source discharges requiring a general or individual permit based on discharge type and size through the NPDES program. Under Section 402, there is a Statewide General Construction Permit that generally regulates erosion and sediment control for all ground disturbance greater than 1 acre. This process results in the development and implementation of a SWPPP and strict measures for erosion and sediment control as well as site stabilization post construction. Section 404 regulates the discharge of dredged or fill material into waters of the United States, including wetlands.

3.7.1.2 State

Alquist-Priolo Earthquake Fault Zoning Act

In 1972, the Alquist-Priolo Earthquake Fault Zoning Act was passed to mitigate the effects of surface faulting on structures designed for human occupancy. This act required the State Geologist to delineate Earthquake Fault Zones along known active faults that have a relatively high potential for ground rupture. Faults that are zoned under the Alquist-Priolo Earthquake Fault Zoning Act must meet the strict definition of being "sufficiently active" and "well-defined" for inclusion as an Earthquake Fault Zone. The Earthquake Fault Zones are revised periodically, and they extend 200 to 500 feet on either side of identified fault traces unless in circumstances where a California State Geologist designates a wider zone. No structures for human occupancy may be built across an identified active fault trace. An area of 50 feet on either side of an active fault trace is assumed to be underlain by the fault, unless proven otherwise.

Porter-Cologne Water Quality Control Act of 1969

The State of California established the SWRCB and the nine RWQCBs, and they were provided with regulatory and enforcement responsibilities through the Porter-Cologne Act. Through the enforcement of the Porter-Cologne Act, the nine RWQCBs and SWRCB determine the beneficial uses of the waters (surface water and groundwater) of the State, establish narrative and numerical water quality standards, and initiate policies relating to water quality. The SWRCB and RWQCBs are authorized to prescribe waste discharge requirements for the discharge of waste, which may impact the waters of the State. Furthermore, the development of water quality control plans, or Basin Plans, is

required by the Porter-Cologne Act to protect water quality. The SWRCB issues both general construction permits and individual permits under the auspices of the federal NPDES program.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act directs the DOC, California Geological Survey to identify and map seismic hazard zones to mitigate seismic hazards in accordance with the provision of the California PRC, Division 2, Geology, Mines and Mining, Seismic Hazards Mapping – Chapter 7.8. The intent of the Seismic Hazard Mapping Act is to establish zones where earthquakes could cause hazardous ground shaking and ground failure, including liquefaction and landslides and generate Seismic Hazard Zone maps. These maps are distributed to local cities and counties within these zones to regulate building construction in order to minimize loss associated with these seismic hazards.

California Standard Building Code

Title 24, Part 2 of the California Standard Building Code of the CCR contains specific requirements for construction with respect to earthquakes and seismic hazards intended to be protective of public health. Chapter 16, § 1613, Earthquake Loads, of the 2016 California Standard Building Code (effective January 1, 2017) addresses structural design and requires that every structure and portion thereof, including non-structural components that are permanently attached to structures and their supports and attachments, be designed, and constructed to resist the effects of earthquakes.

Government Code Section 65302(g)

Government Code §65302(g) discusses the elements of safety for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8, Division 2 of the PRC; as well as other geologic hazards known to the legislative body. This code requires mapping of known seismic areas and other geologic hazards. It also addresses evacuation routes, military installations, water supply requirements, and minimum road widths and clearances around structures as those items relate to identified geologic hazards.

Paleontological Resources

CEQA includes in its definition of historical resources "…any object [or] site …that has yielded or may be likely to yield information important in prehistory…" (14 CCR § 15064.5[a][3]), which is typically interpreted as including fossils and other paleontological resources. More specifically, destruction of a "…unique paleontological resource or site or unique geologic feature…" constitutes a significant impact under CEQA pursuant to CEQA Guidelines in Appendix G. Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the project; assessment of potential impacts on significant or

unique resources; and development of mitigation measures for potentially significant impacts, which may include monitoring, data recovery excavation, and/or avoidance.

Society of Vertebrate Paleontology Guidelines

The Society of Vertebrate Paleontology (SVP) has guidance for assessing and mitigating paleontological resources that could potentially be impacted from land development. This guidance is included in SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. As part of the assessment process for paleontological resources, the SVP guidance groups rock units into a high, undetermined, low, or no potential category for containing significant paleontological resources. These categories then determine the level of mitigation required, or further assessment prior to construction, for adequate protection or salvage of paleontological resources within a project area. These categories are described further below (SVP 2010):

- **High Potential:** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to: (1) sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras); (2) some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent; and (3) sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones).

- **Undetermined Potential:** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.

- **Low Potential:** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule (e.g., basalt flows or recent colluvium).

- **No Potential:** Some rock units have no potential to contain significant paleontological resources, for instance high grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites).

3.7.1.3 Local

Facility improvements associated with the proposed Project are largely located in the Pyramid Lake Recreation Area, Quail Lake Day Use Area, and within DWR-owned and operated facilities. Ongoing maintenance to maintain the structural and functional integrity of these facilities currently occurs for these facilities. Therefore, local building standards and regulations governed by Los Angeles County would not apply to these facilities, and instead would be governed by applicable State and federal regulations included above.

3.7.2 Environmental Setting

3.7.2.1 Regional Geology

The majority of the proposed Project facilities are located within the Sierra Pelona Mountains, whereas the northernmost portion of the proposed Project lies in Antelope Valley. The Sierra Pelona Mountains comprise the Transverse Ranges Geomorphic Province and Antelope Valley comprise the Mojave Desert Geomorphic Province. The boundaries of Antelope Valley are caused by two of the largest faults in California – the San Andreas fault and the Garlock fault. In general, the proposed Project consists of a mixture of Mesozoic, tertiary, and Quaternary aged geologic units.

3.7.2.2 Local Geology

The proposed Project boundary extends from the southern margin of the Antelope Valley on the western edge of the Mojave crustal block to the southern margin of Ridge Basin – a deep structural trough that contains sedimentary rocks. The proposed Project boundary is bordered on the north by the San Andreas fault and on the west and southwest by the San Gabriel fault.

The northern portion of the proposed Project stretches from the Antelope Valley south to the north-trending Peace Valley. Bedrock in this area consists of the Oso and Quail Lake formations (near Quail Lake) and the Hungry Valley Formation (around Lower Quail Canal and the western extent of the Project) of the Ridge Basin Group of formations.

The Oso and Quail Lake Formations were deposited during the late Miocene Epoch. The Oso Formation consists of sandstone, claystone, and conglomerate. The Quail Lake Formation consists of sandstone and silty shale. The Hungry Valley Formation was deposited in Plio-Pleistocene time and consists of coarse-grained arkosic sandstone with interbedded clayey siltstone. The central portion of Peace Valley is underlain by the Peace Valley Formation, which was deposited between the late Miocene and Early Pliocene epochs and consists of claystone and siltstone. The southern portion of Peace Valley and most of Pyramid Lake is underlain by the Peace Valley and Ridge Route formations. The Ridge Route Formation was deposited between the late Miocene and Early Pliocene Epochs, and consists of sandstone, claystone, and interbedded breccia. The floor of Peace Valley is underlain by as much

as 100 feet of alluvial deposits consisting primarily of silts but also includes some clays, fine-grained sands, and gravels.

Figure 3.7-1 below shows these underlying geologic units within and surrounding the proposed Project boundary.

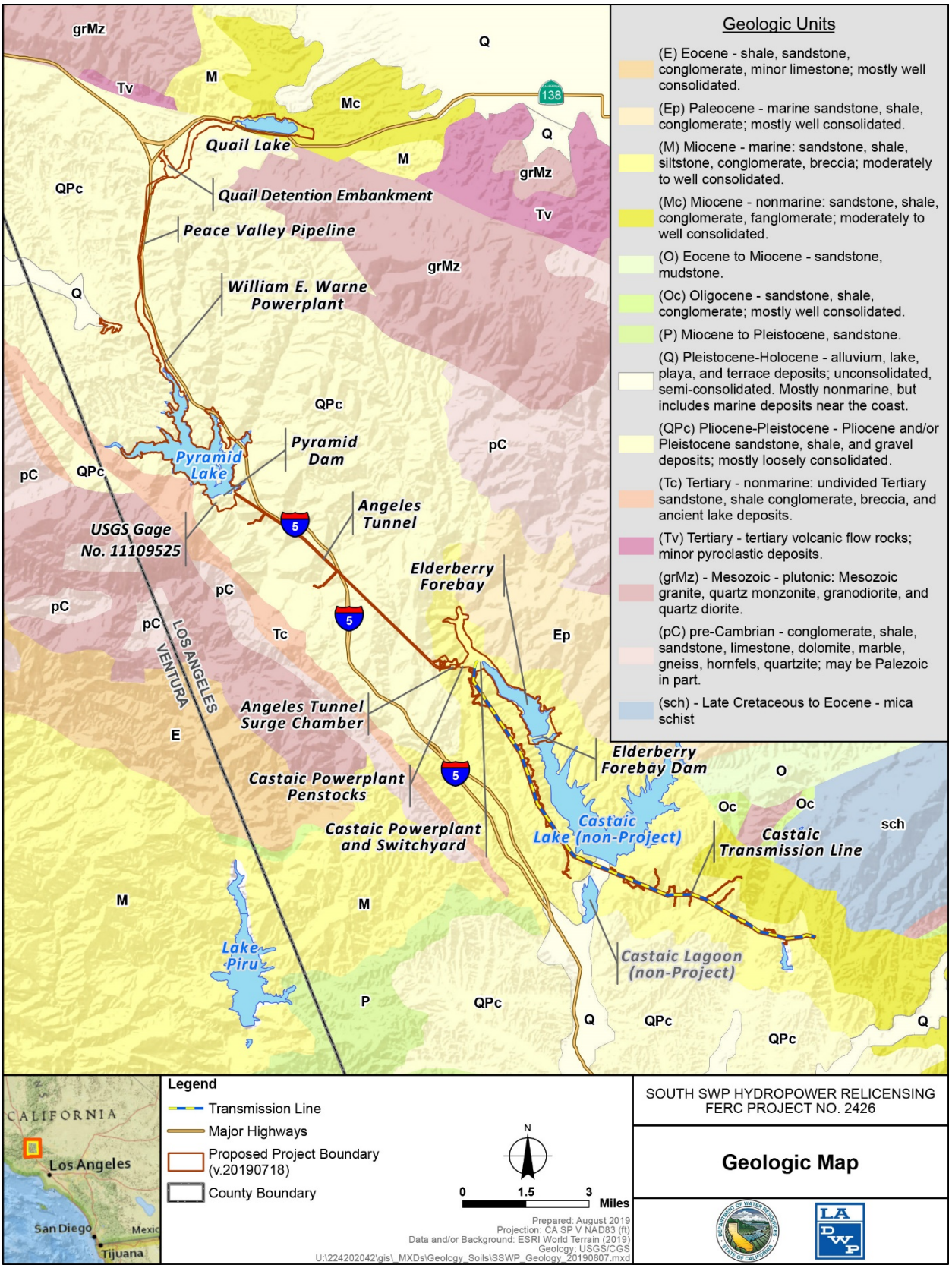

Figure 3.7-1. Geologic Map of the Proposed Project

3.7.2.3 Paleontology

Known Resources and Paleontological Potential

Most of the underlying geologic units within the proposed Project boundary consist of Pleistocene-aged deposits, or older with sandstone, shale, and gravel deposits and, therefore, based on the SVP's guidance above, possess a high potential for paleontological materials.

Furthermore, several of the formations underlying and surrounding the proposed Project, including the Quail Lake Formation, Peace Valley Formation, Hungry Valley Formation, Castaic Formation, and the San Francisquito Formation contain fossils of flora and fauna. Specifically, each of these formations have been cited with the following fossils:

- The Quail Lake Formation has been noted to contain marine molluscan and schinoid fossils (USGS 1967)
- The Peace Valley Formation contains lower Miocene fossils of horses, camels, antelopes, cats, elephants, and reptiles, including the pond turtle (Miller and Downs 1974)
- The Hungry Valley Formation reportedly contains lower Miocene fossils of horses' teeth, tapir, rhinoceros, camels, and antelopes (Miller and Downs 1974)
- The Castaic Formation contains megafauna of about 100 species, most of which are pelecypods and gastropods. Minor elements of the fauna are scaphopods, brachiopods, echinoderms, barnacles, bryozoans, and vertebrates (Stanton 1966)
- The San Francisquito Formation contains turritellas, ammonites, mytilids, thick-shelled oysters, and bivalve mollusks (Squires and Saul 2006)

These known occurrences are further evidence that the paleontological resource potential is high within the proposed Project boundary.

3.7.2.4 Soil Types

Soils and underlying bedrock within the proposed Project boundary vary depending on the exact location within the area. In the Antelope Valley, the proposed Project is underlain almost exclusively by Holocene alluvium, alluvial fan, and saline sand deposits. Soils developed here are well-drained, fine sandy loams that exhibit moderately rapid to moderately slow subsoil permeability (NRCS 2015a). Surficial geologic units include, Quaternary Period alluvial, younger, and older river terrace, and landslide deposits. Holocene alluvium, approximately 11,500 years to present, typically consists of loose to slightly consolidated stream deposits of silt, sand, and gravel that may be up to 100 feet thick overlying the Hungry Valley Formation. Younger materials include alluvial fan deposits consisting of slightly consolidated silt, clay, sand, and

gravel. Older stream terrace deposits consist of fine sand, silt, and clay, with a few beds of coarse sand and sandy gravel (GEI 2005).

As the proposed Project enters Peace Valley, it is underlain by thick, recently deposited alluvial silts and sands. Soils that have developed on these deposits are well-drained, sandy, heavy sandy, to gravelly loams. Further south in the Peace Valley, mountainous soils are characterized by well-drained sandy loams and silty clay loams are present (NRCS 2015a). A pattern of alluvial valley soils and stony mountainous soils exist, with some variation, throughout the Pyramid Lake area (NRCS 2015b).

Along the western lobe of Elderberry Forebay, including the Castaic Powerplant, soils consist of well-drained to excessively well-drained loams, clay loams, and sandy loams of less than 20 inches of depth over hard sandstone, or shattered sandstone and shale. Soil, slopewash, creep materials, and talus form apron-like masses that occupy the lower portions of gullies, drainage channels, and the base of bluffs along Castaic Creek and Elderberry Forebay (NRCS 2015b).

3.7.2.5 Geologic Hazards

Seismic Activity

The most prominent tectonic feature in the proposed Project boundary is the San Andreas Fault Zone. Segments of the main trace of the San Andreas fault pass through the Quail Lake Day Use Area.

The southern segment of the San Andreas fault was responsible for the estimated magnitude 7.9 Fort Tejon earthquake of 1857, the largest historic earthquake to affect southern California. The Fort Tejon earthquake caused a 225-mile-long surface rupture of the San Andreas fault from the likely epicentral area northwest of Parkfield in Monterey County, to at least Cajon Pass northwest of San Bernardino, traversing Quail Lake in the proposed Project boundary (SCEDC 2015). An estimated 20 feet of horizontal displacement occurred near the town of Gorman, approximately 4 miles from the proposed Project. The 1857 earthquake, along with the 1906 San Francisco earthquake of northern California, represent the two largest fault ruptures in California history (SCEDC 2015).

The Garlock fault, located northwest of the proposed Project, is an east-northeast striking fault that separates the Tehachapi and Sierra Nevada mountains from the Mojave Desert. Although no significant historic earthquakes have been recorded on the Garlock fault, the last rupture of the fault has been estimated as occurring between the years 1460 and 1900. The Garlock fault is considered an active fault that is capable of producing a significant seismic event (DWR 2009).

The San Gabriel fault is approximately 87 miles in length, extending southeastward from the San Andreas fault about 10 miles west of the proposed Project to the Cajon Pass area, where it merges once again with the San Andreas fault (Figure 3.7-2). This primarily right-lateral strike-slip fault extends through the proposed Project boundary, passing approximately 0.5 miles southwest of Pyramid Dam and nearly 3 miles from

Elderberry Dam. Most of its displacement likely occurred during the middle Miocene to early Pliocene time, and it may have functioned as an ancestral branch of the San Andreas fault during some portion of this time (DWR 2012).

More recently, the Kern County or Tehachapi earthquake of 1952 was estimated at magnitude 7.5 and was generated on the White Wolf fault, located approximately 30 miles north of the proposed Project. This earthquake caused significant damage locally and was felt as far away as San Diego and San Francisco. This earthquake reportedly caused landslides around the Pyramid Dam area (SCEDC 2015).

The 1971, magnitude 6.6 Sylmar or San Fernando earthquake was centered about 29 miles south of the proposed Project. No known reports of slope failure resulting from this earthquake were reported around the proposed Project facilities. The 1994, magnitude 6.7 Northridge earthquake was centered in Reseda, about 22 miles south of the proposed Project. The Licensees did not find evidence of damage to the proposed Project facilities as a result of this event.

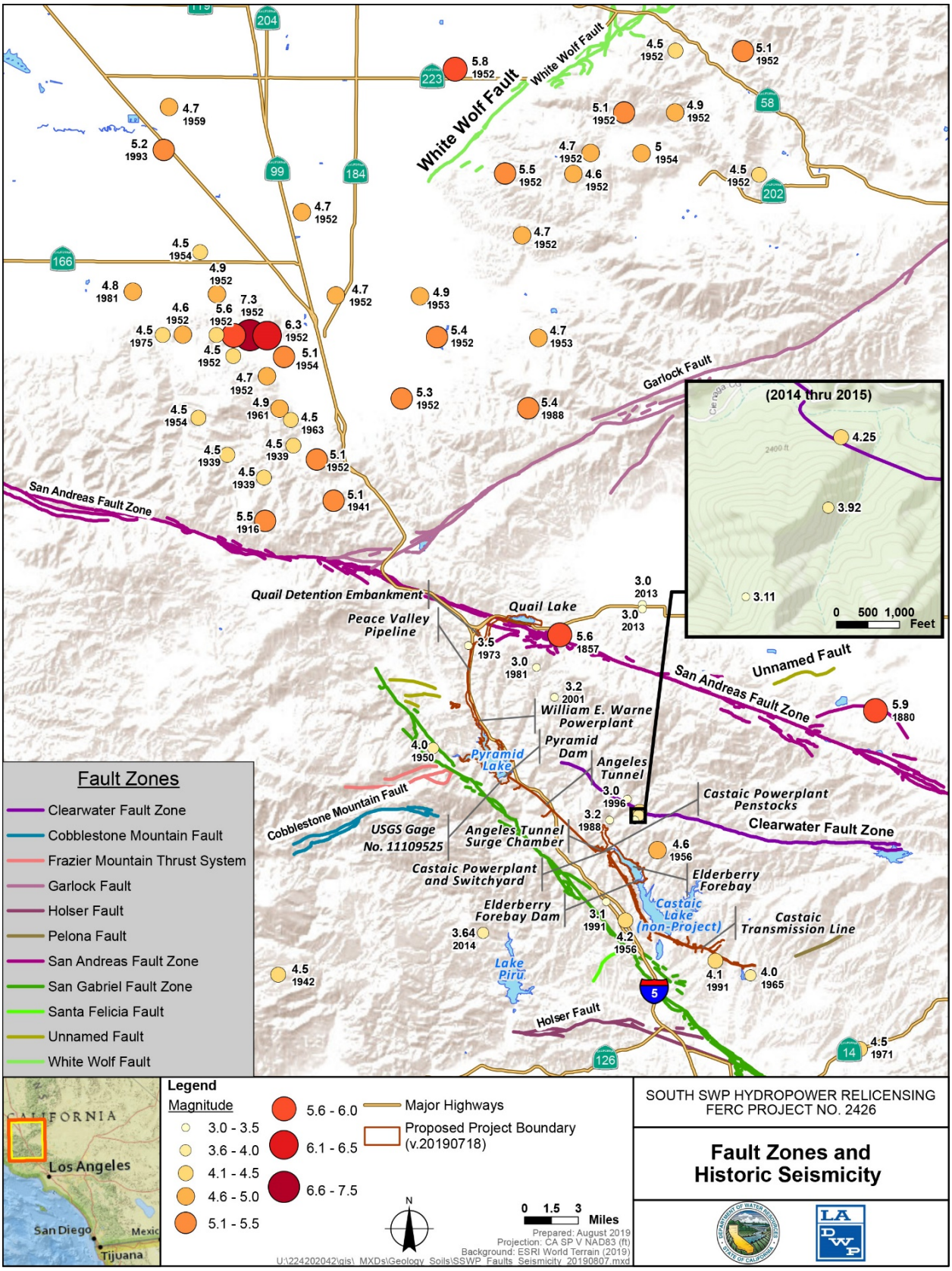

Figure 3.7-2. Fault Zones and Historic Seismicity Near the Proposed Project

Ground Failure

Ground failure includes ground shaking, ground settlement, and surface rupture. Ground shaking is the vibration that radiates from the epicenter of an earthquake and can vary over an area as a result of factors such as topography, bedrock type, and the location and orientation of a fault rupture due to seismic activity. Ground settlement (i.e., subsidence) is the lowering of the ground surface during seismic activity and is caused by consolidation of the underlying sediments, densification of soil material, or liquefaction (discussed below). Surface rupture is when some ground is raised or lowered leaving a visible crack in the earth surface. Ground failure can cause serious direct damage or collapse of infrastructure caused by seismic activity and is considered the second "primary" earthquake hazard. The severity of ground failure depends on the strength and depth of the earthquake, but there are several other contributing factors, such as the regional geology, local topography, and the site-specific ground characteristics within the proposed Project boundary (Branz 2019). Specifically, the intensity of the vibration or shaking and its potential impact to buildings and other development in the proposed Project boundary is determined by several factors including:

- The nature of the underlying materials, including rock and soil
- Structural characteristics of a building
- Quality of workmanship and materials used in a building's construction
- Location of the epicenter and the magnitude of the earthquake
- Duration and character of the ground motion

As such, some soils within the proposed Project boundary could be subject to settlement, and surface rupture should a major earthquake occur (see Seismic Activity discussion above).

Landslides and Lateral Displacement

Any slope where relatively large masses of material are supported by soil that is likely to soften under strain is prone to a landslide. The risk increases in areas where the ground is steep, weak, or fractured; is saturated by heavy rain; or is compromised by historical ground movements (Branz 2019). Landslides occur most frequently during or following large storms or seismic activity and are most likely to take place in areas where large storms or seismic activity have previously occurred.

Lateral movement (i.e., displacement, spreading, etc.) occurs when seismic shaking causes a mass of soil to lose cohesion and move relative to the surrounding soil. Lateral movement can be entirely horizontal and can occur on flat ground, but it is more likely to occur on or around sloping ground, such as adjacent to hillsides and waterways (Branz 2019).

Depending on the exact location within the proposed Project boundary, the potential for landslides, slope failure, and lateral displacement varies from low to high due to the overall topography of the area, slopes, and composition of soils. The California Geological Survey Landslide Inventory Map indicates that there is no landslide information or reports in the northern portion of the proposed Project boundary, near Quail Lake. However, adjacent to Pyramid Lake and Castaic Lake, historically there have been reported landslides in these areas (California Geological Survey 2020a).

Liquefaction

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Factors determining the liquefaction potential of any particular area are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits, along with recent Holocene age deposits, are more susceptible to liquefaction, while older deposits of clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

Liquefaction can damage buildings, roads, and pipelines through loss of structural support capabilities and subsequent destabilization of soils. The proposed Project boundary does contain some sandstone, shale, and gravel deposits, which generally have a low potential for liquefaction. Furthermore, the California Geological Survey Earthquake Zones indicate that the proposed Project boundary does not include any liquefaction zones; therefore, the overall liquefaction potential for the proposed Project boundary is low (California Geological Survey 2020b).

Seiche

Lakes in seismically active areas are significantly at risk for seiches. A seiche is a standing wave in a body of water caused by strong winds or earthquakes. A seiche is a wave that can flood shorelines similar to a storm surge. The potential for a seiche is moderate to high at the Pyramid Lake Recreation Area due to the proximity of the San Andres fault and the presence of a potentially active San Gabriel fault directly adjacent to the Pyramid Lake Recreation Area and Castaic Lake.

3.7.3 Environmental Impact Analysis

Would the proposed Project:

a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:

> **i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Finding: Less Than Significant Impact

Major faults near the proposed Project (Figure 3.7-2) have the potential to cause strong seismic ground shaking, seismic-related ground failure, and landslides. Failure of the Castaic Powerplant facilities, Elderberry Dam and forebay facilities, or Pyramid Dam facilities (with or without seismicity) could result in the flooding of downstream areas.

The original design of the South SWP Hydropower facilities mitigated for seismic hazards and they were designed to meet seismic standards at the time of construction. Additionally, the South SWP Hydropower was routed through Quail Lake, which is a sag pond that buffers seismic movement. During pre-construction investigations and subsequent, more recent site specific assessments for the South SWP Hydropower facilities, it was determined that the design and construction of these facilities were suitable for continued safe and reliable use, and no faults would affect the alignments of the facilities (Converses 1967; GEI 2005; DWR 2013).

In addition, these South SWP Hydropower facilities are inspected daily, as part of regular, ongoing safety inspections consistent with 18 CFR Part 12D (see Section 3.7.1 [Geology and Soils – Regulatory Setting]). These South SWP Hydropower facilities would continue to be monitored regularly as part of the ongoing inspection and reporting process (see Section 3.7.1 [Geology and Soils – Regulatory Setting]).

Finally, if there were a failure, however unlikely, flooding risk to structures and residences is low for the following reasons: (1) the South SWP Hydropower facilities were originally constructed and continue to meet seismic standards; (2) no structural or operational changes are anticipated under the new FERC license beyond the minor changes in releases due to the modified multiplier; and (3) monitoring, inspection, and maintenance would continue as currently practiced and in accordance with stringent federal and State regulations.

The proposed Project does not include operational changes that would increase the risk of failure. Continued inspections and state-of-the-art monitoring, maintenance, and upgrades, combined with the fact that no structural changes are anticipated for these areas, means the risk of such failure would continue to remain low. Therefore, potential seismic-related impacts related to the South SWP Hydropower facilities would be less than significant.

Furthermore, the proposed administrative changes (including the proposed Project boundary change, removal of Warne Transmission Line, and addition of Primary Project Roads and a lake level gauge) would not contribute to loss, injury, or death due to an earthquake, ground shaking, or landslides because they do not involve ground

disturbance, construction, or new facilities that could put people or new structures in harm's way.

Proposed recreation facility improvements at the Pyramid Lake and Quail Lake Day Use Areas would require ground disturbance inside the 45 acres of South SWP Hydropower facilities identified for upgrades. Improvements to existing structures are described in Sections 2.4.1.1 and 2.4.4.5, regarding the RMP (i.e., Measure RR1). If not designed and constructed appropriately, these improvements could result in potential impacts related to facility failure from ground failure, seiches, and/or landslides in the proposed Project boundary. However, all ground disturbance and improvements to structures would be developed in accordance with current design standards and codes (see Section 3.7.1 [Geology and Soils – Regulatory Setting], as well as the UBC and California Standard Building Code), which would account for the high seismic probability within the proposed Project boundary. Any design plans would require certification by a licensed civil and/or structural engineer whose professional credentials certify the implementation of structural standards that account for seismic hazards, and thus, limit the potential for placing people or structures at risk of substantial adverse effects from rupture or ground shaking from an earthquake. Additionally, there are very few structures within the proposed Project boundary that are meant for prolonged human habitation, with the majority of structures used by DWR and LADWP staff and other personnel associated with the operation of Pyramid Lake Recreation Area activities. Therefore, the planned improvements to South SWP Hydropower facilities would result in a less-than-significant impact related to the risk of loss, injury, or death involving seismic activity and landslides.

The remaining PM&Es entail protective measures to enhance and codify existing cultural resource protections, hazardous materials management requirements, vegetation management activities, fish stocking measures, invasive aquatic species management, recreation management, which are described in Section 2.4.4 (Proposed Improvements to Recreation Facilities). They do not include structural improvements or substantially alter protective measures beyond those currently in practice. Therefore, the proposed Project PM&Es would have a less-than-significant impact on the risk of loss, injury, or death when compared to baseline conditions.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]) is intended to, or needed for, reducing the potential seismic, ground failure, or landslide risk of loss, injury, or death. The risks are considered to be less than significant.

Thus, the proposed Project, when evaluated with and without the related PM&E measures, would have a less-than-significant impact to the various seismic-related risks of loss, injury, or death and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Finding: Less Than Significant Impact with Mitigation

Soil types and slopes within the proposed Project boundary are described in Section 3.7.2 (Geology and Soils – Environmental Setting), above and include types that range from dense bedrock to alluvial soils on flat to steep slopes that have low to moderate erosion potential. Areas with steeper slopes, a higher water table, and with less consolidated soils may erode when subjected to concentrated flows of water. Currently, the Licensees implement erosion and sediment control BMPs as a standard practice for ongoing O&M activities controlling for erosion or topsoil loss. These BMPs include such actions as monitoring and controlling for erosion on lake shore margins and in the Pyramid reach as described in Section 2.3.4.1 (Geology and Soils – Current Erosion Control Protections) and Section 3.7.2.6 (Geology and Soils – Environmental Setting – Pyramid Reach). Under existing conditions, erosion is contained and minimal.

The proposed Project does not include changes that would accelerate or intensify these existing sedimentation or erosion processes. The proposed administrative changes (including the proposed Project boundary change, removal of Warne Transmission Line, and addition of Primary Project Roads and a lake level gauge) would not impact soil erosion or loss of topsoil because they do not include ground disturbance, miscellaneous construction, or construction of new facilities.

The proposed recreation facility improvements associated with the RMP are generally minor and pertain to parking pavement, replacement of barbeque grills, a shade ramada upgrades and the addition of ADA improvements such as handrails, among other similar upgrades. They may include localized ground disturbing activities within approximately 45 acres of South SWP Hydropower facilities (Figure 2.4-1) that, as with any ground disturbance, would be subject to the Licensees currently practiced standard erosion control. In addition, State and federal laws pertaining to stormwater discharges and water quality such as the CWA Sections 401 and 402 as described in Section 3.7.1.1 (Geology and Soils – Regulatory Setting – Federal) would require implementation of BMPs, control measures, and post-construction site stabilization to prevent substantial soil erosion or loss of topsoil. As such, the potential impacts to soil erosion and topsoil associated with recreation facility improvements are considered less-than-significant.

The remaining PM&Es with ground disturbing activities, as described in Section 2.4 (Proposed Project Changes) and Section 3.1.1.2 (PM&E Impact Assessment Approach and Groupings), would not result in a substantial erosion or loss of topsoil because they are generally temporary, localized, and subject to the Licensees current erosion control BMPs and when applicable, SWPPP compliance. Therefore, the potential for substantial erosion or topsoil loss would be considered less than significant and no mitigation is required.

Additionally, under current conditions the erosion and topsoil losses are not significant. The proposed Project does not entail substantial changes and includes the continued application of existing BMPs (see Section 2.3.4 [Currently Implemented Environmental

Protective Measures]). Therefore, the Visual Resources Management Plan (i.e., Measure VR1 – Visual Resources Management Plan) and the Erosion and Sediment Control Plan (i.e., Measure GS1 – Erosion and Sediment Control Plan), among other PM&Es (see Section 2.4.3 [Proposed New Routine Maintenance Activities]) with provisions for erosion and topsoil controls are not needed to reduce impacts to a less-than-significant level.

However, as discussed in Section 2.3.4.1 (Geology and Soils – Current Erosion Control Protections), DWR prepared and certified an EIR in 2005 that evaluated the potential environmental impacts from implementing the operating guidelines of Article 52 under the existing FERC license for flow releases into the Pyramid reach that simulates the natural hydrograph of the Piru Creek basin. The 2005 EIR identified a potentially significant impact due to the potential to alter the drainage pattern in the Pyramid reach causing erosion damage to downstream infrastructure from peak flow releases which simulate the natural hydrograph. The EIR included Mitigation Measure H-3 (Mitigation Measure H-3, Prevention of Erosion Damage to Infrastructure herein named Mitigation Measure GEO-1 in this document) to reduce this impact to a less-than-significant level.

Simulation of the natural hydrograph in Pyramid reach would continue under the proposed Project and would potentially continue to cause the risk of erosion damage and flooding to downstream infrastructure during large storm events. However, continued implementation of Mitigation Measure GEO-1 would maintain this impact at a less-than-significant level.

Under Mitigation Measure GEO-1, DWR prepared a Prevention of Erosion Damage to Infrastructure Plan that was approved by the SWRCB and FERC. The plan incorporates an engineering analysis, an initial erosion report prepared in 2010, and guidance for evaluating the potential for erosion along the Pyramid reach due to the peak natural flow releases. The engineering analysis involved creating a USACE Hydrologic Engineering Centers River Analysis System model that considered flows ranging from 100 cfs and up to 18,000 cfs, corresponding channel velocities, and sizes of existing rock slope protection. The initial erosion evaluation report prepared in 2010 found that high flow releases into the Pyramid reach has the potential to cause erosion to the Old Highway 99 road embankment, bridge, utilities, and other SWP infrastructure in and adjacent to the creek. On an annual basis, DWR monitors and assesses the erosion conditions at eight locations associated with downstream infrastructure during and after high natural flow releases into Pyramid reach and implements engineered erosion protection provisions including the installation of rock slope protection when determined necessary. Monitoring occurs multiple times daily if natural flow releases are greater than 10,000 cfs; daily for natural flow releases ranging from 4,000 cfs to 10,000 cfs. Monitoring is not necessary for natural flow releases less than 4,000 cfs. DWR will continue to follow the guidance identified in the plan and thus, this mitigation measure will continue to keep the potential erosion impacts to a less-than-significant level.

The proposed Project thus, when evaluated with and without the related PM&E measures and with the continuation of Mitigation Measure GE0-01 from the 2005 EIR,

would have a less-than-significant impact to erosion and topsoil loss with mitigation incorporated.

c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

AND

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?

Finding: Less Than Significant Impact

Soil types and slopes within the proposed Project boundary are described in Section 3.7.2 (Geology and Soils – Environmental Setting) and include types that range from dense bedrock to alluvial soils on flat to steep slopes that have low to moderate erosion potential. Areas with steeper slopes, a higher water table, or with less consolidated soils may erode when subjected to concentrated flows of water, thus becoming unstable, resulting in lateral spreading, liquefaction, and collapse.

The original design of the South SWP Hydropower facilities mitigated for hazards posed by strata on which the facilities were built and included compliance with California Standard Building Code requirements to stabilize the soils underlying foundations. The proposed Project does not involve subsequent design or structural changes to the SWP Hydropower facilities that would be subject to additional risk from instability of strata or soil, landslide, lateral spreading, subsidence, liquefaction, or collapse. The administrative changes do not include structural changes and thus no risk of impact from soil instability.

The proposed recreation facility improvements associated with the RMP (i.e., Measure RR1) are generally minor and pertain to parking pavement, the replacement of barbeque grills, shade ramada upgrades, and the addition of ADA improvements such as handrails, among other similar upgrades. Moreover, all design specifications would be required to comply with State and federal standards for soil and foundational stability, including compliance with the California Standards Building Code and the UBC requirements described in Section 3.7.1 (Geology and Soils – Regulatory Setting). These standards require the use of appropriate construction materials and installation methods, including the stabilization of underlying soils. Furthermore, to meet these design standards where necessary, site-specific geotechnical investigations would be performed, where necessary, prior to the start of any construction activities associated with identifying any possible unstable soils. Design modifications would be required to address unstable soils (i.e., soil stabilization for pipelines or reinforced concrete foundations for buildings).

The remaining PM&Es entail protective measures to enhance and codify existing cultural resource protections, vegetation management activities, erosion and sediment controls, fire prevention and protection among others described in Section 2.4

(Proposed Project Changes). They do not include significant structural improvements. Therefore, the proposed Project PM&Es would have a less-than-significant risk to, and risk from, unstable strata and soils.

In conclusion, (1) the majority of the soils in the region are relatively stable; (2) The Licensees propose only minor recreation facilities upgrades associated with the RMP; (3) the remaining PM&Es do not entail substantial new structures, rather they are management activities, some with ground disturbance and only minor facilities adjustments (i.e., painting or sign installation); and (4) the Licensees comply with State and federal building codes and design requirements. As such, the proposed Project risk of facilities located on strata or soil that is unstable, or that would become unstable as a result of the proposed Project causing on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant and the potential risks to life or property from expansive soils would also be less than significant.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]) was designed to, or needed for, reducing the potential risk to life or property from facility failures. Those risks are considered to be less than significant. As such a parallel analysis with and without related PM&E measures is not applicable.

The proposed Project would have a less-than-significant impact. Therefore, no mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Finding: No Impact

The existing Warne Powerplant and Castaic Powerplant use two existing small subsurface wastewater disposal systems and associated leach fields for domestic gray water. The subsurface wastewater disposal systems are enclosed with sufficient capacity and do not discharge into any surface waters. The Licensees do not propose to install septic systems or alternative wastewater disposal systems under the proposed Project. As discussed in Section 3.19 (Utilities and Service Systems) wastewater within the South SWP Hydropower facilities is collected and treated and no new wastewater utility connections are proposed as part of the proposed Project. Additionally, restrooms at Pyramid Lake and the restrooms, gray water, and dump station at Los Alamos Campground are held in tanks which are pumped and serviced regularly. The appropriate authorizations from the Los Angeles RWQCB are obtained and monitoring and reporting are conducted as part of existing permit conditions to ensure water quality is protected consistent with the Los Angeles RWQCB Basin Plan. Therefore, the proposed Project, whether considered with or without PM&E measures, would result in no impacts regarding septic tanks or alternative wastewater disposal systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Finding: Less Than Significant Impact

As discussed in Sections 3.7.1 (Geology and Soils – Regulatory Setting) and 3.7.2 (Geology and Soils – Environmental Setting) above, the geologic units within the majority of the proposed Project boundary have a high potential for paleontological resources because they are Holocene-aged or older, contain known fossils and deposits, and are designated with a high likelihood according to SVP guidance. As a result, ground disturbance in the proposed Project boundary could potentially disturb unique paleontological resources, and thus, if not handled appropriately, could result in a potentially significant impact.

Proposed administrative changes (including the proposed Project boundary change, removal of the Warne Transmission Line, and addition of Quail Detention Embankment, Primary Project Roads, and a lake level gauge) would not result in impacts to paleontological resources because they do not include any ground disturbance, miscellaneous construction, or construction of new facilities.

Proposed recreation facility improvements would require ground disturbance in the Pyramid Lake and Quail Lake Day Use Areas which could result in potential impacts to paleontological resources. In addition, the remaining proposed PM&Es that include ground disturbing activities, when applied in the Pyramid Lake and Quail Lake Day Use Areas, include a potential for paleontological impacts. However, current cultural resources protection activities (see Section 2.3.4.8 [Cultural Resources Protection Activities]) include archival research and surveys of any areas that would require ground disturbance prior to construction activities. These existing practices would cover any potential impacts related inadvertent discovery of paleontological resources within the proposed Project boundary through identification, protection, and documentation of the resource(s), that are codified in the Measure CR1. Therefore, the proposed Project would result in a less-than-significant impact related to paleontological resources.

No specific PM&E in the proposed Project was designed to reduce the potential risk to unique geological features.

The proposed Project, when evaluated with and without the related PM&E measures, would result in a less-than-significant impact related to paleontological resources.

3.7.4 Mitigation Measures

Mitigation Measure GEO-1: Prevention of Erosion Damage to Infrastructure

The following measure from the 2005 EIR (i.e., Mitigation Measure H-3) will be implemented for the proposed Project:

> *[DWR] shall perform an engineering analysis to determine the potential for expected releases to damage Old Highway 99, the Old Highway 99 bridges,*

utilities, and other infrastructure in or adjacent to the channel. The engineering analysis shall be used as a basis for establishing procedures and guidelines for monitoring erosion at infrastructure during flood releases. [DWR] shall monitor erosion at key potential infrastructure damage areas during large flow releases and temporarily curtail releases should the monitoring determine the infrastructure to be at risk. [DWR] shall subsequently install engineered erosion protection to prevent erosion damage to the areas determined to be at risk.

Mitigation Measure GEO-1 Implementation

Responsible Party: DWR

Timing: Prior to any releases and continuous monitoring during releases.

Monitoring and Reporting Program: All engineering analysis has been completed and shall be used as a basis for procedures during flood releases. All engineering analysis, ongoing monitoring, and any installed erosion protection will be kept on file at DWR offices, as necessary.

Standards for Success: The evaluation and recording of any engineering analysis, monitoring, and installed erosion protection to prevent damage to Old Highway 99 and Old Highway 99 bridges.

3.8 GREENHOUSE GASES AND ENERGY RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
d) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.8.1 Regulatory Setting

The questions listed in the table above include references to applicable plans; policies or regulations regarding Green House Gas (GHG) reduction; and State and local plans for renewable energy or energy efficiency. In addition, GHGs and climate change are cumulative global issues. CARB and the EPA regulate GHG emissions within the State of California and the U.S., respectively. While CARB has the primary regulatory responsibility within the State for GHG emissions, local agencies can also adopt policies for GHG emission reduction. As such, the following regulations; plans; and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.8.1.1 State

In the absence of federal regulations, control of GHGs is generally regulated at the State level and is typically approached by setting emission reduction targets for existing sources of GHGs; setting policies to promote renewable energy and increase energy efficiency; and developing Statewide action plans.

California has adopted Statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad

framework for the State's long-term GHG reduction and climate change adaptation program. The governor has also issued several Executive Orders (EO) related to the State's evolving climate change policy. Of particular importance are the following.

Assembly Bill 1493 – Clean Car Standards (2002)

Assembly Bill (AB) 1493 was passed in 2002 and requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions through mandating gradual reductions in global warming pollutants from cars and light trucks sold in California from 2009 through 2016. The average gram-per-mile reduction of GHG emissions from new California cars and light trucks is required to be about 30 percent in 2016, compared to model year 2004 vehicles.

CARB adopted the Advanced Clean Cars (ACC) program in 2012, in coordination with the EPA and National Highway Traffic Safety Administration. The ACC program combined the control of criteria pollutants and GHG emissions into a single coordinated set of requirements for passenger vehicles (i.e., cars and light trucks), model years 2015 through 2025. The new approach also included efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. The new standard drops GHG emissions to 166 grams per mile, a reduction of 34 percent compared to 2016 levels, through 2025.

Executive Order S-03-05 (2005)

EO S-03-05 directs the State to reduce GHG emissions by up to 80 percent below 1990 levels by 2050 through GHG emission reduction targets. This EO identified responsibilities for state agencies to implement the EO and to report on the progress towards meeting those GHG emission reduction targets. This EO established the following GHG emission reduction targets:

- By 2010, reduce GHG emission to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emission to 80 percent below 1990 levels

Assembly Bill 32 (2006)

AB 32, also known as the Global Warming Solutions Act of 2006 (codified in Health and Safety Code, Division 25.5), requires CARB to establish a statewide GHG emissions reduction target for 2020 based on 1990 statewide emissions. The original 2020 GHG emissions limit was 427 million metric tons of carbon dioxide equivalent (MMTCO2e), which was adopted in 2007. The 2020 GHG emission limit was revised to 431 MMTCO2e in 2014. In 2008, CARB adopted its mandatory GHG emission reporting regulation that requires selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions annually. To track the State's progress in reducing GHG emissions, CARB updates the Statewide GHG emissions inventory annually.

CARB's implementation of AB 32 also involves adopting source specific rules/regulations, enforcing compliance with the regulations and emission limits, and managing the Cap-and-Trade program to achieve the State's GHG emission reduction goals. In 2009, CARB adopted nine Early Action Measures to reduce GHG emissions, including:

- Ship electrification at ports
- Reduction of high global-warming-potential gases in consumer products
- Heavy-duty vehicle GHG emission reduction (aerodynamic efficiency)
- Reduction of perfluorocarbons from semiconductor manufacturing
- Improved landfill gas capture
- Reduction of hydrofluorocarbon-134a from do-it-yourself motor vehicle servicing
- Sulfur hexafluoride reductions from the non-electric sector
- A tire inflation program
- A low-carbon fuel standard

AB 32 requires CARB to develop a Scoping Plan, which lays out California's strategy for achieving maximum technologically feasible and cost-effective GHG emission reductions, and to update the Scoping Plan every five years. The 2008 and 2013 Scoping Plans built the framework to reduce Statewide GHG emissions to the 1990 level by 2020 (CARB 2008; CARB 2014). California achieved the 2020 emission reduction goal in 2016. The 2017 Scoping Plan focused on achieving the 40 percent below the 1990 GHG emission reduction target by 2030 (CARB 2017). In 2021, CARB will develop its fourth update to the Scoping Plan, which is expected to focus on long range emission reduction goals including 80 percent below the 1990 GHG emission reduction target by 2050 as well as carbon neutrality by 2045.

AB 32 allows the use of market-based compliance mechanisms. A key element of California's strategy to reduce GHG emissions is the Cap-and-Trade Program, which complements other measures to ensure that California cost-effectively meets its GHG emission reduction goals. Under the Cap-and-Trade Regulation, which became effective in 2013, CARB establishes a declining cap on major sources of GHG emissions in California and increasing price for GHG emission allowances, thereby creating a financial incentive for substantial investments in cleaner and more efficient technologies. The Cap-and-Trade program also provides funding for the California Climate Investments program that invests in GHG emission reduction projects throughout California.

AB 197 also requires CARB to approve a Statewide GHG emission limit equivalent to the Statewide GHG emission level in 1990 to be achieved by 2020, and to prepare and approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions (Stats. of 2016, Ch. 250).

Senate Bill 97 (2007)

SB 97 acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with the legislature's directive in PRC § 21083.05.

Senate Bill 375 (2008)

SB 375, Sustainable Communities Act was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts; regional GHG reduction targets; and fair-share housing allocations under State housing law. SB 375 requires Metropolitan Planning Organizations to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that Metropolitan Planning Organizations' Regional Transportation Plan.

Executive Order B-30-15 (2015)

B-30-15 provides an interim goal of reducing GHG emissions 40 percent below the 1990 level by 2030, with the ultimate goal of reducing GHG emissions by 80 percent below 1990 levels by 2050. The B-30-15 interim 2030 GHG emission reduction goal is consistent with SB 32 and represents substantial progress towards the 2050 emissions reduction goal.

Senate Bill 32 (2016)

California Governor Edmund Gerald Brown Jr. signed SB 32 on September 8, 2016; this bill requires CARB to ensure that Statewide GHG emissions are reduced to 40 percent below the 1990 level by December 31, 2030. SB 32 became operative upon the passage of AB 197 that required, among other things, CARB to annually publish and make publicly available on its website, GHG emissions, criteria pollutants and toxic air contaminants from mobile sources in each county and from stationary sources in each local and subcounty area (Stats. of 2016, Ch. 250).

Senate Bill 100 (2018)

SB 100, known as The 100% Clean Energy Act of 2018, established, as a policy of the State, that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. SB 100 also

increased the state's renewable energy portfolio standards (i.e., RPS) target for 2030 from 50 percent to 60 percent.

Executive Order B-55-18 (2018)

B-30-15, signed at the same time as SB 100, establishes a new statewide policy to achieve carbon neutrality (i.e., the point at which removal of carbon pollution from the atmosphere meets or exceeds emissions) no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter.

Executive Order N-79-20 (2020)

EO N-79-20 directs California to achieve a goal of 100 percent of sales of new passenger cars and trucks will be net zero-emissions by 2035. Additionally, all medium and heavy-duty vehicles will be zero-emission by 2045 for all operations where feasible.

Executive Order N-82-20 (2020)

EO N-82-20 directs State agencies, tribes, and others to establish the California Biodiversity Collaborative to protect and restore the State's biodiversity and among other things, analyze and project impacts from climate change and other stressors to California's biodiversity.

Renewable Portfolio Standard

The RPS sets renewable energy procurement requirements for load-serving entities in California. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) was approved codifying California's 33 percent RPS goal; § 399.19 requires the California Public Utilities Commission, in consultation with the California Energy Commission, to report to the legislature on the progress and status of RPS procurement and other benchmarks. In 2015, SB 350 increased the RPS target to 50 percent by 2030. In September 2018, SB 100 increased the RPS target to 60 percent by 2030.

Department of Water Resources Climate Action Plan

In 2012, DWR developed the Greenhouse Gas Emissions Reduction Plan (GGERP) as the first phase of its Climate Action Plan to guide decision-making related to DWR's energy use and GHG emissions, consistent with State climate change laws, policies, and goals at the time, such as AB 32 and EO S-3-05. Pursuant to CEQA and CEQA Guidelines, DWR prepared an Initial Study and Negative Declaration for the GGERP, determining that it would not result in significant impacts on the environment. In 2020, DWR adopted Update 2020 to its GGERP to revise DWR's mid-term and long-term GHG emissions reduction goals and to review its GHG emissions reduction strategies, in the context of recent legislative, regulatory, policy, and market changes. DWR has

prepared an Addendum to the 2012 Initial Study/Negative Declaration pursuant to CEQA Guidelines Sections 15162 and 15164 and determined that Update 2020 would not create any new significant environmental impact or a significant increase in the severity of impacts identified in the 2012 Initial Study/Negative Declaration.

Update 2020 to DWR's GGERP establishes the following GHG emissions reduction goals for DWR: (1) Mid-term Goal – By 2030, reduce GHG emission to at least 60 percent below 1990 levels; and (2) Long-term Goal – By 2045, supply 100 percent of electricity load with zero-carbon resources and achieve carbon neutrality. It also lays out strategies and guidelines to reduce DWR's GHG emissions from operations, maintenance, and construction (DWR 2020).

In addition to establishing DWR GHG emissions reduction goals and describing strategies for the achievement of these goals, the GGERP is also used to streamline DWR's CEQA analysis for most DWR projects' potential to contribute to the cumulative impact of increased GHG emissions in the atmosphere, pursuant to CEQA Guidelines sections 15064(h)(3), 15064.4(b)(3), 15130(d) and 15183.5. The GGERP covers GHG emissions associated with the following DWR activities: (1) operation of the SWP, which involves GHG emissions associated with the electricity that is used to operate the SWP, regardless of the location of that electricity source; (2) typical construction; (3) maintenance on DWR-owned or operated facilities; and (4) business practices. Later project-specific environmental documents for DWR projects that are covered by the GGERP may rely on the analysis and conclusions in the GGERP for the purposes of cumulative analysis of a project's GHG emissions. However, the GGERP does not cover certain large construction projects, called Extraordinary Construction Projects, and the GHG impacts from such construction activities are not eligible to rely on the GGERP for streamlined CEQA review. A construction project will be considered an Extraordinary Construction Project and the GHG impacts from the construction activities will not be eligible to rely on the GGERP for streamlined CEQA review if either of these apply:

- The project emits more than 25,000 $MTCO_2e$ in total during the construction phase of the project
- The project emits more than 12,500 $MTCO_2e$ in any single year of construction

These screening thresholds are not, however, intended to be used as thresholds of significance for CEQA purposes. If a project's GHG emissions are below the GGERP screening thresholds, then the project can tier the CEQA GHG analysis from the GGERP to streamline project-level CEQA review. As part of the GGERP, DWR also developed construction specific BMPs to reduce GHG emissions, as well as an Assessment Form for Consistency with the GHG Emission Reduction Plan.

3.8.1.2 Local

As discussed above, DWR's GGERP is used as the governing document for this CEQA assessment, it is recognized that both the LADWP and SCAQMD have also adopted guidelines and plans to reduce GHG emissions in the region.

Los Angeles Department of Water and Power

LADWP, the nation's largest municipal electric utility, embraces the responsibility to protect and foster the sustainability of the nation's precious natural resources. LADWP strives to foster environmental sustainability while providing reliable, affordable electricity and water to more than four million people in City of Los Angeles.

LADWP is a key partner in achieving the City of Los Angeles' Green New Deal. Also referred to as the Sustainable City Plan (Garcetti 2019), the five overarching goals for Los Angeles are zero carbon grid, zero carbon buildings, zero carbon transportation, zero waste, and zero wasted water. LADWP's policies, operations, and initiatives support the vision of a sustainable Los Angeles. As set forth by the Mayor's Executive Directive No. 25. LADWP is also committed to embracing sustainability, walking its conservation talk, and leading by example at its own facilities.

South Coast Air Quality Management District

On December 5, 2008, the SCAQMD Governing Board adopted an interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the Lead Agency (e.g., stationary source permit projects, rules, plans) of 10,000 $MTCO_2e$ per year. In September 2010, the SCAQMD Working Group released revisions that recommended a threshold of 3,000 $MTCO_2e$ for all land use types. For the purposes of determining whether or not GHG emissions from affected projects are adverse, SCAQMD specifies that project emissions must include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Based on this direction, construction emissions were amortized over the life of the project (defined as 30 years), added to the operational emissions, and compared with the applicable GHG significance thresholds.

The proposed Project does not fit into the industrial, commercial, or residential project categories. SCAQMD has not proposed or adopted a threshold level for utility projects. Therefore, for purposes of this analysis, both direct and indirect GHG emissions from the proposed Project are discussed in the context of the 3,000 $MTCO_2e$ threshold levels.

3.8.2 Environmental Setting

3.8.2.1 Greenhouse Gases

Many chemical compounds in the earth's atmosphere act as GHGs, as they absorb and emit radiation within the thermal infrared range. When radiation from the sun reaches the earth's surface, some of it is reflected back into the atmosphere as infrared radiation

(heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy from the sun to the earth's surface should be approximately equal to the amount of energy radiated back into space, leaving the temperature of the earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide [CO_2], methane [CH_4], and nitrous oxide [N_2O]), while others are exclusively human-made (like gases used for aerosols).

The principal climate change gases resulting from human activity that enter and accumulate in the atmosphere are listed below.

Carbon Dioxide

CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). Lake sediments produce CO_2, CH_4, and N_2O through bacterial metabolic processing of organic materials (Li et al., 2018). CO_2 is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

Methane

CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills. As mentioned above, biological processes in lake sediments also contributes to CH_4 emissions (Li et al., 2018).

Nitrous Oxide

N_2O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Fluorinated Gases

Hydrofluorocarbons, perfluorinated chemicals, and sulfur hexafluoride are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high global warming potential gases.

3.8.2.2 Emissions Inventories and Trends

California's annual Statewide GHG emission inventory is an important tool for establishing historical emission trends and tracking California's progress in reducing GHGs. In concert with data collected through various California Global Warming Solutions Act (AB 32) programs, the GHG inventory is a critical piece in demonstrating the State's progress in achieving the Statewide GHG target. The inventory provides

estimates of anthropogenic GHG emissions within California, as well as emissions associated with imported electricity; natural sources are not included in the inventory. In 2018, emissions from GHG emitting activities Statewide were 425 MMTCO2e; 0.8 MMTCO2e higher than 2017 levels; and 6 MMTCO2e below the 2020 GHG Limit of 431 MMTCO2e. The most notable highlights in the inventory include:

- Statewide GHG emissions dropped below the 2020 GHG Limit in 2016 and have remained below the 2020 GHG Limit since then.
- Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013.
- Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013.
- Emissions from high global warming potential gases increased 2.3 percent in 2018 (2000-2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace ozone depleting substances being phased out under the 1987 Montreal Protocol.

3.8.2.3 Potential Environmental Impacts

For California, climate change in the form of warming has the potential to cause or exacerbate environmental impacts, including but not limited to changes to precipitation and runoff patterns, increased agricultural demand for water, inundation of low-lying coastal areas by sea-level rise, and increases in wildfire events in terms of frequency and severity. Cooling of the climate may have the opposite effect. Although certain environmental effects are widely accepted to be potential hazards to certain locations, such as rising sea level for low-lying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. A project's GHG emissions are at a micro-scale relative to global emissions but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

3.8.3 Environmental Impact Analysis

Would the proposed Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Finding: Less Than Significant Impact

Hydropower is considered a zero-carbon resource and, based on State inventory information, it is counted as contributing to GHG reductions by reducing California's reliance on fossil fuels for energy. While the South SWP Hydropower development itself may be considered a zero emissions source of energy, the Licensees further reviewed actions associated with the proposed Project for potential GHG emissions.

The proposed Project does not include the development of any new permanent sources of GHGs. While lakes release GHGs, the project-related reservoir sizes and management are not anticipated to substantially change with the proposed Project (see Section 2.4 [Proposed Project Changes]); therefore, changes in current GHG releases are not anticipated under the proposed Project.

Short-term, proposed Project-related construction, such as recreation facility upgrades or non-native invasive plant species controls may result in emissions of GHGs. CalEEMod (Version 2016.3.2) was used to estimate potential construction related GHG emissions. The detailed model output is included in Appendix C. Construction GHG emissions would be generated from the onsite operation of construction equipment, vendor and hauling truck trips, and worker trips. Although construction-related GHG emissions would be generated over the lifetime of the proposed Project as specific upgrades are implemented, for the purposes of this CEQA analysis and emissions modeling, it is assumed that all proposed improvements and new PM&E activities would be implemented at the same time. This represents a worst-case scenario.

GHG emissions associated with construction for the proposed Project would be approximately 541 $MTCO_2e$, significantly below the GGERP screening threshold of 25,000 $MMTCO_2e$. In addition, when amortized over a 30-year period, the yearly contribution to GHG from construction associated with the proposed Project would be 18 $MTCO_2e$ – well below the SCAQMD's annual threshold of 3,000 $MTCO_2e$. Therefore, the proposed Project would be consistent with the GGERP, and GHGs generated from activities conducted for the proposed Project would result in a less-than-significant impact.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), was designed or needed to reduce potential GHG emissions because the proposed Project entails hydropower production and therefore is generally thought to entail low GHG emissions under current and proposed Project conditions.

The operational activities of the proposed Project are anticipated to be similar to current conditions. As such, the change in long-term GHG emissions would be negligible.

Therefore, the proposed Project would not conflict with the long-term strategies included in LADWP's Sustainability Action Plan.

The proposed Project thus, when evaluated with and without relevant PM&E measures, would have a less-than-significant impact to GHGs emissions, and no mitigation is required.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Finding: Less Than Significant Impact

In July 2020, DWR adopted the updated GGERP. The GGERP lays out the framework for GHG emission reductions across DWRs operations, maintenance, and construction activities. As discussed in question "a" above, GHG emissions associated with construction activities under the proposed Project would be approximately 541 $MTCO_2e$, significantly below the GGERP screening thresholds. In addition, when amortized over a 30-year period, the yearly contribution to GHG from construction associated with the proposed Project would be 18 $MTCO_2e$ – well below the SCAQMD's annual threshold of 3,000 $MTCO_2e$. The Licensees would implement all of the applicable GGERP construction, maintenance, and vegetation management BMPs for the proposed Project. In addition, the proposed Project would meet the requirements set forth in the consistency with GHG Emission Reduction Plan Assessment Form. Therefore, the proposed Project would be consistent with the GGERP, and GHGs generated from activities conducted for the proposed Project would result in a less-than-significant impact. Therefore, the implementation of the proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. Therefore, impacts would be considered less than significant.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), was designed or needed to reduce potential conflicts with applicable GHG reduction plans, policies, or regulations because the project entails hydropower production and therefore is generally thought to entail low GHG emissions under current and proposed Project conditions.

The proposed Project thus, when evaluated with and without relevant PM&E measures, would have a less-than-significant impact to policy consistency and GHGs emissions. As such, no mitigation is required.

c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Finding: Less Than Significant Impact

Construction of the recreation facility upgrades and vegetation management, among other PM&Es that entail equipment usage, would result in fuel consumption from off-road construction equipment. It would require fuel consumption for on-road vehicles for

construction workers, vendors, and hauler commutes. Table 3.8-1 summarizes the estimated construction fuel consumption from off-road construction equipment associated with the proposed Project.

Table 3.8-1. Estimated Construction Off-Road Fuel Consumption

Construction Phase	Equipment	Total Fuel (Gallons)
Site Preparation	Rubber Tired Dozers	1,268
	Tractors/Loaders/Backhoes	614
Grading	Excavators	5,649
	Graders	3,607
	Rubber Tired Dozers	4,648
	Scrapers	16,576
	Tractors/Loaders/Backhoes	3,377
	Cranes	6,303
	Forklifts	1,675
	Skid Steer Loader	1,131
Paving	Pavers	934
	Paving Equipment	813
	Rollers	520
Total Estimated Diesel Consumption		**47,115**

Source: Appendix C

As shown in Table 3.8-1, construction activities associated with the proposed Project would be estimated to consume 47,115 gallons of diesel fuel.

On-road vehicles for construction workers, contractors, and haulers would require fuel for travel to and from the site during construction. Table 3.8-2 provides an estimate of the total on-road vehicle fuel usage during construction.

Table 3.8-2. Estimated Construction On-Road Fuel Consumption

Project Phase	Total Annual Fuel Consumption (gallons)
Site Preparation	755
Grading	11,436
Paving	1,392
Total	**13,583**

Source: Appendix C

For improvements to recreation facilities at Pyramid Lake and Quail Lake, there are no unusual proposed Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in

other parts of the State. It is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region. Furthermore, due to the high cost of fuel and with standard federal, State, and local policies and regulations pertaining to construction equipment and energy use, impacts related to wasteful, inefficient, and unnecessary use of energy resources would be further reduced because construction contractors, DWR staff, and LADWP staff would purchase fuel from local suppliers and would conserve the use of their supplies to minimize costs. Construction activities would be required to comply with all applicable laws and regulations (see Section 3.8.1, [Greenhouse Gases and Energy Resources – Regulatory Setting]) and therefore, would not result in a substantial waste of energy resources. Therefore, impacts would be less-than-significant.

Regarding operations of the proposed Project, fuel consumption related to other operation activities are anticipated to be similar to current conditions and therefore, impacts associated with the proposed Project's energy consumption would be negligible and thus, less than significant.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), was designed or needed to reduce energy consumption because the proposed Project entails hydropower production and, therefore, is generally thought to be energy efficient under current and proposed Project conditions.

The proposed Project thus, when evaluated with and without relevant PM&E measures, would have a less-than-significant impact on energy consumption, and no mitigation is required.

d) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Finding: No Impact

The GGERP includes energy goals and policies to reduce energy consumption and increase renewable energy procurements. The proposed Project would be consistent with the GGERP and would implement any energy focused BMPs, specifically BMP 11, which includes provisions to reduce electricity use in temporary construction offices. Energy use for proposed Project operation is anticipated to be similar to current South SWP Hydropower conditions. Therefore, the proposed Project would not conflict with the long-term strategies included in the City of Los Angeles Green New Deal (Garcetti 2019). As such, impacts would be considered less than significant.

Additionally, no specific PM&E in the proposed Project (see Section 2.4 [Proposed Project Changes]), was designed or needed to avoid conflicts with renewable energy or energy efficiency goals in State and local plans because the proposed Project entails hydropower production and, therefore, is generally thought to be energy efficient under current and proposed Project conditions.

The proposed Project thus, when evaluated with and without relevant PM&E measures, would have no impact. The proposed Project is not anticipated to obstruct any State or local plans for renewable energy or energy efficiency, and, as such, no mitigation is required.

3.8.4 Mitigation Measures

Based on the impact analysis (see Section 3.8.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Greenhouse Gases and Energy Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely-hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to *Government Code §65962.5* and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Project footprint?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Regulatory Setting

The questions listed in the table above include references to hazardous materials sites compiled pursuant to *Government Code §65962.5,* worker safety, and emergency response, among other things. In addition, there are multiple regulations that cover the handling of hazardous materials. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.9.1.1 Federal

Hazardous Material Management

Resources Conservation and Recovery Act

The Resources Conservation and Recovery Act (RCRA) established the federal regulatory program for hazardous substances and gives the EPA the authority to regulate the generation, transport, treatment, and disposal of hazardous substances in a “cradle to grave” system. Under the RCRA, the EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. This regulatory system includes tracking all generators of hazardous waste.

RCRA was amended by the 1984 Hazardous and Solid Waste Amendment Act, which prohibited the use of certain techniques for the disposal of certain hazardous wastes. The Emergency Planning and Community Right-to-Know Act of 1986 imposes safety requirements to protect local communities in the event of accidental release of hazardous substances. The requirements provide measures to mitigate or prevent the risks from interaction with hazardous materials, such as handling, storage, and disposal. This law protects human health and the environment by minimizing the present threat if the unintended release of hazardous materials were to occur. The EPA has delegated fulfillment of many of RCRA’s requirements to the California Department of Toxic Substances Control (DTSC).

Hazardous Materials Transportation

Hazardous Materials Transportation Act

The transport of hazardous materials is regulated by the U.S. Department of Transportation under the Hazardous Materials Transportation Act. To accomplish this, the Federal Aviation Administration, Federal Motor Carrier Safety Administration, Federal Railway Administration, Pipeline and Hazardous Materials Safety Administration, and U.S. Coast Guard have been given authority to enforce hazardous material transport regulations.

Worker Safety

Occupational Safety and Health Administration

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration, which is responsible for protecting the health of workers in events such as during the storage and handling of hazardous materials. The Occupational Safety and Health Administration has created regulations to set federal standards of workplace safety including exposure limits, mandatory workplace training, accident and injury reporting, and safety procedures. These regulations are recorded in Title 29 of the CFR.

3.9.1.2 State

Hazardous Material Management

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State's hazardous waste management program. It is similar to, but more stringent than the RCRA. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling treatment, storage and disposal facilities; operation of facilities and staff training; and closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26 of the CCR, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter and to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

California Environmental Protection Agency and California Department of Toxic Substances Control

The CalEPA is responsible for creating and enforcing environmental regulations within California. Within the CalEPA is the DTSC, which was formed under the Hazardous Waste Control Act. DTSC is responsible for regulating hazardous waste, remediating existing contamination, and identifying ways to reduce production of hazardous wastes. DTSC can delegate enforcement responsibilities to local jurisdictions.

Cortese List

The Cortese List was created through Government Code § 65962, which was enacted in 1985 and amended in 1992. It is used as a planning tool to comply with CEQA and requires information about locations of hazardous materials release sites. It states that through the combined efforts of the DTSC, the California Department of Health Services (DHS), the SWRCB, and local enforcement agencies, a list of potentially hazardous

areas and sites will be compiled and remain up to date (at a minimum, updated annually). The list is consolidated by the Secretary for Environmental Protection and is distributed to each city and county in which sites on the list are located. The list can be found on the DTSC data management system (EnviroStor), which includes information from the SWRCB GeoTracker database.

A list of potentially hazardous areas and sites would be compiled and updated. The list is consolidated by the Secretary for Environmental Protection and is distributed to each city and county in which sites on the list are located. The list can be found on the DTSC's data management system known as EnviroStor, which includes information from the SWRCB's GeoTracker database.

California Department of Transportation

Caltrans manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of State roadways and requires that permits be obtained for transportation of oversized loads (including certain materials, even those that are hazardous) and for construction-related traffic disturbance.

Worker Safety

Division of Occupational Safety and Health

The Division of Occupational Safety and Health under the California Department of Industrial Relations is responsible for enforcing workplace safety regulations and requirements in California, including hazardous materials requirements recorded under Title 8 of the CCR. These regulations include requirements for safety training, availability of safety equipment, accident and illness prevention programs, warnings about hazardous substance exposure (such as asbestos), and preparation of emergency action and fire prevention plans.

The Division of Occupational Safety and Health also enforces hazard-communication program regulations that contain training and information requirements. Such requirements include procedures for identifying and labeling hazardous substances, communicating information about hazardous substances and their handling, and preparing health and safety plans to protect workers and employees at hazardous waste sites. Under the hazard-communication program, employers must make Safety Data Sheets available to employees and document employee information and training programs.

Emergency Response

California Emergency Services Act

The California Emergency Services Act provides the basic authority for conducting emergency operations following a proclamation of emergency by the governor or appropriate local authorities. Local government and district emergency plans are

considered to be extensions of the California Emergency Plan, established in accordance with the Emergency Services Act.

The Governor's Office of Emergency Services (CAL OES) is the State agency responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. CAL OES regulates businesses by requiring specific businesses to prepare an inventory of hazardous materials (Title 19 of the CCR). CAL OES is also the lead State agency for emergency management and is responsible for coordinating the State-level response to emergencies and disasters.

Fire Protection

California State fire safety regulations apply to State Responsibility Areas during the time of year designated as having hazardous fire conditions. CAL FIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard in all State Responsibility Areas. A State Responsibility Area is defined as the part of the State where CAL FIRE is primarily responsible for providing basic wildland fire protection assistance. Areas under the jurisdiction of local fire protection services are considered to be Local Responsibility Areas, and areas on federal lands are considered Federal Responsibility Areas.

During the fire hazard season, these regulations include the following: (1) restrict the use of equipment that may produce a spark, flame, or fire; (2) require the use of spark arrestors on any equipment that has an internal combustion engine; (3) specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and (4) specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas.

Spill Response

The Office of Spill Prevention and Response has CDFW's Wildlife's public trustee and custodial responsibilities for protecting, managing and restoring the State's fish, wildlife, and plants. It is one of the few State agencies in the nation that has both major pollution response authority and public trustee authority for wildlife and habitat conservation. This mandate ensures that prevention, preparedness, restoration, and response will provide the best protection for California's natural resources.

3.9.1.3 Local

Emergency Evacuation Plans

DWR and LADWP each have their own South SWP Hydropower EAPs. These EAPs are routinely tested with key agencies including the BLM and the USFS. These EAPs include evacuation plans that are updated regularly and include coordination with partnering agencies such as Los Angeles County, CAL FIRE, and other local, State, and federal agencies during an event that would trigger an emergency in the area.

3.9.2 Environmental Setting

The Licensees use hazardous materials during routine O&M and transport hazardous materials to sites located within the proposed Project boundary when those materials are to be used for periodic maintenance work. A list of materials that are transported, used, and disposed of during O&M work is included in Appendix F.

The Licensees have Hazardous Materials Business Plans and Spill Prevention, Control, and Countermeasure plans for the hazardous materials stored at the Warne and Castaic Powerplants. Warne Powerplant is the only South SWP Hydropower facility where DWR stores hazardous materials, and Castaic Powerplant is the only South SWP Hydropower facility where LADWP stores hazardous materials. Additionally, oil and gas used for rental boats and cleaning and maintenance chemicals may by stored at Emigrant Landing.

The nearest school to the proposed Project boundary is Northlake Hills Elementary School, located approximately 1.75 miles southwest of Castaic Lake. The nearest airport is the Sheriff's Wayside Heliport, located 3.5 miles south of Castaic lake. The nearest hospital is Henry Mayo Newhall Hospital, located approximately 8.9 miles southeast of Castaic Lake.

3.9.3 Environmental Impact Analysis

Would the proposed Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Finding: Less Than Significant Impact

The Licensees do not propose new facilities or substantive changes in South SWP Hydropower operations under the new FERC license for hazardous materials and do not propose to dispose of any hazardous substance within the proposed Project boundary.

The Licensees have Hazardous Materials Business Plans and Spill Prevention, Control, and Countermeasure plans for the hazardous materials stored at Warne and Castaic Powerplants. Measures included in these plans are designed to prevent, eliminate, or otherwise nullify hazards that may be encountered during task implementation, including the potential hazards associated with hazardous substance handling.

The administrative changes for the proposed Project have no relation to hazardous materials controls, and therefore, would have no impact.

The recreation facilities upgrades are likely to entail the use of hazardous materials. However, where hazardous materials are used – such as oil and gas, paint, or other wood treatments – existing practices described in Section 2.3 (Existing South SWP Hydropower Project Facilities and Operations), compliance with current regulations,

and, if a SWPPP is required, SWPPP provisions regarding materials handling would apply. Other hazardous materials that may be used, such as solvents, would also adhere to existing practices, regulations, and SWPPP provisions. Potential hazardous materials impacts from the recreation upgrades, therefore, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Hazardous materials handling during the implementation of the PM&Es that include equipment use with diesel, gasoline, oil and/or other hazardous materials would continue to be managed as they are currently managed, in accordance with currently practiced BMPs, regulations, and applicable SWPPP provisions. As such, PM&E implementation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and no mitigation is required.

Thus, potential impacts relating to the routine transport, use, or disposal of hazardous materials, as well as potential impacts from the release of hazardous materials into the environment with implementation of the proposed Project would be less than significant and no mitigation is required.

Under current conditions, the hazard to the public or environment from routine transport and handling of hazardous materials is not considered to be significant. The proposed Project does not entail substantial changes and would continue to comply with hazardous materials handling regulations (see Section 3.9.1 [Hazards and Hazardous Materials – Regulatory Setting]). Therefore, the Hazardous Materials Management Plan (i.e., Measure WR2 – Hazardous Materials and Management Plan) and the Fire Prevention and Response Plan (i.e., Measure LU1) with provisions for materials handling and spill prevention are not needed to reduce impacts to a less-than-significant level.

The proposed Project thus, when evaluated with and without the related PM&E measures, would have less-than-significant potential impacts related to hazardous materials handling and no mitigation is required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Finding: Less Than Significant Impact

As noted in Section 2.4 (Proposed Project Changes), and the impact discussion for question “a” above, the Licensees do not propose any substantive changes in South SWP Hydropower operations under the new FERC license for the use, transport, storage, or disposal of hazardous materials. Therefore, the proposed Project would not create significant hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials

into the environment. As a result, impacts would be less than significant, and no mitigation is required.

c) Emit hazardous emissions or handle hazardous or acutely-hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: No Impact

There are no existing schools within 0.25 miles of the proposed Project. Therefore, no impacts would occur, and no mitigation is required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to *Government Code §65962.5* and, as a result, would it create a significant hazard to the public or the environment?

Finding: No Impact

The proposed Project is not located on a site that is included on the listing of hazardous materials sites compiled pursuant to Government Code § 65962.5 (SWRCB 2020; DTSC 2020). As such, no impact would occur, and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Project footprint?

Finding: No Impact

The nearest airport is the Sheriff's Wayside Heliport, located 3.5 miles south of Castaic Lake. Therefore, no airports are located within 2 miles of the proposed Project boundary. The South SWP Hydropower facilities would be operated and maintained under the proposed Project as it is occurring under the current license. The Licensees do not propose new PM&E activities, including recreation facility improvements, that could affect airports or airport safety. Therefore, the proposed Project would not result in safety hazards or excessive noise for people residing or working in the proposed Project footprint from a public airport. As a result, no impacts would occur and no mitigation is required.

Additionally, no specific PM&E in the proposed Project boundary (see Section 2.4 [Proposed Project Changes]) was designed to, or needed for, reducing residential or other people's risks of exposure to excess noise or safety because of their proximity to airports. Those risks are considered to be less than significant. As such, a parallel analysis with and without related PM&E measures is not applicable. The proposed Project impacts would be less than significant. No mitigation is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less Than Significant Impact

The Licensees' staff who handle hazardous materials are trained to implement emergency response and evacuation protocols and proper notification and reporting procedures in case of a hazardous materials release or incident during routine O&M activities. The Hazardous Materials Management Plan included in the proposed Project describes response and evacuation procedures in the event of a hazardous materials release. Reporting requirements may include informing the CAL OES, as well as federal, State, and county agencies. If the release occurs on or affects resources on NFS lands, the Licensees would contact the ANF to report the release and discuss corrective actions, which may potentially initiate the ANF's Emergency Response Plan. Depending on the type and magnitude of release, the Licensees may also contact CDFW's Office of Spill Prevention and Response.

The proposed Project does not entail new operation or new routine maintenance activities. Furthermore, implementation of the proposed Project will continue South SWP Hydropower O&M activities and would not include activities that could interfere with an adopted response plan or emergency evacuation plan.

Construction at the South SWP Hydropower recreation facilities would not require major machinery or materials be transported onsite, nor would it include large working crews; therefore, there would be no interference with South SWP Hydropower emergency response and evacuation plans.

As such, the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; rather, the Licensees coordinate and would continue coordination with applicable agencies to implement appropriate emergency response procedures. Therefore, impacts would be less than significant, and no mitigation is required.

The addition of PM&Es with emergency provisions (i.e., Measure WR2 [Hazardous Materials Management Plan] and Measure LU1 [Fire Prevention and Response Plan]; see Section 2.4.3 [Proposed New Routine Maintenance Activities]) would also result in a less-than-significant impact to local emergency response plans because they codify and enhance the Licensees' current protocols of coordination with other agencies.

The proposed Project thus, when evaluated with and without the related PM&E measures, would have a less-than-significant impact related to interference with emergency response and evacuation plans, and no mitigation is required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Finding: Less Than Significant Impact

The risk and potential harm from wildfires are largely addressed in Section 3.20 (Wildfires). The proposed Project does not involve activities that would increase the risk of loss, injury, or death involving wildland fires. As discussed in Section 2.3 (Existing South SWP Hydropower Project Facilities and Operations), the proposed Project continues operations of South SWP Hydropower facilities with O&M improvements and implementation of PM&Es.

As discussed in Section 3.20 (Wildfires), the proposed Project continues operations of South SWP Hydropower facilities and provides for implementation of PM&Es. The risk of exposing people and structures to wildlife is typically limited to recreation camping activities and the operation of equipment in dry vegetation. Under current, baseline conditions campfire use is specifically restricted for the protection against wildfires (see Section 2.3.4 [Currently Implemented Environmental Protective Measures]). The proposed Project does not entail any changes to current practices. In addition, current DWR fire safety practices (see Section 2.3.4 [Currently Implemented Environmental Protective Measures]) include fire prevention standards including provisions against idling vehicles in high fire risk areas. The proposed Project does not include changes to these standard operation activities and the potential exposure to people and structures to significant risk of loss, injury, or death involving wildfires is considered to be less than significant.

The Fire Prevention and Response Plan (i.e., Measure LU1) continues existing best practices for controlling fire and protecting people and structures from exposure to wildfires. Therefore, the potential impacts related to fire exposure risk are considered to be less than significant when evaluated with and without the related PM&E measures, and no mitigation is required.

3.9.4 Mitigation Measures

Based on the impact analysis (see Section 3.9.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Hazards and Hazardous Materials, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.10 HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☒
i) Result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows.	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Regulatory Setting

The questions listed in the table above includes references to water quality standards and waste discharge requirements, groundwater management basins, stormwater runoff, water quality control plans, and sustainable groundwater management plans, much of which is governed by the CWA, among others. As such, the following regulations, plans, and policies provide relevant considerations and regulatory context for the impact discussion that follows.

3.10.1.1 Federal

Clean Water Act

The CWA has considerations that pertain to various resource-specific impact analyses (i.e., biological resources and geology and soils among others). As such, the CWA is described in, Section 3.1.3.3 (Clean Water Act). Specific to hydrology and water quality, the CWA focuses on sediment control for waters of the United States. Section 401 regulates discharge activities and requires WQCs. Section 402 regulates point and non-point source discharges requiring a general or individual permit based on discharge type and size through the NPDES program. In California, stormwater discharges associated with construction activities are covered by a Statewide General Permit, discussed below in local regulations. Section 404 regulates the discharge of dredged or fill material.

3.10.1.2 State

NPDES Permit Requirements

The CWA 402 is described in Section 3.1.3.1 (Federal Regulations - Clean Water Act), with additional detail provided here for regulatory context particular to this resource section. The proposed Project operates with requirements for five NPDES permits: (1) Statewide General National Pollutant Discharge Elimination System Permit for Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States (Weed Control Permit), (2) Los Angeles Department of Water and Power Statewide Aquatic Weed Control Permit, (3) Warne Powerplant National Pollutant Discharge Elimination System Permit, (4) Castaic Powerplant National Pollutant Discharge Elimination System Permit, and (5) Construction Stormwater General National Pollutant Discharge Elimination System Permit Requirements.

The NPDES permit for State Water Project Weed Control Permit applies to the application of aquatic herbicides to SWP facilities to prevent recreational hazards, and to avoid aquatic weed and algae buildup that can clog SWP infrastructure. This aquatic herbicide application in SWP impoundments including Pyramid Lake was evaluated to comply with CEQA and an Initial Study and Mitigated Negative Declaration was adopted in 2014 by DWR, and includes mitigation measures for nesting birds, focused biological surveys, special status plant surveys, and hydrology and water quality measures for monitoring and minimization of the amount of aquatic pesticides used.

For the Los Angeles Department of Water and Power Statewide Aquatic Weed Control Permit, LADWP received coverage on July 22, 2016 to continue application of aquatic herbicides, when necessary, at LADWP facilities, including the Castaic Creek stormwater bypass channel check basins, Elderberry Forebay emergency spillway, and along the transmission line between Haskell Canyon and the Castaic Powerplant. LADWP applies aquatic herbicides to remove vegetation that may affect debris basin performance, to eliminate blockages to stormwater flow, and as part of routine maintenance to treat invasive plant populations along the transmission line.

The Warne Powerplant NPDES permit enables DWR to discharge non-contact, once-through cooling water and drainage sump water to Pyramid Lake from the Warne Powerplant as permitted by Los Angeles RWQCB Order No. R4-2016-0224 (NPDES No. CA0059188) issued on June 9, 2016, with an effective date of July 1, 2016. To demonstrate compliance with permit conditions, water quality monitoring is conducted at the intake water near the penstocks, two effluent locations prior to entry into the powerplant tailrace to Pyramid Lake, and at the Pyramid Lake inlet (receiving water). The permit requires specific monitoring parameters and frequency at each of the sampling locations and submitting quarterly monitoring reports to the Los Angeles RWQCB.

The Castaic Powerplant NPDES provides coverage of LADWP's operations that pump water from Elderberry Forebay back up to Pyramid Lake and also releases water from Elderberry Forebay to Castaic Lake (non-South SWP Hydropower facility). The pumping of water from Elderberry Forebay to Pyramid Lake connects waters of the United States without subjecting the transferred water to intervening industrial, municipal, or commercial use. Discharges from Castaic Powerplant subject to NPDES waste discharge requirements are specified in Los Angeles RWQCB Order No. R4-2013-0093 (NPDES No. CA0055824).

The Construction Stormwater General NPDES Permit Requirements apply to clearing, grading, and disturbances to the ground, such as stock piling, or excavation. Project applicants are required to submit an NOI with the SWRCB's Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site. Applicants are also required to submit a site-specific SWPPP for construction activities. The SWPPP would include a description of BMPs to minimize the discharge of pollutants from the site during construction as well as appropriate monitoring, sampling, and reporting. Construction activities for maintenance performed to restore the original line, grade, or capacity of a facility are not subject to this permit.

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Act is applicable to several resource sections and therefore introduced under Section 3.1 (Introduction). Regarding this water quality and hydrology analysis, the following provides additional context.

Through the Porter-Cologne Act, the SWRCB and nine RWQCBs have been entrusted with broad duties and powers to preserve and enhance all Beneficial Uses of waters in

California. The Water Quality Division of the SWRCB develops Statewide water protection plans, including the Inland Surface Waters, Enclosed Bays, and Estuaries Plan, among others. The Inland Surface Waters, Enclosed Bays, and Estuaries Plan includes Statewide WQOs for sediment, toxicity, mercury, trash provisions, and bacteria, as well as definitions of State wetlands and procedures for discharge of dredged or fill material to waters of the State. The nine RWQCBs develop basin plans for their natural geographic characteristics that affect the overland flow of water in their area, govern requirements for and issue waste discharge permits, take enforcement action against dischargers who violate permits or otherwise harm water quality in surface waters, and monitor water quality.

The proposed Project is located within the jurisdiction of two RWQCBs, the Lahontan RWQCB and the Los Angeles RWQCB. Quail Lake is located within the jurisdiction of the Lahontan RWQCB, and the remaining South SWP Hydropower facilities including Pyramid Lake, Piru Creek, Elderberry Forebay, and Castaic Creek are within the jurisdiction of the Los Angeles RWQCB (Lahontan RWQCB 2016; Los Angeles RWQCB 2015).

The Lahontan RWQCB Basin Plan does not list waterbody-specific Beneficial Uses for Quail Lake, but it does define Beneficial Uses for minor surface waters in the Neenach Hydrologic Area (Hydrologic Unit 626.40), which includes Quail Lake. Waters not specifically listed may be designated with the same Beneficial Uses as the streams, lakes, or reservoirs to which they are a tributary (this is known as the tributary rule). Table 3.10-1 presents definitions of Beneficial Uses and summarizes the designated Beneficial Uses of Quail Lake, Pyramid Lake, Pyramid reach, Elderberry Forebay, and Castaic Creek.

Table 3.10-1. Designated Beneficial Uses for Surface Waters Potentially Affected by the Project

Beneficial Use	Description	Surface Waters					
		Quail Lake[1]	Pyramid Lake	Pyramid Reach[2]	Pyramid Reach[3]	Elderberry Forebay[4]	Castaic Creek[5]
Municipal and Domestic Supply	Uses of water for community, military, or individual water supply systems, including but not limited to, drinking water supply.	X	E	P	P	E	I
Agricultural Supply	Uses of waters for farming, horticulture, or ranching, including but not limited to, irrigation, stock watering, and support of vegetation for range grazing.	X	E	E	E	E	I
Industrial Service Supply	Uses of waters for industrial activities that do not depend primarily on water quality, including but not limited to, mining, cooling water supply, geothermal energy production, hydraulic conveyance, gravel washing, fire protection, and oil well re-pressurization.		E	E	E	E	I
Commercial and Sportfishing	Beneficial uses of waters used for commercial or recreational collection of fish or other organisms, including but not limited to, uses involving organisms intended for human consumption.	X					
Industrial Process Supply	Uses of water for industrial activities that depend primarily on water quality.		E	E	E	E	I

Table 3.10-1. Designated Beneficial Uses for Surface Waters Potentially Affected by the Project (continued)

Beneficial Use	Description	Surface Waters					
		Quail Lake[1]	Pyramid Lake	Pyramid Reach[2]	Pyramid Reach[3]	Elderberry Forebay[4]	Castaic Creek[5]
Ground Water Recharge	Uses of waters for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.	X	E	E	E	E	I
Freshwater Replenishment	Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).		I[6]	E	E	E	I
Hydropower Generation	Uses of water for hydropower generation.		E			E	
Water Contact Recreation	Uses of waters for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, waterskiing, skin and scuba diving, surfing, whitewater activities, fishing, or use of natural hot springs.	X	E	E	E	E[7]	

Table 3.10-1. Designated Beneficial Uses for Surface Waters Potentially Affected by the Project (continued)

Beneficial Use	Description	Surface Waters					
		Quail Lake[1]	Pyramid Lake	Pyramid Reach[2]	Pyramid Reach[3]	Elderberry Forebay[4]	Castaic Creek[5]
Noncontact Water Recreation	Uses of waters for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.	X	E	E	E	E[7]	
Warm Freshwater Habitat	Uses of water that support warm water ecosystems, including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.	X	E	E	E	E	I
Cold Freshwater Habitat	Uses of water that support cold water ecosystems, including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.	X	E	E	E		

Table 3.10-1. Designated Beneficial Uses for Surface Waters Potentially Affected by the Project (continued)

Beneficial Use	Description	Surface Waters					
		Quail Lake[1]	Pyramid Lake	Pyramid Reach[2]	Pyramid Reach[3]	Elderberry Forebay[4]	Castaic Creek[5]
Wildlife Habitat	Uses of waters that support terrestrial ecosystems, including but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.	X	E	E	E	E	E
Rare, Threatened, or Endangered Species	Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or federal law as rare, threatened, or endangered.		E	E[8]	E[8]	E	E
Freshwater Replenishment	Uses of waters for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).		P	E	E	E	
Migration of Aquatic Organisms	Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.			E			
Spawning, Reproduction, and/or Early Development	Uses of water that support high-quality aquatic habitats suitable for reproduction and early development of fish.			E	E	E	

Table 3.10-1. Designated Beneficial Uses for Surface Waters Potentially Affected by the Project (continued)

Beneficial Use	Description	Surface Waters					
		Quail Lake[1]	Pyramid Lake	Pyramid Reach[2]	Pyramid Reach[3]	Elderberry Forebay[4]	Castaic Creek[5]
Wetland Habitat	Uses of water that support wetland ecosystems, including but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.			E[9]	E[9]		

Sources: Lahontan RWQCB 2016; Los Angeles RWQCB 2015
Notes:
[1]Quail Lake beneficial uses are based on beneficial uses for minor surface waters of the Neenach Hydrologic Area (Hydrologic Unit 626.40). Additional beneficial uses as noted for Pyramid Lake may apply as per the tributary rule.
[2]Piru Creek from gaging station below Santa Felicia Dam to Agua Blanca Creek.
[3]Piru Creek from Agua Blanca Creek to Pyramid Lake
[4]Noted beneficial uses are Regional Water Quality Control Board designations only. Los Angeles Department of Water and Power considers Elderberry Forebay a functioning part of the Castaic Powerplant. The waterbody is not used for recreation, agricultural supply, municipal and domestic supply, groundwater recharge, or industrial service or process supply.
[5]Includes three sections of Castaic Creek that are identified separately: Castaic Creek from Santa Clara River R5 to Castaic Lake, Castaic Creek from Castaic Lake to Fish Canyon, and Castaic Creek above Fish Canyon. The same beneficial uses are identified for each section.
[6]Freshwater Replenishment beneficial uses for Pyramid Lake are provided by tributary inflows from Lockwood Creek and Cañada de los Alamos.
[77]Public access to Elderberry Forebay and its surrounding watershed is prohibited by the Los Angeles Department of Water and Power and the Los Angeles County Department of Public Works.
[8]Condor refuge
[9]Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
Key:
E = Existing Beneficial Use
I = Intermittent Beneficial Use
P = Potential Beneficial Use
X = Designated Beneficial Use

The basin plans for the Lahontan RWQCB and Los Angeles RWQCB present WQOs designed to protect designated Beneficial Uses of inland surface waters. Eighteen (18) of the WQO for both basin plans are the same, though the definitions and targets for some objectives vary between the two plans. Seven of these WQOs are qualitative (i.e., no numerical limits established). These include: (1) non-degradation objective, (2) biostimulatory substances, (3) color, (4) floating material, (5) oil and grease, (6) taste and odor, and (7) toxicity. An additional five WQOs set numerical limits in relation to changes in "ambient conditions," or raising levels as compared to an undefined baseline. These are: (1) pH, (2) settleable materials, (3) suspended materials, (4) temperature, and (5) turbidity. The remaining six WQOs are numerical and include: (1) un-ionized ammonia, (2) coliform bacteria, (3) chemical constituents, (4) total residual chlorine, (5) dissolved oxygen, and (6) radioactivity. Each basin plan includes additional WQOs that are not listed in both plans. For the Lahontan RWQCB basin plan, there are two additional qualitative WQOs: non-degradation of aquatic communities and populations, and sediment. Additional WQOs in the Los Angeles RWQCB Basin Plan include: one additional qualitative objective, non-native vegetation; two additional numerical objectives, nitrogen, and polychlorinated biphenyls; and a fourth additional objective that includes both qualitative and numeric goals, relative to pesticides. Additionally, the Los Angeles RWQCB Basin Plan identifies six waterbody specific WQOs for all of Piru Creek from above Pyramid Lake to below Santa Felicia Dam: (1) total dissolved solids (TDS), (2) sulfate, (3) chloride, (4) boron, (5) nitrogen, (6) and sodium adsorption ratio.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), signed into law on September 16, 2014, established a new structure for managing California's groundwater resources at the local level by local agencies. SGMA assigns different roles to DWR, SWRCB, local agencies, and counties. Recognizing the important land-use and water-management role local agencies and governments have, a legislative intent of SGMA is to recognize and preserve the authority of local agencies and counties to manage groundwater according to their existing powers with the formation of Groundwater Sustainability Agencies (GSA).

SGMA required GSAs to form in the State's critically overdrafted and/or high- and medium-priority basins and subbasins by June 30, 2017, but it allowed for flexibility in the formation and continued organizational modification of GSAs as the priorities and boundaries of some basins changed. For basins that received a new high- or medium-priority designation in 2019, local agencies overlying those basins will have two years from the date of reprioritization to either establish a GSA or submit an alternative plan. The Water Code states that a GSA will have five years from the date of reprioritization to be managed under a Groundwater Sustainability Plan (GSP). Critically overdrafted basins were required to submit a GSP by January 31, 2020, while all other high- and medium-priority basins are required to submit a GSP by January 31, 2022. All GSA formation notifications are managed on DWR's SGMA Portal which includes a comprehensive GSP Map Viewer (DWR 2020a).There is one GSA that is downstream of the proposed Project, and it includes a small portion of the proposed Project area –

the Santa Clarita Valley GSA. There are several other GSAs downstream from the proposed Project, beyond proposed Project boundaries along Piru Creek downstream of Lake Piru, and along the Santa Clara River (DWR 2020b). The aforementioned GSAs include: Fillmore and Piru Basins GSA – Piru, Fillmore and Piru Basins GSA – Fillmore, Mound Basin GSA, and Fox Canyon Groundwater Management Agency GSA – Oxnard. Of these GSAs, only the Fox Canyon Groundwater Management Agency GSA has a posted GSP; there are no posted GSPs that would be immediately impacted by the proposed Project (FCGMA 2007).

3.10.1.3 Local

The California State Legislature passed the Groundwater Management Act (GMA), during the 1992 legislative session declaring that groundwater is a valuable resource that should be carefully managed in order to ensure its safe production and quality. The legislation was intended to provide local, public agencies with increased management authority, including development of Groundwater Management Plans (GMP) for their jurisdictions. The legislation also encouraged local agencies to work cooperatively in order to manage groundwater resources. SGMA, as described in Section 3.10.1.3 (Hydrology and Water Quality – Regulatory Setting – Local), expands upon the GMA; however, local GMPs resulting from the GMA are still relevant as GSAs and GSPs as part of the SGMA are still being developed.

There are two water management agencies with GMA authority to manage and/or support groundwater resources in the vicinity of the proposed Project. The Castaic Lake Water Agency (CLWA) developed a GWMP for the east subbasin of the Santa Clara River Valley Groundwater Basin (CLWA 2003). The CLWA is part of, and is the point of contact for, the Santa Clarita Valley GSA which is yet to adopt a GSP. The remainder of the groundwater basin is supported by UWCD through GSAs or GMA remnant cooperative groundwater management agencies. The Fillmore and Piru Basins Groundwater Sustainability Agency (FPBGSA) is currently developing a GSP (FPBGSA 2020). Each developed plan identifies a set of goals for groundwater storage, reduction of subsidence, and addressing unique characteristics or issues in each basin, and/or subbasin.

3.10.2 <u>Environmental Setting</u>

The South SWP Hydropower is operated as a power recovery project using SWP water as it is conveyed through the West Branch of the SWP to serve various water supply contractors in southern California who have long-term water supply contracts with DWR. Existing South SWP Hydropower operations do not vary based on changes in local hydrological conditions.

3.10.2.1 Hydrology

The South SWP Hydropower includes two developments: Warne Power Development and Castaic Power Development. Facilities and features of the Warne Power Development, and the Castaic Power Development are described above, in sections

2.3.1.1 and 2.3.1.2, respectively. The daily timing of the water through the Warne and Castaic Powerplants is controlled for efficient generation (i.e., to support peaking and ancillary services). In addition, water in Elderberry Forebay is pumped back up to Pyramid Lake and passed through Castaic Lake until the water is needed to meet downstream water demand.

Pyramid Lake receives local, natural inflow from Piru Creek, Cañada de Los Alamos, Liebre Gulch, West Fork of Liebre Gulch, and other unnamed tributaries. Outflows from Pyramid Dam to Pyramid reach are required to match the natural inflow into Pyramid Lake to the extent operationally feasible, consistent with safety requirements, and in accordance with the authorizations provided by USFWS on February 2, 2005 and August 22, 2007 and FERC on April 12, 2005 and October 28, 2009. Beginning in the mid-1990s following the listing of the arroyo toad as endangered under the ESA, DWR began actively engaging with USFWS, CDFW, the LPNF and ANF, and UCWD in order to develop an operational plan for stream releases into Pyramid reach that would benefit the arroyo toad, the California red-legged frog, and other sensitive species and their habitats while also supporting the recreational fishery and providing water supply to the UWCD. The 2007 USFWS and 2009 FERC authorizations under Article 52 of the South SWP Hydropower license permitted DWR to begin simulating natural flows as well as releases of SWP water to the UWCD. Ventura County Watershed Protection District's (VCWPD) long-term water supply contract with DWR provides for a maximum annual Table A allocation of 20,000 AF, and VCWPD assigned that allocation to Casitas Municipal Water District. As part of an agreement with the Casitas Municipal Water District, the UWCD is contracted to receive a maximum of 5,000 AF per year of VCWPD's annual Table A water. UWCD receives up to 3,150 AF per year of SWP water through releases to Pyramid reach from November 1 through the end of February. The remaining amount of up to 1,850 AF per year is required, pursuant to a February 1996 water lease agreement, to be delivered to the City of Port Hueneme through the VCWPD turnout at Castaic Lake. Releases for UWCD are made to Pyramid reach through the same low-level outlet in Pyramid Dam used to release the natural flow to Pyramid reach. UWCD's deliveries begin typically in November, on a schedule set by UWCD. UWCD releases are included in the USGS data set as part of the Pyramid reach flow, but they are accounted for by DWR as a separate release. Additionally, it should be noted that NFS lands do not occur downslope from the Gorman Bypass Channel and, therefore, interception of any upslope precipitation by the channel will not divert water that would otherwise be available to NFS resources.

3.10.2.2 Water Quality

Water quality monitoring for the South SWP Hydropower has been conducted by the Licensees since 1968. The water quality monitoring program monitors eutrophication, salinity, and other parameters of concern for drinking water, recreation, and fish and wildlife purposes. In additional to the water quality data collected by DWR, the MWD, and USGS, in cooperation with local and State governments, and other federal agencies, maintain their own water quality monitoring programs within the proposed Project area. Data from DWR and these other monitoring programs collectively show

that water quality conditions within the existing and proposed Project area are generally in line with the goals of the basin plans and support Beneficial Uses and WQOs.

The Licensees are also required to monitor water quality under NPDES permits obtained for the application of herbicides to control aquatic weeds and algae. Under those permits, water quality and other physical and visual parameters are sampled and monitored pre-treatment, during the treatment, and post-treatment in Pyramid Lake and Elderberry Forebay. Annual monitoring reports for aquatic pesticide use are filed with the SWRCB consistent with the NPDES permit requirements.

The Licensees monitor discharge water quality as required by separate NPDES permits for the operation of the Warne and Castaic Powerplants at regular intervals. Quarterly monitoring reports are filed with the SWRCB consistent with the NPDES permit requirements.

The Licensees' application of aquatic pesticides to control aquatic weeds and algal blooms are implemented consistent with the requirements of the SWRCB-issued NPDES permits for Pyramid Lake and Elderberry Forebay and are not part of the South SWP Hydropower.

Quail Lake Water Quality

DWR collected surface water samples from the Quail Lake outlet on February 10, 1999 (Licensees 2020). During the same sampling event, DWR tested for 60 different organic compounds, none of which was higher than the laboratory method reporting limit. While the Lahontan RWQCB Basin Plan does not have site-specific WQOs for Quail Lake, observed water quality in 1999 was consistent with narrative WQOs for surface waters in the Lahontan Region. Similar to the 1999 results, data collected in 2017 as part of relicensing studies was consistent with WQOs for surface waters in the Lahontan RWQCB Basin Plan.

Pyramid Lake Water Quality

The Licensees have collected water quality data on a regular basis in Pyramid Lake since 1972 as part of various programs. Water quality monitoring was required under Article 53 of the existing license to evaluate pre- and post-South SWP Hydropower aquatic and water resources conditions in Piru Creek above and below Pyramid Lake and to determine the suitability of Pyramid Lake to support the designated beneficial uses in the Los Angeles RWQCB Basin Plan. The evaluation concluded that in post-Project, Piru Creek remained capable of supporting aquatic life similar to pre-Project conditions, and that the water quality in Pyramid Lake was consistent with the designated beneficial uses. The Article 53 requirement was considered complete upon filing of a 1996 report (DWR 1996).

The Los Angeles RWQCB Basin Plan identifies six specific WQOs for the stream segment of Piru Creek upstream of the gaging station below Santa Felicia Dam, which includes Pyramid Lake and Piru Creek above Pyramid Lake: TDS, sulfate, chloride, boron, nitrogen, and sodium adsorption ratio. Upon evaluation of the data collected at

Station PY001000 (located at Pyramid Lake), it was determined that only dissolved chloride was not consistent with the Los Angeles RWQCB Basin Plan Objective of 60 milligrams per liter (mg/L). The average dissolved chloride concentration was 64 mg/L with a maximum recorded concentration of 95 mg/L (Licensees 2020). Chloride levels at the are influenced by concentrations in the San Francisco-San Joaquin Bay-Delta, where SWP water originates.

During certain periods, chloride concentrations were inconsistent with the Los Angeles RWQCB WQO for samples in the Bay-Delta and throughout the SWP, including the stations sampled immediately upstream of Pyramid Lake. For example, between July 2016 and December 2018, 60 individual samples, two per month, were measured at the Warne Powerplant influent monitoring station in compliance with Warne NPDES permit requirements. Thirty of these samples were inconsistent with the Los Angeles RWQCB WQO for chloride, with a maximum concentration of 130 mg/L. During this same period, discharges from the Warne Powerplant were inconsistent with the WQO for 31 out of 60 samples with a maximum concentration of 130 mg/L (DWR 2019).The WQO for oil and grease could be impacted by recreational boating in Pyramid Lake, but the Licensees are unaware of any reports that oil and grease have affected designated Beneficial Uses or resulted in a nuisance.

Pyramid Lake is classified as impaired for mercury in fish tissue as identified in the SWRCB Final 2014/2016 California Integrated Report 303(d) list (SWRCB 2018). However, out of the 35 samples tested for dissolved mercury, and evaluated during relicensing studies, a single sample collected on May 14, 2018, was inconsistent with the RWQCB WQO (0.003 mg/L for dissolved mercury) and, in general, mercury concentrations were below the laboratory method reporting limit.

Elderberry Forebay Water Quality

Water quality samples collected by the USGS on two dates in 2004 and one date in 2005 were analyzed for 24 different water quality parameters. While the Los Angeles RWQCB Basin Plan (Los Angeles RWQCB 2015) does not have site-specific WQOs for Elderberry Forebay, the Licensees' relicensing studies evaluated the results of these analyses and determined that observed water quality in 2004 and 2005 did not exceed WQOs for surface waters in the Los Angeles RWQCB Basin Plan.

Additional Water Quality Information

In order to supplement existing information and ongoing monitoring, the Licensees conducted the Water Quality and Temperature Study, which included monitoring in Quail Lake, Pyramid Lake, and Pyramid reach downstream of Pyramid Dam. As discussed above, water quality throughout the Project is generally consistent with WQOs of the Lahontan RWQCB and Los Angeles RWQCB Basin Plans. Based on the Licensees' water quality sampling, there were four parameters for which samples were inconsistent with the Los Angeles RWQCB Basin Plan WQOs during at least one sampling event: (1) dissolved oxygen, (2) chloride, (3) sulfate, and (4) TDS.

Dissolved oxygen concentrations for samples at various depths in Pyramid Lake were inconsistent with the Los Angeles RWQCB Basin Plan WQO but are not caused by operation of the Warne Power Development. Dissolved oxygen concentrations in Pyramid Lake are consistent with what would be expected in a reservoir of Pyramid Lake's size and depth in inland California. Once stratified, limits on oxygen exchange prevent replenishment of higher oxygen concentrations at hypolimnetic depths. Dissolved oxygen concentrations near the surface that were inconsistent with the Los Angeles RWQCB Basin Plan WQO were likely a product of water temperature, reservoir stratification or lack thereof, and interactions with the atmosphere.

Chloride concentrations were inconsistent with the Los Angeles RWQCB Basin Plan WQOs for several samples collected in Pyramid Lake and in Pyramid reach. The Project does not introduce chloride into Pyramid Lake or Pyramid reach. As discussed above, chloride concentrations are elevated throughout the SWP from the San Francisco Bay-Delta to the monitoring station above Warne Powerplant. In addition, chloride concentrations in Pyramid Reach were highest 18 miles downstream of Pyramid dam, compared to sites 1.5 miles and 3.0 miles downstream of the dam, further supporting that SWP facilities do not contribute to chloride levels. Similar to chloride concentrations in Pyramid reach, the Licensees found that sulfate and TDS were inconsistent with Los Angeles RWQCB Basin Plan WQOs at the sampling location about 18 miles downstream of Pyramid Dam near Lake Piru and not at the three upstream sampling locations that were sampled at the same time period.

The proposed Project includes four PM&E measures related to water quantity and water quality. Measure AR1 – Pyramid Reach Flow Releases would continue Article 52 in the South SWP Hydropower license that states: "Stream releases from Pyramid Dam into Piru Creek [Pyramid reach] shall match natural surface inflow into Pyramid Lake to the extent operationally feasible and consistent with safety requirements." Measure WR1 – Pyramid Lake Water Surface Elevations would continue Article 58 in the South SWP Hydropower license that states: "Maintain Pyramid Lake at the highest level possible, commensurate with Project purposes, during summer for recreation." Measure WR2 – Hazardous Materials Management Plan and Measure GS1 – Erosion and Sediment Control Plan would implement a Hazardous Materials Management Plan and an Erosion Sediment and Control Plan, respectively. The Hazardous Materials Management Plan (i.e., Measure WR2 – Hazardous Materials and Management Plan) includes information on spill prevention and response, and cleanup of hazardous materials, particularly oil-based chemicals that may be used as fuel or lubricants, thereby preventing negative impacts to water quality. The Erosion and Sediment Control Plan (i.e., Measure GS1 – Erosion and Sediment Control Plan) would be implemented during all ground-disturbing activities in order to control sedimentation and erosion, which provides additional protection for water quality.

3.10.3 Environmental Impact Analysis

Would the proposed Project:

a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Finding: Less Than Significant Impact

The Licensees propose to operate the South SWP Hydropower as they have historically, with the addition of several PM&Es that are meant to protect or enhance resources, including water quality.

The proposed Project includes administrative changes such as a refinement of the existing South SWP Hydropower boundary, removal of the Warne Transmission Line, the inclusion of the existing Quail embankment, a lake level gage, and Project Primary Roads. WQOs, specifically turbidity, would not be impacted by these modifications. The proposed Project would reduce the existing South SWP Hydropower boundary to represent the proposed Project area more appropriately. The lake level gage under the proposed Project already exists, and the modification is solely to incorporate lake level monitoring. Additional roads under the proposed Project are all preexisting and do not require any ground disturbance for their incorporation into the new license. Therefore, the proposed Project administrative changes would have no impact on water quality standards, surface water quality, or groundwater quality.

The Licensees' operational application of aquatic pesticides to control aquatic weeds and algal blooms is implemented consistent with the requirements of the SWRCB-issued NPDES permits for Pyramid Lake and Elderberry Forebay. Pesticides are applied under the terms of the NPDES permit, and under the supervision of a licensed Pest Control Adviser according to the instructions provided by the chemical manufacturer. A negligible amount of treated water, if any, could reach the dam outlet. In addition, treatments occur during the summer months when releases to Pyramid reach are minimal due to the diminished amount of natural inflows into Pyramid Lake. The Licensees would continue to comply with State laws and obtain permits for those aquatic pesticide programs. The application of aquatic pesticides supports Beneficial Uses for the basin, specifically to reduce recreation hazards and protect public health, and to prevent clogging of infrastructure.

The proposed Project includes minor improvements to existing recreation infrastructure. These facility improvements generally pertain to minor upgrades with minimal ground disturbance. As with any ground disturbance, under current operations the Licensees implement standard erosion, sediment, and hazardous material containment BMPs (see Section 2.3.4.1 [Geology and Soils – Current Erosion Control Protections]) and comply with existing NPDES permits. With existing protections, surface water quality impacts are anticipated to be zero or negligible and, thus, less than significant. Groundwater quality is not anticipated to be impacted since the proposed upgrades do not entail significant excavation or involve discharges to groundwater. Therefore, the proposed

Project recreation facility upgrades associated with PM&E Measure RR1, the RMP, would have a less-than-significant impact on water quality standards, surface water quality, or groundwater quality.

The proposed Project includes aquatic focused PM&Es that could impact hydrology and water quality resources. Specifically, PM&E Measure AR1 – Pyramid Reach Flow Releases is consistent with South SWP Hydropower operations and codifies existing O&M practices for releases to Pyramid reach. Releases would continue to reflect the natural hydrograph of Piru Creek in both timing and magnitude to the extent operationally feasible and consistent with safety requirements under Article 52 of the South SWP Hydropower license. The PM&E measure includes some minor modification to the calculations for ungaged inflow to Pyramid Lake in order to release surface waters to Pyramid reach that more accurately mimic the natural hydrograph of Piru Creek. Modifications to inflow calculations are expected to result in an increase of approximately 1 percent in release flows and would be less than significant. The PM&E measure also includes additional clarifying information on procedures to address unsafe release conditions. Therefore, the PM&E Measure AR1 – Pyramid Reach Flow Releases, would have a less-than-significant impact on water quality standards, surface water quality, or groundwater quality.

Additionally, PM&E Measure WR1 – Pyramid Lake Water Surface Elevations is consistent with South SWP Hydropower operations and outlines current practices for maintaining a minimum pool and limiting WSE fluctuations in Pyramid Lake for the benefit of fisheries and recreation. Measure WR1 – Pyramid Lake Water Surface Elevations incorporates minimum pool and WSE restrictions from a DWR and USFS 1969 MOU, as amended. Additionally, Measure WR1 – Pyramid Lake Water Surface Elevations continues the conditions of Article 58 currently in the South SWP Hydropower license. Measure WR1 – Pyramid Lake Water Surface Elevations would help limit changes in WSE in Pyramid Lake to minimal levels, thereby maintaining a release of cool water into Pyramid reach and maintaining the overall storage in Pyramid Lake. Therefore, Measure WR1 – Pyramid Lake Water Surface Elevations would have a less-than-significant impact on water quality standards, surface water quality, and groundwater quality.

The implementation of Measure TR1 – IVMP includes the application of herbicides and possible ground disturbance. However, herbicide application would be used primarily to keep areas free of vegetation as required for protection and inspection of hydroelectric and related facilities. Herbicides would be limited to those registered with the EPA and the California Department of Pesticide Regulation, and non-toxic herbicides would be used where applicable and where feasible. To further protect surface water and groundwater quality during vegetation management activities, which could cause ground disturbance, DWR currently implements and would continue to implement the erosion control BMPs during vegetation management activities listed in Section 2.3.4.1 (Geology and Soils – Current Erosion Control Protections). As such, implementation of the IVMP is not anticipated to violate water quality standards or substantially degrade surface water or groundwater quality.

Since, as described above, the proposed administrative changes, operations activities, recreation facility upgrades, and aquatic focused PM&Es are not anticipated to violate water quality standards, waste discharge requirements, or otherwise substantially degrade surface or groundwater quality, this potential impact is considered to be less than significant prior to the application of water quality focused PM&Es.

As a result of the less-than-significant finding for this impact, mitigation measures are not necessary to reduce this impact under CEQA. The relevant PM&E Measures, such as Measure GS1 – Erosion and Sediment Control Plan and Measure WR2 – Hazardous Materials Management Plan would not serve as mitigation measures under CEQA, but would codify and enhance existing practices designed to avoid and minimize impacts to surface water and groundwater quality. Implementation of these PM&E measures may further reduce potential impacts and, therefore, could result in a beneficial environmental impact when compared to the baseline conditions. Similarly, the continued required adherence to the NPDES permits would continue the current protections for water quality in applicable ground disturbing areas. Thus, the proposed Project with the relevant PM&Es would entail a less-than-significant impact on surface water and groundwater quality.

The proposed Project, when evaluated with and without related PM&E measures, is considered to have less-than-significant impacts to water quality standards and surface water and groundwater quality. Therefore, no mitigation is required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Finding: No Impact

The Licensees propose to operate the proposed Project as it has historically operated, which supports groundwater management within CLWA's and UWCD's areas of influence. Furthermore, groundwater recharge is listed as a Beneficial Use for all reservoirs within the proposed Project area. No changes to operations, new measures, or proposed Project features would exacerbate known issues or observations at the Peace Valley Pipeline or Angeles Tunnel or otherwise decrease groundwater supplies or interfere substantially with groundwater recharge. Additionally, the South SWP Hydropower provides a benefit to groundwater aquifers in the region and the proposed Project would continue to support efforts of regional GSAs, current GMPs, and future GSPs. Since there are no proposed changes to operations that would negatively affect groundwater supplies and groundwater recharge, the proposed Project would have no impact on sustainable groundwater management of the basin with or without implementation of PM&E measures.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) Impede or redirect flood flows.

Finding: Less Than Significant Impact with Mitigation

The operation of the South SWP Hydropower under the proposed Project would not include significant increases in impervious surfaces or the alteration of a stream or river in a manner that would result in a substantial increase of erosion or siltation off site, or increase the rate or amount of surface runoff.

More specifically, three of four proposed updates to existing South SWP Hydropower facilities are administrative actions to incorporate preexisting facilities into the new license. These proposed administrative actions include: removal of the Warne Transmission Line, preexisting roadways designated as Primary Project Roads, addition of the Quail Detention Embankment to the Warne Power Development licensed facilities, and addition of a preexisting reservoir gage to the Castaic Power Development licensed facilities. Each of these updates pertain only to preexisting facilities and none require construction of additional areas of impervious surfaces.

The fourth proposed update to existing facilities includes only improvements to recreation facilities. Improvements to recreation facilities under the proposed Project include upgrades only. Proposed parking lot and road maintenance resurfacing, as well as ABA accessibility improvements, do not include significant additions of impervious surfaces given the substantial acreage of vegetated open space and lake surfaces in the proposed Project boundary. These improvements are further described in Section 2.4.4 (Proposed Improvements to Recreation Facilities). Improvements may include localized ground disturbing activities, which would be subject to currently practiced standard erosion control, State and federal laws pertaining to stormwater discharges, and water quality such as the CWA Sections 401 and 402 as described in Section 3.1.3.1 (Broad Regulatory Context – Federal Regulations – Clean Water Act). These require implementation of BMPs, control measures, and post-construction site stabilization.

The remaining PM&E measures are largely management activities including closure of dispersed use (user made) trails and areas, improvement of dedicated trails, vegetation management, some excavation, and biological and cultural resource protections, among

others. They do not entail the addition or the alteration of a stream or river, or the addition of impervious surfaces. Closure of dispersed use trails and areas and improvement of dedicated trails would likely result in a small benefit to water quality with the reduction of erosion and turbid runoff.

Measure AR1 – Pyramid Reach Flow Releases would provide a marginal increase in flows to Pyramid reach below Pyramid Dam during periods of controlled releases. Releases from Pyramid Dam would still be made through the existing outlets and would continue to simulate the natural hydrograph of the Piru Creek basin. No expansion of capacity is included, so releases would remain within historical operational ranges during periods of similar conditions. Operations during flood-like flows would not be affected; it is expected that operations during these conditions would not be affected by the proposed Project.

The proposed Project, therefore, would not create or contribute significant additional runoff above baseline conditions, and there are no new components that would impede or redirect flood flows. There are no changes to drainage patterns that would result in substantial erosion or siltation, or substantially increase surface runoff. Ground disturbance for recreation upgrades (i.e., the RMP) would be implemented in combination with BMPs as well as in accordance with all applicable laws pertaining to stormwater discharges and water quality. Therefore, the potential to result in substantial erosion or siltation on- or off-site is considered no impact without implementation of relevant PM&E measures.

As a result of the no impact finding, there is no need to develop any mitigation measures to reduce this impact under CEQA. The relevant PM&E measures, such as the Erosion and Sediment Control Plan (i.e., Measure GS1 – Erosion and Sediment Control Plan), would not serve as a mitigation measure under CEQA, but would codify and enhance existing practices designed for erosion and sediment controls. Implementation of this PM&E measure may further reduce erosion or siltation off site, or reduce the rate or amount of surface runoff, and, therefore, could result in a beneficial environmental impact when compared to baseline conditions.

However, as discussed in Section 3.7 (Geology and Soils), and in Section 2.3.4.1 (Geology and Soils – Current Erosion Control Protections), existing erosion control monitoring activities are currently implemented outside the proposed Project boundary in Pyramid reach to address ongoing erosion as identified in the Simulation of Natural Flows in Middle Piru Creek, Final EIR, dated January 2005. Mitigation Measure H-3 from this Final EIR (i.e., named Mitigation measure GEO-1 in this document) would continue to be implemented as part of the proposed Project to reduce these potential erosion impacts to a less-than-significant level.

The proposed Project thus, when evaluated with and without the related PM&E measures and with the continuation of Mitigation Measure GEO-01 from the 2005 EIR, would have a less-than-significant impact to erosion or siltation off site and the rate or amount of surface runoff with mitigation incorporated.

d) Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Finding: No Impact

The Licensees do not propose any changes to operations, including flood-related operations, under the proposed Project. Further, the licensees each have their own South SWP Hydropower EAPs, civil structures are monitored in accordance with FERC and DSOD, and Measure LU2 – Project Safety Plan, incorporates measures already practiced under the existing license including flood warning, signage, lights, sirens, and other devices. In addition, under baseline conditions for continued operation, existing hazardous materials spill prevention measures would continue (see Section 2.4.6 [Project Safety and Best Management Practices]). There would be no change in proposed Project flood hazard, inundation, or associated release of pollutants. There would be no impact from the release of pollutants due to proposed Project inundation, and the proposed Project would have no impact with or without implementation of the PM&E measures.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Finding: No Impact

The proposed Project is located within portions of the Lahontan RWQCB and Los Angeles RWCQB jurisdictions and would comply with all applicable policies and standards, including the Water Quality Control Plan for each basin and the State's Groundwater Ambient Monitoring and Assessment Program.

The proposed Project does not include any changes that would negatively affect surface water quality. Existing water quality conditions are generally consistent with WQOs of the Lahontan RWQCB and Los Angeles RWQCB Basin Plans, and existing deviations from the WQOs in the Los Angeles RWQCB Basin Plan are unrelated to operation of the South SWP Hydropower. The concentrations of dissolved oxygen in Pyramid Lake are what would be expected in a large, inland, Southern California reservoir. Sulfate and TDS concentration deviations were measured at one location 18 miles downstream of Pyramid Lake but not at locations within Pyramid Lake or elsewhere in Pyramid Reach, and elevated chloride levels are most likely due to the source of imported water from the San Francisco Bay-Delta.

The proposed Project does not include changes that would negatively affect water deliveries to groundwater management authorities in the vicinity of the South SWP Hydropower. The CLWA would maintain the same role in delivery of SWP water to local purveyors and the same authority over the east subbasin of the Santa Clara River Valley Groundwater Basin and involvement in the Santa Clarita Valley GSA. Similarly, the UWCD and cooperative member agencies would maintain the same role in delivery of SWP water and maintain their own discretion with regard to involvement with groundwater management in the basin. The proposed Project would continue to import

SWP water into the region, support sustainable groundwater management, and any adopted GSP in the region.

Given the proposed Project would continue to comply with applicable water quality control plans, and that the South SWP Hydropower provides a benefit to groundwater management in the region, the proposed Project would have no impact with or without implementation of the PM&E measures.

3.10.4 Mitigation Measures

Based on the impact analysis (see Section 3.10.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Hydrology and Water Quality, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.11 LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Regulatory Setting

The questions listed in the table above are used as the basis for determining whether the proposed Project would conflict or be consistent "with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project." As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

The South SWP Hydropower is located on NFS (2,790 acres), BLM (17 acres), State of California (4,111 acres), and privately owned lands (9.2 acres) within western portions of Los Angeles County (Figure 2.2-2 and Table 2.2-1). Given this variation in land ownership and management, there are certain regulations, plans, and policies that apply only to specific areas of the South SWP Hydropower. For example, an analysis determining consistency with USFS plans applies only to USFS-managed lands.

3.11.1.1 Federal

National Forest Land Management Plans

LMPs serve as a guide for the management of all activities within a National Forest in which USFS has jurisdiction and authority to manage. The NFMA of 1976 requires the USFS to conduct an assessment of the nation's renewable resources to develop a useable program and LMPs for each National Forest. The South SWP Hydropower has land within the ANF and LPNF; therefore, the Southern California National Forests Vison LMP goals and policies would apply to those lands within the South SWP Hydropower area. A review of the Southern California National Forests Vision LMP

indicated that there are no goals in this LMP that are directly relevant to the land use impact discussion for the proposed Project (USFS 2005).

3.11.1.2 State

There are no State requirements related to land use and planning that are applicable to the proposed Project impact discussion. However, the South SWP Hydropower is largely located on State of California-owned lands that are managed and operated by DWR and LADWP. The existing management and operation of these South SWP Hydropower lands would apply and would not change as a result of the proposed Project.

3.11.1.3 Local

The South SWP Hydropower overlaps with the western portion of the Los Angeles County. It's land use plan and policies adopted for the purpose of "avoiding and mitigating an environmental effect" (impact analysis question "b", below) are included in various General Plan Elements and are incorporated by reference in Section 3.1 (Introduction) (Los Angeles County 2015). An overview of the Los Angeles County General Plans is included in Section 3.1 (Introduction).

3.11.2 Environmental Setting

The South SWP Hydropower is located on NFS, BLM, and State of California-owned lands within Los Angeles County (Figure 2.2-2). The majority of the land within the existing South SWP Hydropower boundary is owned by the State of California, with the Licensees managing and operating South SWP Hydropower and associated facilities. Additionally, the Licensees – in partnership with the USFS – manage and operate recreational facilities at Pyramid Lake. The Licensees also own and manage the recreation facilities at Quail Lake. South SWP Hydropower facilities, such as the Angeles Tunnel, run subsurface on NFS lands within Los Angeles County. Land uses associated with the proposed Project can be, for the most part, classified into three general categories: hydropower or utility facilities, water bodies associated with conveyance and impoundment infrastructure, and recreational uses.

No communities exist within the proposed Project boundary. Residential communities are located north of the proposed Project boundary in the town of Gorman and south of the proposed Project boundary in Castaic.

3.11.3 Environmental Impact Analysis

Would the proposed Project:

a) Physically divide an established community?

Finding: No Impact

The proposed Project is located primarily on State and federally owned lands that do not contain any established communities or residential areas. The nearest communities are located to the north and south of the proposed Project boundary in the town of Gorman and the City of Castaic, respectively; however, their residential communities are not located directly within the existing South SWP Hydropower boundary. Additionally, the Centennial Development, which is a proposed 12,323-acre master planned community, would be located northeast of Quail Lake and the existing South SWP Hydropower boundary; however, it would not be located directly within the existing South SWP Hydropower boundary. Importantly, the proposed Project would not involve construction of roads or buildings or other features that would create a new physical barrier between any existing communities or restrict access to any nearby communities.

The proposed Project boundary adjustment entails an administrative reduction in area administered by the terms of the license from 6,928 acres to 4,563.8 acres (Figure 2.4-1, Table 2.4-1). However, land ownership and facilities operations would not change the existing conditions. Additionally, the disposition of land that would be excluded from the proposed Project boundary would continue to be managed by the relevant agency (i.e., if it is NFS land, the USFS would continue to manage the lands and if it is DWR or LADWP land then DWR or LADWP, respectively, would continue to manage the lands).The proposed recreation facilities improvements (i.e., the RMP) does not entail the construction of roads or buildings or other features that would create a new physical barrier between any existing communities or restrict access to any nearby communities.

The proposed Project thus would not physically divide an established community and no impact would occur.

Given the findings of this impact analysis, the land use PM&Es (which pertain to traffic, fire prevention, and safety) are not required to reduce a potential community division to a less-than-significant level.

The proposed Project when analyzed with, and without the relevant PM&E's results in a less-than-significant impact and no mitigation is required.

b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: Less Than Significant Impact

The proposed Project would consist of the continued operation of the South SWP Hydropower and associated recreation facilities. The Licensees propose no conversion of existing land uses.

The proposed Project administrative boundary change reduces the area to be managed under the terms of the new FERC license to be only what is necessary for the South SWP Hydropower and associated recreation facilities operation, and would not change the land ownership or land management because the area eliminated from the proposed Project boundary was not and is not needed for the operation of the proposed Project and would continue to be managed by the relevant agency

Furthermore, the overall proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed Project does not change South SWP Hydropower operations. Existing operations, particularly maintenance and recreation management, would continue to be implemented in a manner that conforms to applicable land use plans, policies, and regulations from ANF, LPNF, BLM, DWR, and LADWP; those operations are regularly modified to meet changing requirements. The proposed Project would increase coordination with the USFS and others where possible through the implementation of changes made to applicable land use plans, policies, or regulations, thereby ensuring continued operational compliance. This potential land use impact is considered to be less than significant.

PM&Es (i.e., Measures LU1 [Fire Prevention and Response Plan] and LU2 [Project Safety Plan]) do not include stipulations that would conflict with local general plans. Rather, their intent is to manage traffic, continue to coordinate fire preparedness and response, and continue existing emergency preparedness and response activities. These provisions do not conflict with Land Use plans or policies. As such, the proposed Project impacts to land use with, and without the PM&Es, is considered to be less than significant.

3.11.4 Mitigation Measures

Based on the impact analysis (see Section 3.11.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Land Use and Planning, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.12 MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.12.1 Regulatory Setting

The questions listed in the table above includes references to mineral resources classified "MRZ-2" by the "State Geologist" and "locally important" mineral resources delineated in local plans. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.12.1.1 Federal

There are no federal regulations related to mineral resources that are relevant to proposed Project.

3.12.1.2 State

Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA (PRC § 2710 et seq.; subsequently amended) is the primary law for onshore surface mining in the State. SMARA mandated that aggregate resources throughout the State be identified, mapped, and classified by the State Geologist so that local governments could make land use decisions in light of the presence of aggregate resources and the need to preserve access to those resources. Local jurisdictions are required to enact specific plan procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. The California Geological Survey, Division of Mines Reclamation, under the DOC oversees the Mineral Resources Program which produces Mineral Land Classification studies and provides data including the preparation of Mineral Land

Classification Maps for aggregate resources. The Mineral Land Classification Maps designate four different types of mineral resource zone (MRZ) sensitivities:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- **MRZ-3:** Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment of any other MRZ.

3.12.1.3 Local

The County of Los Angeles General Plan does not identify any important mineral resources within the proposed Project area. The General Plan states there are three goals for Mineral and Energy Resources: (1) locally available mineral resources to meet the needs of construction, transportation, and industry; (2) mineral extraction and production activities that are conducted in a manner that minimizes impacts to the environment; and (3) sustainable management of renewable and non-renewable energy resources. No policies directly affect the South SWP Hydropower or further development of the proposed Project (Los Angeles County 2015).

3.12.2 Environmental Setting

There are no significant mineral resources (MRZ-2) or aggregate sites mapped within the watersheds that surround the outside of the proposed Project. One mineral resource occurrence (uranium) was mapped in the Piru Creek drainage basin east of the proposed Project boundary, approximately 2 miles south of the eastern shore of Quail Lake in 1991. No production took place at this site and there has been little activity since the discovery with the exception of routine claim maintenance.

Four mining prospect locations have been mapped within watersheds that surround the outside of the proposed Project. The first was mapped northwest of Quail Lake in the hills north of Peace Valley in the Upper Piru Creek Drainage basin and included an underground gold mine. The second was mapped southeast of Quail Lake within the Upper Piru Creek Drainage Basin and included a tin prospect. The third and fourth prospect locations were mapped in the Lower Piru Creek Drainage Basin adjacent to Castaic Creek – just north of the Castaic Powerplant – and included gold and silver prospects. These four prospect mining locations went past the occurrence stage and may have included subsequent work, including surface trenching, adits, shafts, drill holes, extensive geophysics, geochemistry, and/or mapping. One past producer

location was mapped in the Upper Castaic Creek Drainage Basin, approximately six miles upstream of Elderberry Forebay. The primary commodity of this mine was gold recovered from an underground operation (USGS 2018). All claims are currently closed.

The County does not have any MRZs mapped within the proposed Project boundary. The nearest County-mapped MRZ is in the Santa Clarita Valley (Department of Regional Planning 2014).

3.12.3 Environmental Impact Analysis

Would the proposed Project:

a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the State?

Finding: No Impact

There are no significant mineral deposits (i.e., MRZ-2) mapped within the drainage basins that surround the proposed Project. The proposed Project would have no impact on mineral resources as there are no actions affecting potential or known resources.

There is no PM&E specific to mineral resources. As such, the potential impacts related to mineral resources are considered less than significant with and without the related PM&Es. Thus, no mitigation is required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Finding: No Impact

There are no locally designated important mineral resources mapped within the drainage basins that surround the proposed Project, nor does the proposed Project include alteration that would impact existing minor claims (Department of Regional Planning 2014). The proposed Project would have no impact on mineral resources.

There is no PM&E specific to mineral resources. As such, the potential impacts related to mineral resources are considered less than significant with and without the related PM&Es. Thus, mitigation is required.

3.12.4 Mitigation Measures

Based on the impact analysis (see Section 3.12.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Mineral Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.13 NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards or other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Regulatory Setting

The questions listed in the table above include references to standards established by the local general plans or noise ordinances, or applicable standards. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.13.1.1 Federal

The Noise Control Act of 1972 (42 U.S.C. § 4901 *et seq.*) establishes a national policy to control the noise environment and protect the health and welfare of Americans from excessive noise. The federal government sets standards for transportation-related noise and vibration sources closely linked to interstate commerce. These include aircraft, locomotives, and trucks, but they are not generally applicable to non-transportation-related projects.

3.13.1.2 State

The California Noise Control Act of 1973 (CHSC § 46000 *et seq.*) recognizes excessive noise as a health and welfare hazard. The act declares that the State of California has a responsibility to provide an environment free from excessive noise for its citizens.

3.13.1.3 Local

County of Los Angeles General Plan Noise Element

CGC § 65302(g) requires that a noise element be included in the General Plan of each county and city in the State (CGC 2021). The Noise Element of the County of Los Angeles General Plan was established as a planning tool to develop strategies and action programs that address the multitude of noise-related issues throughout the County. The noise guidelines used by the County are based on the community noise compatibility guidelines established by the DHS. Specific regulations that implement these guidelines are set forth in the Los Angeles County Municipal Code as discussed below.

County of Los Angeles Municipal Code

Chapter 12.08, Noise Control, of the County of Los Angeles Municipal Code serves as the Noise Ordinance for the County and establishes standards to control unnecessary, excessive, and annoying noise and vibration in the County. Within Chapter 12.08 of the Los Angeles County Code, § 12.08.380 assigned the following noise zones for receptor properties in the County:

1. Noise Zone 1 – Noise-sensitive areas
2. Noise Zone 2 – Residential properties
3. Noise Zone 3 – Commercial properties
4. Noise Zone 4 – Industrial properties

With respect to operational noise, § 12.08.390 of the Noise Ordinance established exterior noise levels that should be applied to all receptor properties within a designated zone in the County. With respect to construction noise in the County, § 12.08.440 of the Noise Ordinance prohibits the operation of any tools or equipment used between weekday hours of 7:00 P.M. and 7:00 A.M., or at any time on Sundays or holidays, that will create a noise disturbance across a residential or commercial real-property line. The only exceptions would be emergency work or public safety projects (§ 12.08.0570, part 5, exemption H, Public Health and Safety Activities) or by variance issued by the health officer. (Los Angeles County 2021).

3.13.2 Environmental Setting

The South SWP Hydropower is located solely in Los Angeles County. There are no residences or population centers within the proposed Project boundary. The vast majority of the South SWP Hydropower is located in remote areas along the Interstate 5 highway corridor, includes two areas with somewhat continuous sources of noise associated with South SWP Hydropower powerhouses, and has two areas with seasonal or intermittent sources of noise associated with recreation facilities. The two areas where somewhat continuous noise occurs are the Warne Powerplant and the Castaic Powerplant where noise sources include running of the units in the powerhouse and general maintenance activities. Noise from running the South SWP Hydropower powerhouses occurs at very low levels and mostly emanates from underground chambers in relatively remote areas. Also, periodic maintenance associated with the powerplants (e.g., maintenance traffic and general maintenance activities) is normally very short in duration. The noise levels are routine in the area and low in volume, and there are no residential or commercial properties or any other noise-sensitive receptors in the immediate vicinity of either South SWP Hydropower powerhouses.

Seasonal or intermittent noise associated with recreation occurs in two areas: Quail Lake and Pyramid Lake. Noise associated with recreation facilities at Quail Lake includes vehicle parking and activities such as fishing and hiking (non-water/body contact only), and these noise levels are very local and minor. Noise associated with recreation facilities at Pyramid Lake includes seasonally higher noise levels related to PWCs and motorized boats. The recreation-related noise levels at these two areas are routine and expected by the public when visiting these recreation areas. In addition, maintenance of Lower Quail Canal facilities, as well as the Pyramid Dam facilities and recreation facilities, can also result in some noise. However, these maintenance activities, including periodic vegetation management and road maintenance activities, are usually intermittent and short in duration.

3.13.3 Environmental Impact Analysis

Would the proposed Project:

a) Cause generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards or other agencies?

Finding: Less Than Significant Impact

Administrative changes and non-ground disturbing PM&Es associated with the proposed Project would not introduce new noise sources or result in a change over the baseline noise levels, and therefore, would not generate substantial temporary or permanent increases in ambient noise levels in the vicinity of the proposed Project. Administrative changes, such as the proposed Project boundary adjustment or the addition of an existing stream gage to the new FERC license, do not entail new construction.

In addition, the PM&Es that involve the use of construction equipment, such as Measure GS1 – Erosion and Sediment Control Plan, the IVMP, and Measure LU2 – Fire Prevention and Response Plan, generally codify existing practices that would continue under the proposed Project and, therefore, do not propose a change or addition of equipment that would increase ambient noise.

Noise generated by the vehicles used for O&M near the powerplant blends with the existing traffic noise of the local area. Noise from construction equipment used during recreational facility improvements would take place during a short period of time and would be intermittent and minor. There are no residential receptors located near any proposed Project work areas for recreational facility improvements. The closest residential area to the proposed Project work areas at Pyramid Lake is located in Castaic, approximately 17 miles southeast. The closest existing land uses to the Quail Lake improvements are located 0.5 to 1.5 miles to the east. If completed prior to construction, the proposed Centennial residential developments would be located approximately 0.5 miles north of the Quail Lake recreation improvements. In addition, there are no hospitals or schools in the vicinity of proposed Project work areas. Construction equipment for the recreation site improvements would include hand tools and light equipment and vehicles. The maximum noise level associate with typical construction equipment, such as a roller, compactor, or concrete mixer, is 85 A-weighted decibels (Federal Transit Administration 2018). Every doubling of distance from a point source reduces a noise level by 6 A-weighted decibels. Therefore, at 0.5 miles, the maximum construction noise would be 51 A-weighted decibels maximum noise level. A noise level this low would be below ambient in a residential area.

Noise associated with recreation activities would continue to be most noticeable to Pyramid Lake visitors who would expect to hear such recreation-related noise from people picnicking, swimming, and boating. Campers and recreationists would be in the vicinity of the proposed Project on a short-term and temporary basis and would not be subjected to substantial increases in ambient noise level from intermittent construction activities. Furthermore, no change in noise-generating operations or land uses near the proposed Project are expected to occur.

The Licensees currently do and would continue to adhere to Los Angeles County noise standards for operational and construction-based activities, as applicable. Therefore, impacts from the generation of substantial temporary or permanent increase in ambient noise levels in excess of applicable noise standards are considered less-than-significant.

Given the less-than-significant impact finding, PM&Es with noise control elements, are not needed to mitigate a potential significant impact.

The potential impacts related to noise disturbances are considered to be less than significant with and without the related PM&E measures. Therefore, no mitigation is required.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less Than Significant Impact

Similar to the ambient noise discussion above, administrative changes and non-ground disturbing PM&Es associated with the proposed Project would not introduce new sources or result in any changes over the baseline groundborne vibration or groundborne noise levels.

Groundborne vibration and noise generated by construction equipment during recreational facility improvements would be minimal because few large vehicles or equipment would be necessary. Any other construction activities would be short term and temporary. Vibrations generated by the vehicles used for O&M near the powerplants blend with the existing traffic vibrations of the local area. Heavy equipment operating close to a vibration-sensitive building (within approximately 100 feet from the property line) may impact vibration-sensitive activities. At 0.5 miles the groundborne noise and vibration from the onsite construction activities would be imperceptible. Vibrations associated with recreation activities would be limited, but most noticeable to Pyramid Lake visitors who would expect to hear such recreation-related noise from boat engines on the reservoir. These vibrations would dissipate over short distances, are continued uses that are currently permitted, and would not be substantial or excessive. Therefore, impacts from the generation of substantial temporary or permanent excessive groundborne vibration or groundborne noise levels would not result in a significant impact.

Given the less-than-significant impact finding, PM&Es with groundborne vibration control elements, are not needed to mitigate a potential significant impact.

The potential impacts related to noise disturbances are considered to be less than significant with, and without, the related PM&E measures. Therefore, no mitigation is required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Finding: No Impact

There are no airports in the vicinity of the proposed Project. The Los Angeles County Sheriff Department's Wayside Heliport is located 3.5 miles south of Castaic Lake. The nearest private airport, Western Jet Aviation, is approximately 40 miles southeast of all the proposed Project recreation work areas at Pyramid Lake. Furthermore, under the proposed Project, no construction or operational changes over baseline would take place at South SWP Hydropower facilities. Therefore, the proposed Project would not expose people residing or working in the proposed Project area to excessive noise levels resulting from proximity to a public airport or airstrip. As a result, no impact would occur.

Given the no impact finding, PM&Es with noise control elements, are not needed to mitigate a potential significant impact.

The potential impacts related to noise exposure disturbances are considered less than significant with and without the related PM&E measures. Therefore, no mitigation is required.

3.13.4 Mitigation Measures

Based on the impact analysis (see Section 3.13.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Noise, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.14 POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Regulatory Setting

The questions listed in the table above includes references unplanned population growth. As such, this regulatory setting is intended to provide a general context for the impact assessment that follows.

3.14.1.1 Federal, State, and Local

There are no federal or State plans, policies, regulations, or laws that are applicable to the provision of population and housing for the South SWP Hydropower. The South SWP Hydropower is located adjacent to the unincorporated community of Castaic and in Los Angeles County and, therefore, the Housing Element for the County provides relevance for context. However, because the proposed Project does not include any increases in population, residential units, or employees in the area, the goals and policies from the County's General Plan would not be applicable to the proposed Project.

3.14.2 Environmental Setting

The South SWP Hydropower is located in the northwestern corner of Los Angeles County, California – north of Castaic, a community defined by the U.S. Census Bureau as a census designated place (CDP) and northwest of the City of Los Angeles in close proximity to Interstate 5. Los Angeles County supports a variety of industrial and commercial activities and is the State's and the nation's most populated county (U.S. Census Bureau 2015).

The population of Los Angeles County was approximately 9.8 million people in 2010, an increase of 3.1 percent from approximately 9.5 million people in 2000. The California

Department of Finance projections indicate that population growth in Los Angeles County is expected to continue increasing by approximately 11.3 percent (10.9 million people by 2030) over the next 20 years, and the population density could exceed 2.6 thousand people per square mile by 2030. There are 88 cities and more than 100 unincorporated areas in Los Angeles County.

The South SWP Hydropower is not located within any incorporated city. The City of Los Angeles is located approximately 40 miles south of the existing South SWP Hydropower boundary. It is the most populous city in Los Angeles County with a population of 3,792,621 and population density of 8,092 people per square mile in 2010. Within 10 miles of the existing South SWP Hydropower boundary are the City of Santa Clarita and the CDPs of Castaic and Stevenson Ranch; each has a population of greater than 10,000.

The Centennial Development is a proposed 12,323-acre, master-planned community on the Tejon Ranch, located in the northwestern portion of the Antelope Valley, and immediately north and east of Quail Lake and the existing South SWP Hydropower boundary. The Centennial Development is expected to substantially increase the population outside the South SWP Hydropower area over time. This development will incorporate open space areas for recreation (e.g., hiking and picnicking) and recreation/entertainment areas, including health clubs and a clubhouse. The housing development will not include the type of recreation facilities offered by the South SWP Hydropower (i.e., campgrounds and boating). Therefore, it is expected that new residents would increase demand for use of South SWP Hydropower recreation facilities during the term of the new FERC license to some extent. This increase in demand for recreation is not attributed to the South SWP Hydropower or the proposed Project, but rather, the cumulative effects of population growth in the South SWP Hydropower area during continued operation of the recreation facilities under the new FERC license.

3.14.3 Environmental Impact Analysis

Would the proposed Project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Finding: No Impact

There are no new proposed facilities within the proposed Project boundary that would incite future unplanned population growth. Minor, planned upgrades to South SWP Hydropower recreation facilities would take place over the term of the FERC license, but they would not incur substantial unplanned population growth, as South SWP Hydropower facilities do not have the capacity for such growth.

The upgrades to the South SWP Hydropower recreation facilities do not entail capacity increases, do not augment utilities infrastructure, and therefore, do not remove a barrier to growth.

The Licensees do not propose operation and routine maintenance changes; however, it is anticipated that PM&Es would be required under the new FERC license. These PM&Es pertain to plant and wildlife protections, cultural resource protections, erosion controls, invasive aquatic species controls, and road and recreation facility maintenance. They do not entail the extension of roads or the addition of utility infrastructure that could induce growth. While the project provides water for UWCD that is used to recharge groundwater and other purposes, including agriculture and residential/commercial uses, no new allocations would be provided under the proposed Project.

Therefore, the proposed Project would result in no new impacts relating to inducing substantial direct or indirect unplanned growth.

Given the less-than-significant impact finding for unplanned growth, PM&Es to limit growth inducing elements are not needed to mitigate a potential significant impact.

The potential impacts related to population and housing are considered to be less than significant with and without the related PM&E measures. Therefore, no mitigation is required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Finding: No Impact

The Licensees do not propose the construction of new homes, businesses, roads, or infrastructure that would support a new community within the proposed Project boundary. As such, the proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur.

Given the no impact finding for displaced populations, PM&Es for housing disturbances are not needed and were not included in the propose Project design to mitigate a potential significant impact.

There would be no impact with and without related PM&E measures, and no mitigation is required.

3.14.4 Mitigation Measures

Based on the impact analysis (see Section 3.14.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Population and Housing, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.15 PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
➢ Fire protection?	☐	☐	☒	☐
➢ Police protection?	☐	☐	☒	☐
➢ Schools?	☐	☐	☐	☒
➢ Parks?	☐	☐	☒	☐
➢ Other public facilities?	☐	☐	☐	☒

3.15.1 Regulatory Setting

The questions listed in the table above include various public services. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.15.1.1 Federal

Federal fire protection services are governed by USFS on federal lands within the South SWP Hydropower area. Federal police protection services are governed by the USFS and BLM on federal lands. These protections are governed by requirements of certain jurisdictions such as the Federal Bureau of Investigation or the USDOI. Specific requirements pertaining to police services in recreation areas on federal lands include the United States Code (U.S.C. Title 16) which covers a wide range of law governing how the USFS and other agencies manage public lands (i.e., such as the ANF, LPNF and BLM). Federal requirements for parks and other public facilities include CFR Title 36, Chapter I, which includes protection of public uses and recreation within NFS lands.

3.15.1.2 State

Fire Protection

State fire safety regulations apply to State Responsibility Areas during the time of year designated as having hazardous fire conditions. CAL FIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard in all State Responsibility Areas. A State Responsibility Area is defined as the part of the State where CAL FIRE is primarily responsible for providing basic wildland fire protection assistance. Areas under the jurisdiction of other fire protection services are considered to be Local Responsibility Areas or on federal lands are considered Federal Responsibility Areas.

During the fire hazard season, these regulations include: (1) restrict the use of equipment that may produce a spark, flame, or fire; (2) require the use of spark arrestors on any equipment that has an internal combustion engine; (3) specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and (4) specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. CAL FIRE has primary responsibility for fire protection within State Responsibility Areas (California Building Code Chapter 7A, CCR, Title 14, Division 1.5).

In addition, South SWP Hydropower use at recreation sites creates demands on public services in the form of both sheriff and fire protection. Los Angeles County Fire Department, therefore, provides additional fire suppression support at specific facilities.

Police Protection

Title 13 of the CCR gives the California Highway Patrol (CHP) the responsibility of enforcing rules and regulations related to vehicle safety on State highways. Interstate 5 within the South SWP Hydropower area is regularly patrolled by the CHP. DWR and the Los Angeles County Sheriff's Department entered into an operating agreement whereby DWR provides funding for Los Angeles County Sheriff's Department services at Pyramid Lake to offset the cost of these public services. The South SWP Hydropower's demand for these public services, based on projected use of recreation facilities, is minimal compared to the county-wide demand and the population served as a whole.

3.15.1.3 Local

The Los Angeles County general plan includes police and fire service standards and requirements for the payment of fees related to new developments. However, because the proposed Project does not include any increases in population, residential units, or employees in the area, these service standards and fees would not be applicable to the proposed Project. Rather, in July 2019 DWR entered a contract with local law enforcement for continued services within the existing South SWP Hydropower boundary.

Emergency Evacuation Plans

DWR and LADWP each have their own South SWP Hydropower EAPs. These EAPs are routinely tested with key agencies including the BLM and the USFS. These EAPs include evacuation plans that are updated regularly and include coordination with partnering agencies such as Los Angeles County, CAL FIRE, and other local, State, and federal agencies during an event that would trigger an emergency in the area.

3.15.2 Environmental Setting

3.15.2.1 Fire Protection

Three agencies provide fire protection, management, and suppression within the proposed Project boundary:

- Fire suppression, management, and control in the Quail Lake, Warne Powerplant, Castaic Powerplant, and Elderberry Forebay Dam areas are managed by CAL FIRE.
- Fire suppression, management, and control on NFS lands (i.e., ANF or LPNF) is the responsibility of USFS.
- Fire suppression, management, and control on lands that include the Peace Valley Pipeline and associated facilities is the responsibility of the Los Angeles County Fire Department.

3.15.2.2 Police Protection

Security services for much of the South SWP Hydropower facility areas, including the Quail Lake shoreline, Lower Quail Canal, Peace Valley Pipeline Intake, Warne Powerplant and related facilities, and Pyramid Dam, is provided by DWR's private security staff.

Security at the Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, and penstocks is the responsibility of LADWP.

Within NFS lands, law enforcement and public safety is enforced by the Uniformed Law Enforcement Officers (LEO). The LEOs are responsible for enforcing regulations governing NFS lands and resources and are authorized to carry firearms and other defensive equipment, issue citations, make arrests, execute search warrants, complete reports, and testify in court (USFS 2020a).

Within BLM lands, public safety and the enforcement of laws and policies is the responsibility of the BLM LEOs. The BLM has approximately 200 law enforcement rangers (i.e., uniformed officers) and 70 special agents (i.e., criminal investigators) on staff agency-wide. Therefore, they rely heavily on State and local counterparts to enforce laws and investigate crimes within their jurisdiction (BLM 2020).

Within Los Angeles County, police protection services are provided by the Los Angeles County Sheriff's Department. The Los Angeles Sheriff's Department is also under contract with DWR to provide law enforcement services at Pyramid Lake lands and waters. Additionally, the CHP provides police protection and enforcement on State highways within the proposed Project boundary (i.e., Interstate 5).

3.15.2.3 Schools

There are no schools within the proposed Project boundary, nor are there any school districts or residences within the proposed Project boundary.

3.15.2.4 Parks

The proposed Project boundary includes the Pyramid Lake Recreation Area and Quail Lake Day Use Area. The Pyramid Lake Recreation Area includes multiple day use areas, and facilities for camping, boating, fishing, and picnicking (DWR 2020). Quail Lake includes parking access to the lake, which is most often used for fishing. Additionally, a portion of the proposed Project has overlapping boundaries with the ANF and the LPNF. These lands are administered by the USFS. The ANF includes approximately 700,000 acres and LPNF includes over 1.75 million acres, both of which offer a range of recreational opportunities such as hiking, camping, backpacking, picnic areas, and a variety of other activities spread across their boundaries (USFS 2020b; USFS 2020c).

3.15.2.5 Other Public Facilities

There are no other public facilities such as libraries or cemeteries within the proposed Project area.

3.15.3 Environmental Impact Analysis

Would the proposed Project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire Protection

Finding: Less Than Significant Impact

No new facilities are proposed to be constructed that could impact acceptable service ratios, response times, or other performance objectives for fire protection (see Section 3.20 [Wildfires]). Improvements to recreation facilities and other regular maintenance activities would not result in additional strain or adverse physical impacts to fire protection services as the proposed Project operators would – as they currently do –

adhere to codes, regulations, requirements, measures, and activities for the applicable jurisdictions during those times. There would be no significant increase in people, activities, or facilities that would necessitate the need for new or physically altered fire protection services from CAL FIRE, USFS, or Los Angeles County Fire Department. Therefore, there would be a less-than-significant impact related to fire protection services.

As a result of the less-than-significant impact finding, the PM&E measures LU1 – Fire Prevention and Response Plan and LU2 – Project Safety Plan among other PM&Es with emergency response measures, are not needed to mitigate a potential significant impact. Rather, these PM&Es codify and enhance existing practices for fire prevention, reporting, and investigation.

These PM&Es would help the coordination of proposed Project operations staff to help further reduce potential fire-related incidents from occurring within the proposed Project area (see Section 3.20 [Wildfires]). They would help with facilitating ongoing coordination of fire protection efforts between USFS, CAL FIRE, the Los Angeles County Fire Department, and the Licensees within the proposed Project boundary. No changes to these existing PM&Es are proposed, and, therefore, there would be no change from baseline conditions regarding the provision of fire protection services within the proposed Project area. Impacts related to fire protection would be less than significant and no mitigation is required.

The potential impacts related to emergency response preparedness and response for fire protection are considered to be less than significant with and without the related PM&E measures, and no mitigation is required.

Police Protection

Finding: Less Than Significant Impact

No new facilities are proposed to be constructed that could impact acceptable service ratios, response times, or other performance objectives for police protection. Under the proposed Project, DWR and LADWP private security staff provide security services for many of the South SWP Hydropower facilities and would continue to do so under the proposed Project. Additionally, the LEOs would continue to be responsible for enforcing regulations governing NFS lands within the proposed Project, BLM LEOs would continue to be responsible for enforcing regulations governing BLM lands within the proposed Project, and the Los Angeles County Sheriff's Department would continue to be responsible for police protection services within the County-owned areas in addition to the Pyramid Lake lands and waters. There would be no increase in people, activities, or facilities that would necessitate new or physically altered police protection services for DWR and LADWP, LEOs, BLM LEOs, or the Los Angeles County Sheriff's Department. Therefore, there would be a less-than-significant impact related to fire protection services.

Additionally, the incorporation of a PM&E measure, specifically Measure LU2 – Project Safety Plan, would be codified in the new FERC license. This PM&E measure includes the installation and maintenance of signs, lights, sirens, and other devices related to safety within the proposed Project area. These activities would provide safety features that would continue to prevent safety-related incidents from occurring, thus reducing potential police and law enforcement-related calls to the area. No change to this existing PM&E is proposed; therefore, there would be no change from baseline conditions relative to provision of police protection services within the proposed Project area.

Therefore, the potential impacts related to emergency response preparedness and police protection are considered to be less than significant with and without the related PM&E measures. As such, no mitigation is required.

Schools

Finding: No Impact

No schools exist within the proposed Project boundary, and none are proposed to be constructed as part of the proposed Project. Additionally, no facilities such as residences would occur, and any increases in employees would be negligible, thus negating the need for additional school facilities through direct and indirect population growth. Therefore, no impact to schools would occur with and without consideration of the proposed PM&Es. As such, no mitigation is required.

Parks

Finding: Less Than Significant Impact

Although no new facilities would be constructed under the proposed Project, there would be upgrades to the South SWP Hydropower recreation facilities within the proposed Project area occurring over the first 20 years of the new FERC license. The recreation improvements would largely include accessibility improvements in addition to the maintenance and repair or upgrade of existing parking areas, lawns, restrooms, lights, shade ramadas, trails, and picnic and campground equipment. Expansion of these South SWP Hydropower recreation facilities is not being proposed; however, the improvements would involve some rehabilitation of the existing infrastructure in the recreation areas to harden surfaces, provide more accessible amenities, and improve circulation and offerings to meet the changing demands and needs of recreationists. Furthermore, the improvements to these South SWP Hydropower recreation facilities, while they don’t include capacity increases, are being analyzed as part of this IS/MND and any potential impacts related to the implementation of these improvements are likely leading to a positive effect on provision of parks as public services. As a result, these actions would have a less-than significant-impact. Therefore, these improvements and the continued provisions of park type facilities would be a less-than-significant impact related to parks and recreation facilities.

Additionally, the new PM&E measure, RMP, would be implemented under the anticipated new FERC license requirements as part of the proposed Project. The new

measure includes facilities upgrades, but no increases in capacity. In addition, the RMP includes management activities to address low impact day use, the addition of litter bags, community-based clean up events, and litter control information for visitors. These management activities would limit strain on the South SWP Hydropower recreational facilities within the proposed Project area and, although this would be a new measure under the new FERC license, it would not result in new recreational facilities or unplanned growth. Therefore, it would not result in the need for provision of new or physically altered parks or recreational facilities not being analyzed already under this CEQA document. As a result, impacts related to parks and recreational facilities would be less than significant, and no mitigation is required.

The impacts from the proposed Project with, and without the related PM&E, such as the RMP among others with facilities protections, are considered less than significant. No mitigation is required.

Other Public Facilities

Finding: No Impact

There are no additional public facilities, such as libraries or cemeteries within the proposed Project area. Additionally, no residences would be required and any increases in employees would be negligible; therefore, there would be no need for additional public facilities as a result of the proposed Project. As such, there would be no impact related to other public facilities, and no mitigation is required.

3.15.4 Mitigation Measures

Based on the impact analysis (see Section 3.15.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Public Services, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.16 RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

3.16.1 Regulatory Setting

The questions listed in the table above include various recreation facilities. As such, the following regulations, plans, and/or policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.16.1.1 Federal

Federal Power Act

The FPA is described generally in Section 3.1.3.1 (Federal Regulations); the aspects relevant to recreation are further detailed herein. FERC requires that the Licensees provide access to waters and recreational opportunities in the South SWP Hydropower area. Sections 4(e) and 10(a) of the FPA require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality.

Licensees are expected to develop suitable recreation facilities upon project lands and waters and make provisions for adequate public access (18 CFR § 2.7). The Commission further expects licensees to consider the needs of persons with disabilities when designing and constructing project-related recreational facilities or public access routes (FERC 2015).

National Forest Land Management Plans

LMPs serve as a guide for the management of all activities within a National Forest in which USFS has jurisdiction and authority to manage. The NFMA of 1976 requires the USFS to conduct an assessment of the nation's renewable resources to develop a useable program and LMPs for each National Forest. The South SWP Hydropower has considerable land area within the ANF and the LPNF; therefore, the Southern California National Forests plan standards and policies would apply to those lands within the South SWP Hydropower area. As prescribed in the LMP the USFS follows the ABAAS and the FSORAG in providing and updating recreation facilities on NFS lands.

3.16.1.2 State

The California Department of State Park's mission is "To provide for the health, inspiration and education of the people of California by helping to preserve the State's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation" (DPR 2018).

In the California Water Code §§11910-11915.5, Article 4, Planning and Construction of Projects, there are provisions for utilization of South SWP Hydropower facilities for recreational purposes to the extent that those features are consistent with other uses of the proposed Project.

3.16.1.3 Local

In March 2015, the Los Angeles County Board of Supervisors approved a motion to initiate the Countywide Comprehensive Parks and Recreation Needs Assessment. This represents an unprecedented effort to document existing parks and recreation facilities in cities and unincorporated communities, and to use these datasets to determine the scope, scale, and location of park needs in Los Angeles County. The Parks Needs Assessment helps local officials, park agencies, and residents understand the future steps that need to be taken for all communities have adequate access to parks.

3.16.2 Environmental Setting

The proposed Project, which offers extensive recreation opportunities primarily related to flat-water uses and overnight camping, is one of many recreation destinations in the region that experiences high annual recreation use. Pyramid Lake is an important regional recreation resource. The area surrounding Pyramid Lake includes NFS lands within the boundaries of the ANF and LPNF and State lands that are managed by the Licensees for proposed Project operations. Additional State lands in the area are used for recreation as part of the non-South SWP Hydropower Hungry Valley State Vehicular Recreation Area (SVRA) located just north of Pyramid Lake but west of Quail Lake. The proposed Project is located within the northeast section of Los Angeles County and is situated adjacent to Interstate 5, a major north-south transportation corridor.

In the proposed Project vicinity, the major recreation uses center on water-oriented activities at Pyramid Lake, nearby Castaic Lake, and OHV use in and around Hungry

Valley SVRA. Additionally, hunting, dispersed camping, hiking, sightseeing, picnicking, birding, and wildflower viewing occurs in the area. During periods of storms, some whitewater boating use has been undertaken in the past on Pyramid reach downstream from the proposed Project. Other than use at Pyramid Lake day use facilities, the use levels on the adjoining NFS lands and at Hungry Valley SVRA can be characterized as generally low most of the year, with some moderate use levels on weekends and holidays during spring and summer (Licensees 2020).

The Los Alamos Campground (including Los Alamos Group Campground), as well as 11 other South SWP Hydropower-developed recreation areas around Pyramid Lake, are all located on NFS lands managed by the ANF. The national forest congressional boundary separating the ANF and LPNF runs through the middle of Pyramid Lake, but the ANF manages this part of the LPNF (USFS 2005). Policies and programs associated with the ANF and LPNF apply only to NFS lands within the proposed Project boundary.

Impounded by Pyramid Dam, Pyramid Lake is popular with boaters and anglers. As described in Section 2.3.4.3 (Aquatic Resources), the Licensees provide annual stocking of 20,000 pounds of catchable trout at both Pyramid Lake and Castaic Lake which benefits anglers and angler success. Pyramid Lake and its surrounding shoreline are also popular with swimmers, hikers, and picnickers, particularly during the summer months. As described in Table 2.3-3 and shown in Figure 2.4-2, recreation facilities on and around Pyramid Lake include: the Los Alamos Campground, boat-in sites, a visitor center, picnic areas, boat launches with public docks, and swim beaches.

Quail Lake is used by anglers and walkers but does not allow water contact use. Day use parking and shoreline fishing are available at Quail Lake. The facilities are operated and maintained by DWR.

Pyramid Lake offers boating, dispersed shoreline uses, and developed recreation facilities. Quail Lake offers fishing. nature watching, and walking activities. The developed sites that are part of the existing FERC-licensed South SWP Hydropower are listed in Table 3.16-1.

Table 3.16-1. South SWP Hydropower Recreation Facilities

Recreation Area		Developed Facilities
Emigrant Landing Day Use Area	Emigrant Landing Entrance Area	2 entrance station kiosks; boat inspection station; and approximately 24 parking spaces
	Emigrant Landing Boat Launch	8-lane boat launch ramp; 2 boat docks; 1 signed unisex restroom with flush toilets; 2 floating restrooms that are deployed on the lake as needed; and parking for approximately 73 vehicles with boat trailers, with 3 other standard parking spaces and 5 additional signed accessible parking spaces
	Emigrant Landing, Picnic and Fishing Area One	22 picnic sites (2 are labeled accessible sites), with approximately 22 grills, 21 shade ramadas, and 34 standard tables; shoreline fishing platform/walkways; 2 unisex restrooms with flush toilets; 1 drinking fountain; parking for approximately 90 vehicles (5 signed accessible parking spaces); 1 fish cleaning station
	Emigrant Landing Swim and Picnic Area	Swim beach with lifeguard tower; approximately 31 picnic sites with 52 standard tables, 34 grills, 31 shade ramadas, 5 water spigots, and 2 drinking fountains; 2 unisex restrooms with flush toilets; parking for approximately 135 vehicles (2 signed accessible parking spaces)
	Emigrant Landing, Picnic and Fishing Area Two	Approximately 5 picnic sites with tables, 5 shade ramadas (1 has 3 combined shade ramadas counted as 1), 14 standard tables, 7 grills; pedestrian overlook structure connected to walkway; 1 unisex restroom with flush toilets; water spigots and 3 drinking fountains; parking for approximately 80 vehicles (2 signed accessible parking spaces)
Vista Del Lago Visitor Center		18,500-square-foot visitor building with interpretive exhibits, auditorium, potable water and restrooms; parking for 159 vehicles (6 signed accessible parking spaces, 2 designated for vans); 1 FERC informational sign, 2 other informational signs; approximately 11 trash receptacles, 2 telescopes, 1 overview lookout structure (1 bench, 1 information sign), and multiple standard parking lot lights
Recreation Area		Developed Facilities
Vaquero Day Use Area		Swim beach with lifeguard tower; 2-lane non-motorized watercraft launch ramp with courtesy dock; approximately 14 picnic sites with 13 standard tables, 14 grills, and shade ramadas; 2 unisex restrooms with flush toilets; approximately 5 water spigots and 1 drinking fountain, 1 fire pit, parking for approximately 146 vehicles (8 signed accessible parking spaces, with 3 designated for vans); 2 restroom buildings (unisex)
Spanish Point Boat-in Picnic Area		Boat-in or walk-in area with approximately 12 picnic sites, each with shade structure; approximately 9 grills and 1 group barbeque site with 3 grills; 1 restroom with vault toilet; 4 portable restrooms with portable sinks
Serrano Boat-in Picnic Area		6 picnic sites with tables, grills, and shade ramadas; 1 unisex restroom with vault toilets; boat dock
Bear Trap Boat-in Picnic Area		Approximately 2 picnic sites with 3 tables, 2 grills, and 3 shade ramadas; 2 unisex restrooms with vault toilets; boat dock

Table 3.16-1. South SWP Hydropower Recreation Facilities (continued)

Recreation Area		Developed Facilities
Yellow Bar Boat-in Picnic Area		Approximately 10 picnic sites with tables and shade ramadas (3 sites are designated accessible); 2 restrooms with vault toilets; boat dock and paths with shoreline fishing
Los Alamos Campground	Los Alamos Family Campground	Approximately 93 campsites with typically 1 or 2 picnic tables, parking spur, and 1 fire ring per site (3 sites are labeled accessible); 4 signed accessible restrooms with flush toilets; trailer dump station; potable water spigots, 4 of which have sinks; approximately 5 shade ramadas; 2 lane recreational vehicle/trailer dump station
	Los Alamos Group Campground	Approximately 3 group camping sites with maximum occupancy of 40 people and parking for typically 8 to 10 vehicles per site; each site includes a large shade ramada containing barbeque grills, fire pits, approximately 5 picnic tables, and water spigot; 1 unisex restroom with flush toilets, water spigot and outdoor sink
Quail Lake Day Use Area		Day use area with shoreline access paths on both sides of lake; gravel parking area; and 3 portable restrooms

Annual visitation at the Pyramid Lake Day Use sites and Los Alamos Campground has remained fairly steady over the last seven years, with a low of 109,105 visits in 2013 and a high of 161, 297 annual visits in 2015. Previous visitation in the 1996 through 2001 period was consistently reported at more than 140,000 a year, with the years 1996 and 1998 having more than 180,000 visitors each year (DWR 2001). Based on the last eight years of records, about 87 percent of all use is day use, and 13 percent is overnight camping use.

3.16.3 Environmental Impact Analysis

Would the proposed Project:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Finding: Less Than Significant Impact

Recreational uses of the proposed Project facilities are anticipated to be similar to the existing recreational uses and would likely continue to accommodate the existing and future demand for recreation offered at the recreation sites at Pyramid Lake and Quail Lake. Similar to existing conditions, it would be expected that on some summer weekends boaters would continue to have to wait in line to enter Emigrant Landing when boating limits on Pyramid Lake are reached. This pattern is a continuation of current conditions when on some summer and holiday weekends the Pyramid Lake boating capacity of 150 boats is reached (Licensees 2020). Under the proposed Project, it is likely that when these capacity limits are reached some recreational boaters could be displaced via wait times or periodic closures during the summer recreation season. Historically, there is some evidence that a small number of boaters who have had to

wait in line either chose not to partake in recreational boating on those days, or chose to travel to other nearby lakes with parks and campgrounds in the region if Pyramid Lake is at or near full capacity (Licensees 2020). Similarly, picnicking and camping demand is currently satisfied by the South SWP Hydropower facilities with the exceptions of some holiday weekends when the campground is full. However, during these times most of the other public campgrounds in southern California are also at capacity, so any overflow resulting from South SWP Hydropower recreation facilities being at capacity would not likely affect other campground facilities in the region as they would generally be filled to capacity also.

Lakes and reservoirs with some similarity to the scale and type of recreation opportunities at Pyramid Lake that would attract Pyramid Lake boaters and campers include the following:

- Lake Piru
- Castaic Lake and Castaic Lagoon
- Lake Evans and Lake Webb, as part of the Buena Vista Aquatic Recreation Area
- Lake Casitas
- Lake Cachuma

While some overflow or spillover use from the proposed Project leads to more use at these nearby lakes and recreation facilities, the proposed Project would not change this pattern or accelerate its occurrence. The proposed Project is not expected to induce more use or displace more users to these other parks and lake facilities. Therefore, effects from continued recreation use at proposed Project facilities with or without the RMP would be less than significant under the proposed Project.

Similar to current conditions, the opportunities and uses for whitewater boating downstream of the proposed Project on Pyramid reach would continue and angling opportunities would continue to benefit from annual stocking of catchable trout in Pyramid Lake and Castaic Lake.

The Licensees, however, do not propose to reinstate the pre-2008 fish stocking activities in Pyramid reach (i.e., Mitigation Measure R-3 from the 2005 EIR). In years prior to 2008, the Licensees sponsored CDFW fish stocking in Pyramid reach, but this has been discontinued since 2008 as a result of litigation that requires CDFW to complete CEQA and to consult with USFWS and NMFS to obtain a BO for their fish stocking and hatchery operations that could affect water bodies with ESA-listed species (see Section 3.5.3.3 [Biological Resources – Other Special-Status Species]). Since continuing stocking fish in Pyramid reach has the potential to result in negative impacts to arroyo toad populations and other native species there, the Licensees do not propose to stock fish in Pyramid reach as part of the proposed Project. Since 2008, anglers have continued to fish in Pyramid reach and no significant adverse recreational effects have

been identified. Fish stocking will however be continued in Pyramid and Castaic Lakes, maintaining the current recreation resource and user experiences in those areas. As such, the proposed Project action would not lead to a change in angling use in Pyramid reach and implementation of Mitigation Measure R-3 from the 2005 EIR would not be required for this document.

Additionally, the proposed Project RMP would be implemented to alleviate the potential for last minute displacement by providing additional visitor services, such as real-time information dissemination of expected and actual capacity levels at Pyramid Lake and Los Alamos Campground. Therefore, the RMP would not introduce new or additional significant impacts and the proposed Project would have a less-than-significant impact with or without the proposed Project.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Finding: Less Than Significant Impact

The proposed Project would continue the O&M of the extensive recreation facilities at Pyramid Lake and the recreation facility at Quail Lake over the term of the new FERC license. Continued management and operation of these facilities requires the general maintenance activities described in Section 2.0 (Project Description). Those activities include some minor construction and facilities improvements. However, the continued recreation use at these proposed Project facilities, as described in Section 2.4.5.5 (Recreation Resources-Related Activities), have the potential to degrade the condition of the infrastructure, cause further erosion or ecological damage, increase public health and safety concerns, and not meet visitor needs. While the potential for such effects is always possible, there is no evidence that continued recreation use would have significant adverse physical effects on the environment. Impacts such as airborne dust emissions (Section 3.4 [Air Quality]); trampling or removal of vegetation (Section 3.5 [Biological Resources]); construction noise (Section 3.13 [Noise]); and erosion (Section 3.7 [Geology and Soils]) are evaluated in their respective sections throughout this document and were found to be less than significant or less than significant with mitigation.

Published recreation demand studies show Californians want more amenities, including outdoor settings for large groups, a wider range of overnight camping facility choices, and an increase of shorter trails. The studies show visitors prefer clean restrooms, picnic areas, tables free of garbage and graffiti, and adequate lighting in campgrounds to feel safe. Signs need to be bilingual with Spanish and English. Also, the studies show the growing Hispanic populations tend to prefer forested sites with water features and amenities to support day-long, extended-family social outings with extensive onsite meal preparation (DPR 2014). The current facilities at Pyramid Lake and Quail Lake with some improvements, would provide for these changing demands and uses without expansion of overall capacities.

Needs and opportunities for improvements based on these studies are part of the RMP for planning and designing upgrades to South SWP Hydropower facilities. As described in Section 2.4.4 (Proposed Improvements to Recreation Facilities), the RMP enumerates activities and further includes modifications and improvements to the South SWP Hydropower facilities such as implementation of visitor services; a safety and signage program; a litter control program; and facilities improvement measures. Facility improvement measures would continue to rehabilitate the South SWP Hydropower infrastructure to meet accessibility standards. This aims to provide more accessible amenities, and improve circulation and offerings at the facilities to meet the changing demands and needs of recreationalists; it is done through implementation of a phased improvement program that brings recreation facilities into compliance with the ABAAS and the FSORAG on a priority-based system.

The improvements at existing facilities would continue to concentrate use in and around South SWP Hydropower facilities so that the most suitable, least erosive, and least environmentally damaging areas and adjoining trails would be used by recreationists. By upgrading the South SWP Hydropower facilities there would be some construction related impacts and long-term potential for recreational uses; however, as described above, these impacts would be less than significant with or without implementation of the PM&E measures including the RMP under PM&E Measure RR1.

3.16.4 Mitigation Measures

Based on the impact analysis (see Section 3.16.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Recreation, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.17 TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict with or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g., farm equipment))?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Regulatory Setting

The questions listed in the table above include references to consistency with applicable circulation system plans, ordinances, or policies governing scenic quality, CEQA Guidelines § 15064.4, among other items. As such, this regulatory setting is intended to provide a general context for the impact assessment that follows.

3.17.1.1 Federal

Title 23, Code of Federal Regulations, Highways

Federal statutes specify requirements for facilities that receive federal assistance, including interstate freeways and U.S. highways, most State routes, and certain local roads. Federal Highway Administration regulations include provisions for rights-of-way, maintenance of roadways, and highway safety for federally-maintained highways.

Title 49, Code of Federal Regulations

Title 49 governs transportation related security, including the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles. The administering agencies for Title 49 in California are the CHP and the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

3.17.1.2 State

Updated CEQA Guidelines and Transportation Impact Evaluations

In December 2018, the California Natural Resources Agency adopted the CEQA Guidelines update package, including the Guidelines section implementing SB 743. CEQA Guidelines § 15064.3 states the following:

> This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, vehicle miles traveled (VMT) refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay will not constitute a significant environmental impact.

Section 15064.3(b) sets forth criteria for determining the significance of transportation impacts by stating the following:

- Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less-than-significant transportation impact.

- Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less-than-significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in §15152.

- Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

- Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles

traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in §15151 will apply to the analysis described in this section.

From these updated CEQA Guidelines, the Governor's Office of Planning and Research (OPR) developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures (OPR 2018).

California Department of Transportation

Caltrans manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of State roadways. Caltrans requires that permits be obtained for the transportation of oversized loads and of certain materials in addition to construction-related traffic disturbance.

California Streets and Highways Code, Section 117

Unless otherwise specified, the acquisition of any right-of-way over any real property for State highway purposes includes the right of Caltrans to issue – under Chapter 3 (Division 1, Chapter 3, The Care and Protection of State Highways, commencing with § 660), permits for any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures located in the public rights-of-way. The administering agency for this statute is Caltrans.

California Manual on Uniform Traffic Control Devices, Part 6

This regulation requires a temporary traffic control plan be provided for continuity of function (movement of traffic, pedestrians, bicyclists, transit operations) and access to property/utilities during any time the normal function of a roadway is suspended (FHWA 2009) (California Manual on Uniform Traffic Control Devices, Federal Highway Administration 2009 Edition, Revisions 1 and 2 as amended for use in California. Title 23 U.S.C, §§ 109[d], 114[a], 217, 315, and 402[a]; 23 CFR 655; and 49 CFR 1.48[b][8], 1.48[b][33], and 1.48[c][2]) (FHWA 2009).

3.17.1.3 Local

Public roadways maintained by local jurisdictions within the proposed Project boundary are subject to local plans, goals, and policies, none of which apply to the transportation impact analysis. Primary Project Roads are maintained by the Licensees and subject to State and federal regulations and policies.

Emergency Evacuation Plans

DWR and LADWP each have their own South SWP Hydropower EAPs. These EAPs are routinely tested with key agencies including the BLM and the USFS. These EAPs include evacuation plans that are updated regularly and include coordination with

partnering agencies such as Los Angeles County, CAL FIRE, and other local, State, and federal agencies during an event that would trigger an emergency in the area.

3.17.2 Environmental Setting

Regional access to the South SWP Hydropower is provided by Interstate 5, which runs in a north-south direction though South SWP Hydropower. In the southern portion of the South SWP Hydropower, Interstate 5 intersects with State Highway 126 outside of the South SWP Hydropower area. Interstate 5 in the northern portion of the South SWP Hydropower area intersects with State Highway 138 directly adjacent to Quail Lake.

Currently, the Licensees operate and maintain 99 existing road segments, as part of Primary Project Roads (see Section 2.4.1.2, Appendix A, of Exhibit E, in the FLA), which provide vehicular access for the O&M of South SWP Hydropower facilities.

Primary Project Roads within the South SWP Hydropower area are located on a combination of lands owned by Los Angeles County, State of California, and NFS lands. All of the Primary Project Road segments are behind locked gates and are maintained in good condition consistent with the designated use level of each road segment. The Licensees use the roads almost on a daily basis to access the South SWP Hydropower.

Primary Project Roads do not include “shared,” “joint,” or “multiple use” roads that are used and maintained by multiple parties, including the Licensees. These shared roads are not for the sole purpose of accessing the South SWP Hydropower facilities and are, therefore, not the sole responsibility of the Licensees to maintain under the new FERC license. Outside of licensing, the Licensees work with other agencies for use and maintenance, if needed, to use shared roads (See the FLA, Exhibit A, which can be accessed via the relicensing website: South SWP Hydropower (https://south-swp-hydropower-relicensing.com/).

In addition to Primary Project Roads, developed recreation facilities roads identified in the new FERC license would include roads used almost exclusively to access the proposed Project recreation facilities within the proposed Project boundary. Other roads in the area not managed by the Licensees, often connecting to the South SWP Hydropower recreation roads, also provide access for the public. However, these roads have other uses, including access to NFS lands and regional access through the area via Interstate 5.

There is one developed trail, the Quail Lake Fishing Access Path, that provides trail access to recreationists in the Quail Lake Day Use Area. The Licensees do not maintain any trails for foot or off-highway vehicle access to South SWP Hydropower facilities, other than those related to recreation.

3.17.3 Environmental Impact Analysis

Would the proposed Project:

a) Conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?

Finding: Less Than Significant Impact

The Licensees do not propose any changes to existing Primary Project Roads or recreation roads as a result of the proposed Project. No transit system exists within the proposed Project boundary, and no such system is proposed for construction. Some minor upgrades are proposed to the Quail Lake Fishing Access Path as part of the recreation improvements; however, these improvements would be similar to South SWP Hydropower operations and would occur over the term of the new FERC license.

Primary Project Roads do not include “shared,” “joint,” or “multiple use” roads that are used and maintained by multiple parties, including the Licensees. Rather it is recreation roads that can be considered shared roads. These shared roads are not for the sole purpose of accessing the South SWP Hydropower facilities and are, therefore, not the sole responsibility of the Licensees to maintain under the new FERC license. Outside of licensing, the Licensees work with other agencies in use and maintenance, if needed, to use shared roads (See the FLA, Exhibit A). As such, the potential to conflict with a program, plan ordinance, or policy addressing circulation systems is considered less than significant.

Furthermore, the Licensees regularly inspect the Primary Project Roads, and maintenance is conducted to these roads as needed. None of the administrative changes under the new FERC license or changes to PM&Es would conflict with plans, ordinances, or policies because the proposed Project would continue existing operations and would not substantially increase vehicle trips (see question “b” below for more detail). Additionally, Measure RR1 (i.e., the RMP) includes the management of crowds through regulation of park peak uses in the summer weekend and holiday periods which would control and minimize congestion in recreation areas and back up of vehicles. Therefore, the proposed Project would result in a less-than-significant impact related to conflicting with existing programs, plans, and ordinances applicable to the transportation system in the area.

Given there are no PM&Es specific to traffic or transit control, the proposed Project with and without the relevant PM&Es does not differ. It entails a less-than-significant impact to transportation. No mitigation is required.

b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Finding: Less Than Significant Impact

The proposed Project would not result in a substantial increase in VMT large enough to conflict with or be inconsistent with CEQA Guidelines § 15064.3(b). The proposed Project does not propose any change in use or construction of any new facilities. The proposed Project does not propose new housing, businesses, or other land use changes that would induce population growth in the area or result in a permanent increase of VMT. The proposed Project also would not add capacity to an existing or proposed new roadway.

Currently, vehicle trips within the existing South SWP Hydropower boundary are predominately generated by recreational users. Additionally, operational and maintenance staff contribute to VMT within the existing South SWP Hydropower boundary. As described in Section 5.5 of the FLA, use of the proposed Project boundary informs existing VMT estimates which range from 45,000 to 500,000 annual trips by visitors to the various recreational areas in the existing South SWP Hydropower boundary with the highest number of VMT occurring in the summer months, weekends, and holidays. Additional ongoing daily operational maintenance trips within the existing South SWP Hydropower boundary range depends on the time of year and type of maintenance activity.

Construction activities associated with ongoing operations, maintenance, and recreation improvements for the proposed Project may include temporary increases in construction traffic within the proposed Project area. Potential increases in VMT as a result of any construction activities within the proposed Project area would vary based on the activity, location, equipment and material needs, and staffing. Similar to the assumptions for the air quality analysis (see Section 3.4 [Air Quality]), it is anticipated that these improvements would include an approximate maximum of 60 total trips for import and export of materials and supplies with an assumed conservative distance of 50 miles round trip. Additionally, worker (66 trips at 50 miles roundtrip) and contractor trips (15 trips at 50 miles roundtrip) for supplies associated with these construction activities would also occur. These construction activities are anticipated to occur for the proposed Project features described in Section 2.4 (Proposed Project Changes). Based on these assumptions, the estimated VMT associated with the operation of the South SWP Hydropower for the proposed Project would be a total of 7,050 miles traveled. These VMT estimates are consistent with current operations under the South SWP Hydropower license, which include minor and temporary VMT increases associated with recreation improvements.

The main intent of evaluating VMT is to assess significant increases in VMT generated by individual projects. As stated above, the proposed Project does not introduce permanent trips that would result in additional VMT. The temporary and short-term nature of the construction activities introduce negligible increases in VMT scattered throughout the 20-year duration of the recreation improvements under the new FERC

license. However, once construction is completed, construction-related traffic would cease, and VMT levels would return to South SWP Hydropower conditions. The proposed Project would not conflict or be inconsistent with CEQA Guidelines § 15064.3(b). Therefore, impacts would be less than significant.

Given there are no PM&Es specific to VMT, the proposed Project with and without the relevant PM&Es does not differ. It entails a less-than-significant impact to transportation. No mitigation is required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g., farm equipment))?

Finding: Less Than Significant Impact

There would be no changes to the alignment or geometric design of roadways or trails as a result of the proposed Project. Construction impacts would be limited to slower movements and the larger turning radii of the trucks compared to passenger vehicles; however, these construction impacts would be temporary, occurring over the life of the license, and would not result in a substantial change from South SWP Hydropower operations within the area. Implementation of the recreation facility upgrades and ground disturbing PM&Es would not result in a change from South SWP Hydropower conditions since these activities do not entail roadway alignment changes or new roadways. In addition, the Licensees currently implement these safety precautions under the South SWP Hydropower license. Therefore, the proposed Project would result in a less-than-significant impact related to increases in hazards due to a geometric design feature. Furthermore, implementation of the relevant PM&E measure, the Project Safety Plan (i.e., Measure LU2), includes installation of lights, sirens, signs, and other safety features which would overall improve safety within the proposed Project area, including to the South SWP Hydropower roadways and trails within the area. As such the addition of this measure would have a less-than-significant and slightly beneficial impact.

Given there are no PM&Es specific to geometric design features, the proposed Project with and without the relevant PM&Es does not differ. It entails a less-than-significant impact to transportation. No mitigation is required.

d) Result in inadequate emergency access?

Finding: Less Than Significant Impact

Emergency access within and adjacent to the proposed Project boundary is provided by the Licensees' Primary Project Roads, as well as federal, State, and Los Angeles County maintained roadways. These roads provide access for emergencies such as, fire suppression and emergency response within the proposed Project boundary. DWR and LADWP each have their own South SWP Hydropower EAPs which provide coordination provisions for maintaining adequate emergency access to the corresponding facilities within the proposed Project boundary. The Licensees do not

propose any modifications, realignments, or relocations to these roads and therefore, emergency access routes would not change or become inadequate as a result of the proposed Project.

Upgrades to recreation facilities would require construction equipment, similar to current conditions under the South SWP Hydropower license. However, as discussed under question “b” above, these construction activities would be temporary, limited in scale, and would not result in a substantial change from existing conditions such that inadequate emergency access could occur. Furthermore, none of the administrative changes or implementation of any PM&Es would result in a change to existing conditions related to emergency access within or through the South SWP Hydropower. Therefore, the proposed Project would result in a less-than-significant impact related to inadequate emergency access.

DWR would continue existing best practices for controlling emergency access and safety practices (Section 2.4.6 [Project Safety and Best Management Practices]), including implementation of the EAP and associated drills that entail access calculations. Therefore, the potential impacts to emergency access would be less than significant when evaluated with, and without, the related PM&Es, and no mitigation is required.

3.17.4 Mitigation Measures

Based on the impact analysis (see Section 3.17.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Transportation, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.18 TRIBAL CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21047 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

3.18.1 Regulatory Setting

The questions listed in the table above include terminology defined in PRC §§ 21047, 5020.1(k), and subdivision (c) of PRC § 5024.1. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.18.1.1 Federal

National Historic Preservation Act

The NHPA requires federal undertakings to consider the effects of the action on historic properties. Historic properties include properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR § 800.16[l]). Additional information regarding how an undertaking could impact an NRHP eligible property, including a resource of traditional and cultural importance to an Indian Tribe is included in Section 3.6 (Cultural Resources).[6]

Traditional Cultural Properties

Traditional Cultural Properties (TCP) are locations associated with cultural practices or beliefs of a living community that are: (1) rooted in that community's history; and (2) important in maintaining the continuing cultural identity of a community. National Register Bulletin 38 provides examples of TCPs that fit the definition in the guidelines (Parker and King 1998:1):

- A location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world
- A rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents
- An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices
- A location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice
- A location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity

TCPs are eligible for inclusion on the NRHP if they meet the criteria set forth in 36 CFR § 60.4, National Register Criteria for Evaluation. The steps in the identification and evaluation of TCPs are the following (abbreviated from Parker and King 1998:11-14):

1. Potential TCPs must be identified through consultation with the affected community or Tribe

[6] The terminology for NHPA is relative to federally recognized tribes. CEQA terminology, however, is inclusive of Native American tribes regardless of federal recognition.

2. The investigation must consider the beliefs and practices associated with a potential TCP from the perspective of the community or Tribe

3. The potential TCP must be a property, that is, a tangible place on the landscape, rather than an intangible belief or practice

4. The property must retain integrity of relationship with the beliefs and practices that give it meaning to the community or Tribe

5. The property must retain integrity of condition, such that the elements of the property associated with the beliefs and practices that give it significance are present

The property must meet one or more of the four criteria for eligibility on the National Register (see Section 3.6.1.1 [Cultural Resources – Regulatory Setting – Federal).

Certain kinds of cultural resources are usually not considered for listing in the NRHP; cultural resources included in that category are religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties achieving significance within the past 50 years. These resources, however, can be evaluated as eligible if they meet one or more of the NRHP eligibility criteria for evaluation, retain integrity, and meet special criteria requirements called *Criteria Considerations*. The most notable of the seven considerations (A through G) is Criteria Consideration G, which specifies that a property that has achieved significance within the last 50 years can qualify for the NRHP only if it is of exceptional importance. As noted by Parker and King (1998:17–18), “A significance ascribed to a property only in the past 50 years cannot be considered traditional.” However, they also note: “The fact that a property may have gone unused for a lengthy period of time, with use beginning again only recently, does not make the property ineligible for the [National] Register.”

If a property is determined to be a TCP, it becomes the responsibility of the lead agency to assess whether the proposed project would have an effect on the property, and should the effect be adverse, would it alter or destroy the elements that make the property significant and eligible. If a proposed project is determined to have an adverse effect, the lead agency is responsible for seeking measures that would mitigate the adverse effects to the TCP.

Indian Trust Assets

Indian Trust Assets (ITA) are legal interests in property held in trust by the U.S. for Native American Tribes or individuals. Examples of potential ITAs are lands, minerals, fishing rights, and water rights. Management of ITAs is based on the following orders, agreements, and regulations:

- EO 13175, Consultation and Coordination with Indian Tribal Governments 65 FR 67249

- Memorandum on Government-to-Government Relations With Native American Tribal Governments (FR Volume 59, Number 85, signed April 29, 1994)
- Secretarial Order No. 3175 – Departmental Responsibilities for Indian Trust Resources
- Secretarial Order No. 3206 – American Indian Tribal Rights, Federal -Tribal Trust Responsibilities, and the ESA
- Secretarial Order No. 3215 – Principles for the Discharge of the Secretary's Trust Responsibility
- Secretarial Order No. 3342 – Identifying Opportunities for Cooperative and Collaborative Partnerships with Federally Recognized Indian Tribes in the Management of Federal Lands and Resources
- Secretarial Order No. 3335 – Reaffirmation of the Federal Trust Responsibility to Federally Recognized Tribes and Individual Indian Beneficiaries

Native American Graves Protection and Repatriation Act of 1990

NAGPRA is found in Public Law (PL) 101-601; 25 U.S.C. § 3001 *et seq*. and sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. NAGPRA clarifies the ownership of human remains and established a process for the repatriation of human remains, associated funerary objects, and sacred religious objects to the Native American groups identified as lineal descendants, or who are culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any affiliated Native American tribe.

Additional Regulations

Other laws specific to cultural resources and/or historic properties include the following:

- American Indian Religious Freedom Act of 1978 (PL 95-341; 42 U.S.C. 1996)
- Antiquities Act of 1906 (54 U.S.C. 320301–320303 & 18 U.S.C. 1866, formerly 16 U.S.C. 431–433)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-mm)
- Historic Sites Act of 1935 (54 U.S.C. 320101–320106, formerly 16 U.S.C. 461–467)
- National Environmental Policy Act (i.e., NEPA) of 1969 (42 U.S.C. 4321 et seq.)
- EO 11593 of 1971, Protection and Enhancement of the Cultural Environment

- EO 13007 of 1996, Indian Sacred Sites
- CEQA of 1970, as amended (PRC § 21000 et seq.) and State CEQA Guidelines (14 CCR § 15000 et seq.)
- CHSC (§ 7050.5)

3.18.1.2 State

California Register of Historical Resources (PRC § 5024) and Tribal Cultural Resources (PRC § 21074)

As defined in PRC § 21074, a TCR is a site, feature, place, cultural landscape, sacred place or object that is of cultural value to a California Native American tribe, and is either: (1) on or eligible for the CRHR or a local historic register; or (2) the lead agency, at its discretion, chooses to treat the resource as a TCR. TCRs are similar to TCPs in terms of their characteristics, identification, and treatment and may include a cultural landscape to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Additionally, as defined at PRC § 21074(c), a historical resource, a unique archaeological resource, or a non-unique archaeological resource may also be a TCR if it conforms to the criteria of a TCR in PRC § 21074(a). CEQA mandates that lead agencies determine whether a project will have a significant impact on TCRs that are eligible for listing on the CRHR (i.e., a historical resource), or are determined to be significant by the lead agency in order to appropriately mitigate any such impacts.

In accordance with CEQA guidelines, cultural resources investigations are necessary to identify TCRs that may have significant impacts as a result of a project (14 CCR §15064.5). The following steps are routinely implemented in a cultural resources investigation for CEQA compliance:

1. Identify cultural resources in the proposed project area
2. Evaluate against the CRHR criteria of significance (listed below)
3. Evaluate the impacts of the proposed project on all cultural/tribal resources
4. Develop and implement measures to mitigate proposed project impacts on historical resources or resources deemed significant by the lead agency

Assembly Bill 52 and Consultation

Additionally, the lead agency for CEQA is responsible for consultation pursuant to AB 52 and amendments to CEQA under the following PRC §§ 5097.94(m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 regarding the potential for a project to impact TCRs, which can be identified through tribal consultation. Accordingly, consultation with local Native American tribes and other interested parties is part of all four of the steps described above. As defined above, TCRs are sites,

features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. As such, consultation with local Native American tribes to determine what resources have value to them is a necessary component of TCR identification efforts, as well as potential mitigation efforts. AB 52 recognizes that "…tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated…" and that consultation will occur between a lead agency and Native American tribes for covered projects. The Licensees are committed to working together with tribes consistent with their respective agency's tribal consultation policies that include DWR's Tribal Engagement Policy, the California Natural Resources Agency's Tribal Engagement Policy, and LADWP's *Environmental Planning and Assessment: CEQA, AB 52 Tribal Consultation Procedure*. Consultation efforts with California Native American tribes, pursuant to TCR identification efforts, are described below.

As described above in Section 3.6 (Cultural Resources), a proposed Project may induce a significant impact to a historical resource, unique archaeological resource, or a TCR if it causes a substantial adverse change (i.e., physical demolition, destruction, relocation, or alteration) to the resource or immediate surroundings (14 CCR § 15064.5[b]), thereby demolishing or significantly altering the physical characteristics that qualify it for listing on the CRHR or local registers (PRC §§ 5020.01[k] and 5024.1[g]). As such, consultation has been conducted for all cultural and tribal resources investigation efforts for the proposed Project and is further detailed below.

CEQA Guidelines/PRC § 15064.5(a)

Under the CEQA Guidelines, even if a resource is not included on any local, State, or FR, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA, if there is substantial evidence supporting such a determination (CEQA Guidelines § 15064.5[a]). A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the CRHR. The methods used to determine if resources are TCRs are presented below.

A resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1)
- Is associated with the lives of persons important in our past (Criterion 2)
- Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values (Criterion 3)
- Has yielded, or may be likely to yield, information important in prehistory or history (Criterion 4)

PRC §§ 21084.2-21084.3

A project that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC § 21084.2). A lead agency shall establish measures to avoid impacts that would alter significant characteristics of a TCR, when feasible (PRC § 21084.3)

Discovery of Human Remains

NAGPRA requires that all human remains and potential human remains be treated with respect and dignity at all times, pursuant to State and federal law. In the event that suspected human remains are discovered during a proposed Project activity on USFS land, all activities in the immediate area will cease, and appropriate precautions will be taken to protect the remains and any associated cultural items from further disturbance, in accordance with the requirements of NAGPRA as discussed above in Section 3.6.1.2. The USFS is responsible for the protection of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are discovered on lands under the jurisdiction of the ANF and LPNF and will follow the procedures outlined in 43 CFR § 10.4 Inadvertent Discoveries should there be any discovery. Discovery of human remains and associated cultural items on non-federal lands is discussed above in Section 3.6.1.2, and is governed by CHSC §§ 7050.5, 8010, and 8011, PRC §§ 5097.98, 5097.99, 5097.991, and 25 USC § 3001 et seq. which include precautions to protect human remains and associated cultural items from further disturbance, notification of MLD, facilitation of the provisions of CalNAGPRA, as well as punitive measures.

3.18.1.3 Local

Local general plans discussed in Section 3.6.1.3 (Cultural Resources – Regulatory Setting – Local) also generally pertain to TCRs as defined at PRC §§§§ 21074(a) and 21074(c). This includes the Los Angeles County 2035 General Plan, adopted by the Los Angeles County Board of Supervisors on October 6, 2015. The General Plan has the following relevant goals and policies related to the protection of historic, cultural, and paleontological resources, which may also be recognized as TCRs (Los Angeles County Department of Regional Planning 2015):

- Goal C/NR 14: Protected historic, cultural, and paleontological resources
- Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible
- Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources
- Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings

- Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with SB 18 (2004)
- Policy C/NR 14.5: Promote public awareness of historic, cultural, and paleontological resources
- Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources

The Los Angeles County Historical Landmarks and Records Commission considers and recommends to the Board of Supervisors local historical landmarks within the County that are defined to be worthy of registration by the State of California, either as California Historical Landmarks or as Points of Historical Interest. The Los Angeles County Historical Landmarks and Records Commission may also comment for the Board on applications relating to the NRHP. They are also charged with fostering and promoting the preservation of historical records. In its capacity as the memorial plaque review committee of Los Angeles County, the commission screens applications for donations of historical memorial plaques and recommends to the Board plaques worthy of installation as County property.

Southern California Association of Governments

The SCAG's Regional Comprehensive Plan's Open Space and Habitat-Natural Lands Action Plan institutes constrained policies and best practices regarding the protection of cultural resources, specifically:

- OSN-6: SCAG should encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites

As TCRs may be cultural resources and/or archaeological sites per PRC § 21074(c), this measure also applies to TCR.

3.18.2 Environmental Setting

Knowledge of current environmental conditions is critical to the assessment of potential environmental impacts to TCRs because TCRs may include components of the environment that comprise sites, features, places, cultural landscapes, or sacred places with cultural value to California Native American tribes. See Section 3.6.2.1 for a summary of the prehistoric, ethnographic, and historic context.

3.18.2.1 Local Setting

The proposed Project is located in and around the Sierra Pelona Mountains between the Tehachapi and San Emigdio Mountains which are part of the Transverse Ranges in southern California. The northernmost portion of the proposed Project lies in the Antelope Valley. Two drainage basins are intercepted by the South SWP Hydropower and include Piru Creek, its tributary Gorman Creek, and Castaic Creek.

The topography around the South SWP Hydropower comprises hilly and mountainous terrain, with lower terrain surrounded by arid chaparral scrub vegetation. Prior to the construction of Pyramid Lake and Dam in the 1970s, the land use of the South SWP Hydropower area consisted primarily of grazing, transportation, and open space. The South SWP Hydropower area has always been part of an important north-south transportation corridor, and European settlement and commercial development were limited prior to the 1970s. Similarly, Quail Lake was constructed in an area mostly used for grazing and transportation purposes associated with nearby State Highway 138 and the Interstate 5 corridor.

The vegetation includes tree dominated habitats (including PJN, MHW, COW, montane riparian, and VRI), shrub habitats (e.g., SGB, MCH, CRC, CSC, and DSW), and herbaceous dominated habitat (e.g., AGSs, WTMs, and freshwater wetlands).

Wildlife present in the South SWP Hydropower area include large mammals (e.g., California mule deer), small mammals (e.g., deer mouse, California vole, kangaroo rats, rabbits, squirrels, and bats), a variety of avian species (e.g., waterfowl, upland game birds and migratory birds), reptiles, amphibians, and a variety of fish. (Reddy et al. 2020).

3.18.2.2 Identification of Tribal Cultural Resources

A confidential/privileged TCR investigation, entitled *Tribal Resources Study,* for the South SWP Hydropower relicensing found that no previously known ITAs, TCPs, or agreements were identified from existing, relevant, and reasonably accessible information within the existing South SWP Hydropower boundary and a 0.25-mile-wide buffer around the existing South SWP Hydropower boundary. The *Tribal Resources Study* identified eight potential TCRs within the South SWP Hydropower area based on interviews and consultation with tribes and archival research. The eight potential TCRs included five place names, (Cañada de los Alamos, *Hunaət rawʔk*, *Paqahuŋ*, *Tarahuʔpea,* and *Tuquvətšr varvark*)[7], one Rancheria, one historic ranch, and one lake. The *Tribal Resources Study* research and interviews did not identify associations between any of the eight resources with resources with sacred or specific cultural traditional practices. All eight resources were evaluated the criteria for eligibility for the NRHP, and none were determined to meet the criteria of a TCP. As the *Tribal Resources Study* did not result in the identification of any TCPs as defined in Bulletin 38, or in the identification of any NRHP-eligible properties, the *Tribal Resources Study* did not result in the identification of any TCR as discussed below. The NRHP evaluations were confirmed by the FTBMI and the Tejon Indian Tribe through the relicensing consultation process.

The *Tribal Resources Study* results show that the lake identified as a potential TCP does not retain integrity of association with any events (Criterion A/1), persons (Criterion B/2), or design or construction (Criterion C/3), nor does it retain any data potential

[7] Spellings of Native American names for tribal resources and place names are presented with linguistic symbols, as is the standard practice.

(Criterion D/4) within the proposed Project boundary that would make it eligible for listing on the NRHP or CRHR. This resource does not meet the criteria for a TCP, and as the NRHP and CRHR eligibility criteria are not met, the resource is not considered a TCR.

The interviews with the FTBMI demonstrated that there is an association between the tribe with the historic ranch; however, the ranch is inundated by Elderberry Forebay (and/or Castaic Lake) and the presence and condition of this resource under water is uncertain. Since the ranch cannot be determined to be a tangible property, it is not a property as defined by the NRHP. For the purposes of identifying TCPs, the ranch does not appear to qualify as a property within the proposed Project boundary, and it also lacks integrity of condition within the proposed Project boundary. Therefore, the NRHP and CRHR eligibility criteria are not met and this resource is not considered a TCR.

The ethnographic data indicates that the location of a rancheria may be associated with archaeological site CA-LAN-2401/H. However, the *Tribal Resources Study* did not reveal any evidence to confirm an association between the two resources. The prehistoric surficial component at the site has been largely removed and/or obscured due to multiple periods of historic and modern-era site use. The condition of the subsurface component is not known. As such, there is no integrity of direct association to a tribe, and the integrity of condition is unknown. Therefore, because this resource does not appear to qualify as a TCP and lacks integrity of condition within the proposed Project boundary, the NRHP and CRHR eligibility criteria are not met and this resource is not considered a TCR.

The five tribal place name resources are fully submerged under or within Pyramid Lake and could not be located or visited to confirm their existence, locations, or integrity of condition, as necessary to determine their significance and integrity. At such time when the Licensees schedule a planned outage and lower the water levels, the tribal place name locations would be visited, if sufficiently exposed, to confirm their locations, record the identified resources to current, professional documentation standards, and evaluate the resources for potential NRHP and CRHR eligibility.

Consultation efforts in support of AB 52, outlined below, also revealed the potential importance of archaeological site P-19-001354 (CA-LAN-1354/05-01-53-0040) as an important cultural landscape to the FTBMI. As discussed above in Section 3.6.2.2 (Identification of Historical Resources), a small portion of P-19-001354 was previously recorded within the APE but was not located during the survey. Site P-19-001354 was originally recorded in 1978 as a very sparse lithic scatter with scattered faunal bones recorded across more than 8 miles of a northeast-southwest trending ridgeline overlooking Liebre Gulch. No artifacts, features, or faunal remains associated with this site were observed within the proposed Project area, possibly due to past earth-moving activities that has substantially altered the landscape. It appears that this resource does not retain integrity of condition; however, it may retain integrity of association to FTBMI. To date, consultation with FTBMI has not confirmed any current proposed Project-related significant impacts to tribal cultural resources and it is anticipated that mitigation measures may not be identified as a result. The Licensees will schedule additional

consultation meetings with Mr. Avila and should the outcome of the consultations result in new information following the public review period of the draft IS/MND that changes the outcome of this analysis, DWR will update the final IS/MND to include the pertinent analyses to address any confirmed TCRs.

Ongoing Tribal Consultations/AB 52 Compliance Status

Pursuant to PRC § 21080.3.1 and in support of AB 52, consultation efforts with Native American tribal contacts have been incorporated in the cultural resources investigation of the South SWP Hydropower area, as "California Native American tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources" (PRC § 21080.3.1[a]). Pursuant to PRC § 21080.3.1(b), lead agencies are required to send notifications of proposed projects to California Native American tribes that have requested in writing to be informed of proposed projects for consultation. The Licensees efforts in complying with AB 52 are documented below.

In order to compile a thorough list of potentially interested tribal contacts for current consultation efforts, DWR and LADWP contacted the NAHC on August 17, 2020 to request a list of California Native American tribes and organizations that may have an interest in the proposed Project pursuant to PRC § 21080.3.1(c), as well as to request a search of the Sacred Lands Files (SLF). The NAHC responded on September 3, 2020 providing a list of tribes that have cultural and traditional affiliation to the proposed Project area. The NAHC also reported that their search of the SLF was negative. The list of potentially interested tribal contacts compiled from these efforts, as well as contacts identified during relicensing consultation efforts, is provided below in Table 3.18-1.

Table 3.18-1. Tribal Contacts Identified Through Relicensing Efforts and Coordination with the NAHC

Tribal Organization	Contact Name and Position
Barbareño/ Ventureño Band of Mission Indians	Eleanor Arrellanes, Representative
Barbareño/Ventureño Band of Mission Indians	Kathleen Pappo, Representative
Barbareño/Ventureño Band of Mission Indians	Raudel Banuelos, Representative
Barbareño/Ventureño Band of Mission Indians	Julie Lynn Tumamait-Stenslie, Chair
Barbareño/Ventureño Band of Mission Indians	Patrick Tumamait, Member
Chumash	Carol Pulido
Chumash	Melissa M. Parra-Hernandez
Chumash	PeuYoKo Perez
Chumash Council of Bakersfield	Julio Quair, Chairperson
Chumash, Tataviam, Fernandeño	Randy Guzman-Folkes
Coastal Band of the Chumash Nation	Gino Altamirano, Chairperson
Gabrieleño Band o– Mission Indians - Kizh Nation	Andrew Salas, Chairperson

Table 3.18-1. Tribal Contacts Identified Through Relicensing Efforts and Coordination with the NAHC (continued)

Tribal Organization	Contact Name and Position
Gabrieleño/Tongva San Gabriel Band of Mission Indians	Anthony Morales, Chairperson
Gabrielino /Tongva Nation	Sandonne Goad, Chairperson
Gabrielino Tongva Indians of California Tribal Council	Robert F. Dorame, Tribal Chair/Cultural Resources
Gabrielino/Tongva Nation	Sam Dunlap, Cultural Resources Director
Gabrielino-Tongva Tribe	Charles Alvarez, Representative
Gabrielino-Tongva Tribe	Linda Candelaria, Co-Chairperson
Kern Valley Indian Council	Robert Robinson, Co-Chairperson
Kitanemuk & Yowlumne Tejon Indians	Delia Dominguez, Chairperson
Los Angeles City/County Native American Indian Commission	Chrissie Castro, Chair
Morongo Band of Mission Indians	Robert Martin, Chairperson
Morongo Band of Mission Indians	Ann Brierty, Tribal Historic Preservation Officer
Northern Chumash Tribal Council	Fred Collins, Tribal Administrator
San Fernando Band of Mission Indians	Donna Yocum, Chairperson
San Luis Obispo County Chumash Council	Mark Vigil, Chair
Santa Ynez Band of Chumash Indians	Kenneth Kahn, Chairperson
Santa Ynez Band of Chumash Indians	Freddie Romero, Cultural Preservation Consultant
Serrano Nation of Mission Indians	Wayne Walker, Co-Chairperson
Serrano Nation of Mission Indians	Mark Cochrane, Co-Chairperson
yak tityu yak tiłhini – Northern Chumash Tribe	Mona Tucker, Chairperson

Key:
NAHC = Native American Heritage Commission

The Licensees subsequently mailed courtesy letters on October 7, 2020 to contacts identified in Table 3.18-2 in order to provide an opportunity to request notification from the Licensees pursuant to PRC § 21080.3.1(b)(1) and consistent with DWR's Tribal Engagement Policy, the California Natural Resources Agency's Tribal Engagement Policy, and LADWP's Environmental Planning and Assessment: CEQA, AB 52 Tribal Consultation Procedure. The Licensees also followed up with phone calls and emails on October 19, 2020 and October 20, 2020 to verify that the letters were received. In response to these courtesy correspondence efforts, Chairman Robert Dorame with the Gabrielino Tongva Indians of California Tribal Council and Mr. Patrick Tumamait with the Barbareño/Ventureño Band of Mission Indians indicated they would like to continue correspondence for the proposed Project. Chairperson Anthony Morales, Gabrieleño/Tongva San Gabriel Band of Mission Indians, said the tribe will defer to

other tribes but requested to be contacted if inadvertent discoveries are made during the proposed Project. Ms. Kathleen Pappo, Barbareño/Ventureño Band of Mission Indians indicated that she feels the proposed Project is in good hands with the participating tribes and has no need to continue consultation. Administrative Assistant to the Santa Ynez Band of Chumash Indians, Kelsie Merrick, provided a letter dated December 3, 2020 to Mr. Lonn Maier, DWR, thanking him for contacting the Tribal Elders' Council for the Santa Ynez Band of Chumash Indians. At this time, the Elders' Council requests no further consultation on this proposed Project. Record of these correspondence efforts are privileged and confidential.

The tribes, tribal chairpersons, and designated tribal representatives that requested consultation in writing pursuant to PRC § 21080.3.1(b)(1) and following courtesy correspondence efforts are provided below in Table 3.18-2. The remaining tribal contacts have not provided a response to the courtesy correspondence efforts nor requested notification of the proposed Project pursuant to PRC § 21080.3.1(b)(1).

Table 3.18-2. Tribal Contacts for Consultation On the Proposed Project

Tribal Organization	Contact Name and Position
Barbareño/Ventureño Band of Mission Indians	Patrick Tumamait, Member
Fernandeño Tataviam Band of Mission Indians[1]	Jairo Avila, Tribal Historic and Cultural Preservation Officer
Gabrielino Tongva Indians of California Tribal Council	Robert F. Dorame, Tribal Chair/Cultural Resources
San Manuel Band of Mission Indians[1]	Jessica Mauck, Director, Cultural Resources Management Department
Tejon Indian Tribe[1]	Colin Rambo, Cultural Resource Management Technician
Tongva Ancestral Territorial Tribal Nation[1]	Tribal Administrator

Notes:
[1]This tribe has requested notification of DWR's projects pursuant to PRC § 21080.3.1(b)(1). All other contacts have requested consultation for the proposed Project, but not specifically pursuant to PRC § 21080.3.1(b)(1).

In addition, the Licensees distributed formal notification letters on November 10, 2020 with an invitation to consult on the proposed Project to all tribes identified in Table 3.18-2 pursuant to PRC § 21080.3.1(d). The formal letters included a brief project description and maps of the proposed Project vicinity and facilities.

Barbareño/Ventureño Band of Mission Indians member Mr. Patrick Tumamait responded to the notification letter via email on November 19, 2020, to reaffirm that he would like to be involved in consultation under AB 52. On December 9, 2021, the Licensees left a voicemail for Mr. Tumamait to schedule a meeting in response to his earlier email. On January 5, 2021, a phone call was held between Mr. Tumamait and the Licensees to discuss the scope of the proposed Project and the relicensing process thus far. Mr. Tumamait stated that he did not have any concerns regarding the proposed Project and confirmed that AB 52 consultation was not needed.

The Tribal Historic and Cultural Preservation (THCP) Officer of the FTBMI, Mr. Jairo Avila, responded to the notification letter via email on December 1, 2020 on behalf of the THCP Department indicating that the proposed Project area is located within the traditional FTBMI ancestral territory and encompasses the lineage-villages from which members of the Tribe descend. FTBMI issued a formal request for tribal consultation under PRC § 21080.3.1 and the THCP Department requested a call to discuss the proposed Project. A consultation meeting was held with Mr. Avila on January 12, 2021, during which he acknowledged archaeological site P-19-001354 (CA-LAN-1354/05-01-53-0040) as an important cultural landscape. As noted above, no archaeological evidence of this site was observed within the proposed Project area. Based on the previous documentation, it does not appear as though any artifacts were ever observed within the proposed Project area and that the site boundaries were, rather, based on landform coupled with the site's presumed function.

Mr. Avila also inquired about outdated display information at the Vista Del Lago Visitor Center, and having signage in the area that the tribe can use to communicate information to the public about the importance of cultural resources. The Licensees stated that in addition to the relicensing, there are other projects involving updates to State facilities. Mr. Avila requested to be apprised of those efforts including scheduled meetings. Mr. Avila also recommended that Native American monitors be compensated for their services. The Licensees held an additional meeting on March 4, 2021 with FTBMI to continue those discussions and will schedule a follow-up meeting with Mr. Avila. Updates to those consultation efforts will be included in the final IS/MND.

San Manuel Band of Mission Indians' (SMBMI) Cultural Resource Analyst Mr. Ryan Nordness responded to the notification letter via email to DWR on November 16, 2020 stating that the proposed Project is located outside of Serrano ancestral territory and, as such, the SMBMI will not be requesting to receive consulting party status with the lead agency or to participate in the scoping, development, or review of documents created pursuant to legal and regulatory mandates.

Follow-up emails were exchanged with Honorable Chairman Robert Dorame and Cultural Resources Administrator Ms. Christina Conley of the Gabrielino Tongva Indians of California on December 8, 9, and 17, 2020 to initiate consultation under AB 52. The Licensees provided additional information for the proposed Project, including a digital copy of the HPMP. A meeting with Ms. Conley and the Licensees was held on January 22, 2021, during which the Licensees provided an overview of the proposed Project and HPMP measures. Ms. Conley discussed the Tribe's concerns with ground disturbance near gullies and drainages where there might be cultural resources. Ms. Conley stated she did not have concerns regarding the proposed Project and will let the Licensees know in writing whether AB 52 consultation can be concluded after speaking with the tribal council.

A follow-up email was sent to Colin Rambo, Cultural Resource Management Technician, of the Tejon Indian Tribe on December 9, 2020, with an attached copy of the November 9, 2020 letter. Additional outreach was attempted on December 19, 2020 and January 19, 2021 with no response from Mr. Rambo. On February 24, 2021, a

phone call was held with Colin Rambo and DWR to discuss the AB 52 Notification of Opportunity for Consultation sent to the Tejon Indian Tribe. On February 25, 2021, Mr. Rambo sent a follow up email indicating that the "…federal (FERC) consultation process adequately addressed all of Tejon's Project concerns/comments/etc…the Tejon Tribe is OK with NOT being a formal tribal consulting party under CEQA/AB 52 because the federal consultations were so robust and successful." Mr. Rambo further stated that, "all of Tejon's CEQA-level concerns (if any) can be easily addressed during the public comment period…". Mr. Rambo requested to be notified of the availability of the draft IS/MND.

On December 9, 2020, a follow-up phone call was made to the Tribal Administrator's office for the Tongva Ancestral Territorial Tribal Nation; however, the voicemail was full and was not accepting any new messages. A follow-up email sent on December 9, 2020, to the email address on file, which was undeliverable.

It has been made clear by Native American tribal contacts that the general vicinity of the proposed Project, along with the proposed Project area itself, has been used and occupied by Native Americans over a long period and the area is important to Native American groups today.

3.18.3 Environmental Impact Analysis

Would the proposed Project:

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21047 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

> **i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or**
>
> **ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Finding: Less Than Significant Impact

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a TCR is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a TCR would be materially impaired. The

significance of a TCR would be significantly impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a TCR that convey its significance and that justify its eligibility for inclusion in the NRHP, the CRHR, a local register of historical resources pursuant to PRC § 5020.1(k), or historical resources surveys meeting the requirements of PRC § 5024.1(g).

Implementation of the proposed Project would not impact any known TCR as no TCRs have been identified in the proposed Project boundary. However, previously unidentified TCRs may be inadvertently discovered during proposed ground-disturbing activities associated with the proposed recreation facilities upgrades or implementation of the PM&Es (i.e., Measures GS1 [Erosion and Sediment Control Plan], LU1 [Fire Prevention and Response Plan], TR2 [Sensitive Aquatic and Terrestrial Wildlife Management Plan], VR1 [Visual Resource Management Plan], WR2 [Hazardous Materials Management Plan], the RMP under Measure RR1, and the IVMP under Measure TR1). If these resources were to represent a TCR as defined by CEQA, an impact could occur if avoiding such impacts was not feasible. The current general assessment and avoidance measures outlined in Section 2.3.4.8 (Cultural Resources Protection Activities) include provisions for addressing inadvertent discoveries. These measures would not change under the proposed Project, and therefore, the potential impact to inadvertently discovered TCRs is considered less than significant.

As a standard practice, DWR implements general assessment and avoidance measures for ground disturbing activities and, thus, in combination with the findings of this impact analysis, the addition of the HPMP (PM&E Measure CR1) is not required to reduce a potential historic resource impact to less than significant. Although not necessary as mitigation given existing cultural resource protection practices, the HPMP further codifies comprehensive site protections and a mitigation strategy program that will be in place throughout the life of the new FERC license, as well as incorporates consultation with Native American tribes and agencies. Specifically, the HPMP contains specific measures regarding (among others): (1) avoidance procedures, (2) ongoing review and analysis of the O&M activities under the proposed Project, (3) the NRHP and CRHR evaluation of archaeological sites including TCP/TCRs, (4) the thresholds for when an activity becomes a new project or undertaking, and (5) procedures to be followed in the case of an inadvertent discovery of an archaeological resource including TCP/TCRs, or exposure of human remains (Licensees 2020).

Therefore, the proposed Project would result in a less-than-significant impact related to TCR.

3.18.4 Mitigation Measures

Based on the impact analysis (see Section 3.18.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Tribal Cultural Resources, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater, or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Regulatory Setting

The questions listed in the table above include references to utilities and service systems. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.19.1.1 Federal

Clean Water Act

Relevant to Utilities and Public Services, the CWA, sets forth national goals that waters will be “fishable [and] swimmable” (CWA § 101 [a][2]). To enforce the goals of the CWA, the EPA established the NPDES program. NPDES is a national program for regulating and administering permits for discharges to receiving waters, including non-point sources. Under § 1251 (b), Congress and the EPA must recognize and preserve the primary responsibilities and rights of States concerning the reduction of pollution in water resources.

Safe Drinking Water Act

The EPA established protective drinking water standards (40 CFR 141) for more than 90 contaminants. The legal limit for a contaminant reflects the level that protects human health and that water systems can achieve using the best available technology. This includes drinking water regulations issued since 1996 as amendments to the Safe Drinking Water Act that strengthen public health protection.

The Safe Drinking Water Act gives individual States the opportunity to set and enforce their own drinking water standards if the standards are at a minimum as stringent as the EPA's national standards.

3.19.1.2 State

State Drinking Water Codes (CCR Titles 22 and 17)

In the Water Code § 106.3, the State statutorily recognizes that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” The human right to water extends to all Californians, including disadvantaged individuals and groups and communities in rural and urban areas.

Porter Cologne Water Quality Control Act

The Porter Cologne Act is the principate law governing water quality regulation in California. Through the enforcement of the Porter Cologne Act, the nine RWQCBs and SWRCB determine the Beneficial Uses of the waters (surface and groundwater) of the State, establish narrative and numerical water quality standards, and initiate policies relating to water quality. The SWRCB and the RWQCBs are authorized to prescribe Waste Discharge Requirements for the discharge of waste, which may impact the waters of the State. Furthermore, the development of water quality control plans, or Basin Plans, is required by the Porter-Cologne Act to protect water quality. The SWRCB issues both general construction permits and individual permits under the auspices of the federal NPDES program.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective county plan. They must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to fines of up to $10,000 per day.

3.19.1.3 Local

The Los Angeles General Plan has several goals and polices that are related to utilities and services systems; however, none of these goals and policies are directly relevant to impacts related to the proposed Project.

3.19.2 Environmental Setting

The South SWP Hydropower consists mostly of undeveloped areas with service utility facilities (including associated infrastructure for water, wastewater, and solid waste) located within the Pyramid Lake Recreation Area. Water, wastewater, and solid waste management are provided and maintained by the Licensees in the Pyramid Lake Recreation Area including in day uses areas, campgrounds, and associated administrative structures. Water, wastewater, and solid waste facilities are limited to uses in powerplants, administrative buildings, public restrooms, campgrounds, and within the structures that are located in and around the Pyramid Lake Recreation Area. Additionally, SCE provides electricity services within the majority of Los Angeles County, including the South SWP Hydropower area (SCE 2020; Southern California Gas Company 2016). Electricity and localized natural gas needs are limited in recreation areas where there are existing lights and structures. The proposed Project consists of the continued operation of a power recovery facility which provides clean and reliable power and helps to offset the costs of transporting and delivering water to the southern California area.

3.19.3 Environmental Impact Analysis

Would the proposed Project:

a) Require or result in the relocation or construction of new or expanded water, wastewater, or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: No Impact

The proposed Project is the continued operation of a power recovery project; the Licensees do not propose to construct any new or relocate any existing water, wastewater, stormwater drainage, electrical, natural gas, or telecommunications facilities beyond that which currently exist at the South SWP Hydropower. The reduction in the overall proposed Project boundary would not result in any changes to utilities since there are no utilities in those areas. Any scheduled physical alteration of a facility within the proposed Project boundary would be for aesthetics or to improve accessibility (e.g., painting, recoating, handrails, slope improvements, etc.). Additionally, all proposed Project recreational facilities are owned and managed by the Licensees and/or the USFS. As such, the Licensees are responsible for maintaining and repairing all facilities and equipment associated with potable and non-potable (irrigation) water systems, management of wastewater in compliance with California RWCQB NPDES permits, Pyramid Lake Recreation Area's electrical distribution system, and waste disposal services. Therefore, as no additional demand for utilities would occur under the proposed Project and no impact would occur.

Given there would be no impact, the addition of the relevant PM&Es with provisions (e.g., stormwater drainage maintenance along roadways [Measure GS1– Erosion and Sediment Control Plan]), is not required to reduce the significance level. Related PM&Es (i.e., Measure GS1– Erosion and Sediment Control Plan), are not required to reduce a potential utility impact to a less than significant; therefore, no mitigation is required.

b) Have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Finding: Less Than Significant Impact

As discussed under question "a" above, the Licensees propose no changes to South SWP Hydropower operations that would affect water quantity. The proposed Project would continue to generate power using SWP water as it is delivered to DWR's water supply contractors in southern California. No local surface water would be used for power generation.

Additionally, the proposed recreation facility upgrades do not include expansions and thus would not trigger the need for additional water supply. Water for these sites would continue to be supplied by existing sources.

PM&Es under the proposed Project do not entail increases in water demand above baseline conditions. For example, the PM&E measure, Fire Prevention and Response Plan (i.e., Measure LU2), codifies existing practices, but it does not trigger increased water uses. Rather, emergency response under those plans would continue as it has under current operations and water supply needs for fire response would continue to be based on the fire conditions. Similarly, the rest of the PM&Es are protective measures that do not trigger increased use or water supply needs. The PM&Es, therefore, would not result in any substantial changes to water supplies. Given the above, impacts relating to water supply available to serve the proposed Project would be less than significant, with and without the PM&Es. No mitigation is required.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Finding: Less Than Significant Impact

The proposed Project does not include the construction of additional facilities that would affect wastewater treatment. Improvements to the recreation facilities as part of the proposed Project would not include increases in flows or capacity of wastewater treatment (i.e., at restrooms or structures) and no increases in flows or capacity would occur at any of the other facilities within the proposed Project boundary. Additionally, the proposed PM&Es for the proposed Project would not result in any substantial changes to wastewater capacity or increases in wastewater flows. Therefore, since no additional demand for wastewater treatment would occur, impacts to wastewater treatment capacity would be less than significant.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Finding: Less Than Significant Impact

The proposed Project would not result in substantial new sources of solid waste generation (i.e., increased capacities at campsites or large new construction activities); therefore, it would not result in any increases in solid waste that could be in excess of State or local standards or in excess of the capacity of local infrastructure. Waste generated within the proposed Project boundary would be managed similar to how it is managed under South SWP Hydropower conditions by following current management practices for trash receptacles and bins within day use areas, campsites, and the few structures that occur within the proposed Project boundary. These practices comply with DWR's waste control BMPs which do not result in solid waste generation in excess of State or local standards. The proposed recreation facilities upgrades are minor, located on existing facilities and do not entail large scale demolition or waste generation.

The ground disturbing PM&Es are generally site stabilization activities such as minor grading and revegetation and would not generate significant solid waste. As such the

proposed Project would have a less-than-significant impact on solid waste generation. Solid waste would not be developed in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. This impact would be less than significant.

Given the impact assessment above, additional mitigation is not required. Rather, the PM&E measure GS1 – Erosion and Sediment Control Plan, enhances the already compliant waste management measures for the ongoing erosion and sediment control activities within the proposed Project boundary.

In addition, the RMP (i.e., Measure RR1), includes the addition of waste receptacles, increased waste collection frequency, a litter control program, and signage to help reduce littering and litter accumulation around Pyramid Lake. The proposed Project would not result in increased waste generation beyond South SWP Hydropower conditions. Therefore, impacts related to the generation of solid waste in excess of State or local standards or in excess of local infrastructure would be less than significant with and without the PM&Es. There would be no substantial change from existing conditions and no mitigation is required.

e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Finding: Less Than Significant Impact

The South SWP Hydropower facility operations comply with all federal, State, and local management and reduction statues and regulations related to solid waste, including AB 939, which includes solid waste diversion requirements. Under the proposed Project, the Licensees would continue to operate the proposed Project as it has been historically. The proposed upgrades at the recreation sites, if waste is generated, would comply with AB 939. Therefore, the potential impact is considered to be less-than-significant.

3.19.4 Mitigation Measures

Based on the impact analysis (see Section 3.19.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to Utilities and Service Systems, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.20 WILDFIRES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
b) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
b) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Regulatory Setting

The questions listed in the table above include references to adopted emergency plans, State responsibility areas or lands classified as very high fire hazard severity zones, downslope flooding, and post-fire slope instability. As such, the following regulations, plans, and policies provide relevant definitions and regulatory context for the impact discussion that follows.

3.20.1.1 Federal

CFR Title 36, Chapter II, Part 261 discusses actions that are prohibited on Non-NFS lands and NFS lands that could result in fire damages to the NFS. These include: (a) carelessly or negligently throwing or placing any ignited substance or other substance that may cause a fire, (b) firing any tracer bullet or incendiary ammunition, (c) causing timber, trees, slash, brush, or grass to burn except as authorized by permit, (d) leaving fire without completely extinguishing it, (e) causing and failing to maintain control of a fire that is not a prescribed fire that damages the NFS, (f) building, attending, maintaining, or using a campfire without removing all flammable material from around the campfire adequate to prevent its escape, and (g) negligently failing to maintain control of a prescribed fire on Non-NFS lands that damages the NFS.

Executive Oder 13855 (December 21, 2018)

EO 13855 promotes active management of U.S. forests, rangelands, and other federal lands to improve conditions and reduce wildfire risk. The EO emphasizes that federal agencies must collaborate with State and local institutions and incorporate active management principles into all land management planning efforts in order to address the challenges of wildland fire.

Secretary Order 3374 – Implementation of the John D. Dingell, Jr. Conservation, Management, and Recreation Act (March 27, 2019)

Secretarial Order 3374 established a USDOI task force to facilitate the Implementation of the Dingell Act, which was established on March 12, 2019. The Dingell Act lays out provisions for various programs and activities affecting the management and conservation of natural resources on federal lands, to include wildland fire operations.

3.20.1.2 State

California State Responsibility Area Fire Safe Regulations (14 CCR, Division 1.5, Chapter 7, Subchapter 2) apply to State Responsibility Areas during the time of year designated as having hazardous fire conditions. CAL FIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard in all State Responsibility Areas. A State Responsibility Area is defined as the part of the State where CAL FIRE is primarily responsible for providing basic wildland fire protection assistance. Areas under the jurisdiction of local fire protection services are considered to be Local Responsibility Areas, and areas on federal lands are considered Federal Responsibility Areas.

During the fire hazard season, these regulations include the following: (1) restrict the use of equipment that may produce a spark, flame, or fire, (2) require the use of spark arrestors on any equipment that has an internal combustion engine, (3) specify requirements for the safe use of gasoline-powered tools in fire hazard areas, and (4) specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. CAL FIRE has primary responsibility for fire protection within State Responsibility Areas.

3.20.1.3 Local

Fire Protection

Fire Protection in Los Angeles County is provided by the Los Angeles County Fire Department. Fire protection in Los Angeles County is guided by policies and principles in the Los Angeles County 2035 General Plan (Los Angeles County 2015).

Emergency Evacuation Plans

DWR and LADWP each have their own South SWP Hydropower EAPs. These EAPs are routinely tested with key agencies including the BLM and the USFS. These EAPs include evacuation plans that are updated regularly and include, coordination with partnering agencies such as Los Angeles County, CAL FIRE, and other local, State, and federal agencies during an event that would trigger an emergency in the area.

3.20.2 Environmental Setting

The South SWP Hydropower is located in a hilly vegetated area of Los Angeles County within the vicinity of the ANF, LPNF, and Interstate 5. Numerous fires originate from Interstate 5. Most of the fire occurrences in the South SWP Hydropower area have historically had a range of wildfire occurrence variability, but there are areas (e.g., along the highway corridor) that have been identified as having excessive fire occurrence (USFS 2005).

According to CAL FIRE, the South SWP Hydropower is partially located in an area mapped as a Very High Fire Hazard Severity Zone, and partially within a High Fire Hazard Severity Zone. Quail Lake, Warne Powerplant, Castaic Powerplant, Elderberry Forebay Dam, lower portions of the Castaic Powerplant penstocks, the State lands surrounding Elderberry Forebay, and much of the Castaic Transmission Line are within the CAL FIRE State Responsibility Area (CAL FIRE 2020). The State Responsibility Area is the area of California where the State is financially responsible for the prevention and suppression of wildfires. The State Responsibility Area does not include lands within city boundaries or under federal ownership. CAL FIRE supports fire control and suppression within State Responsibility Areas of the South SWP Hydropower.

The South SWP Hydropower is also located partially within a Local Responsibility Area and Federal Responsibility Area (CAL FIRE 2020). Los Angeles County Fire Department and USFS are responsible for fire suppression in those areas designated as Local Responsibility Areas and Federal Responsibility Areas. NFS wildland fire suppression in the ANF (including lands adjacent to the Warne Powerplant, Pyramid Lake, Castaic Powerplant, and Elderberry Forebay) encompasses all activities included in containing and mitigating the damages of wildland fires caused by either natural or human means. This program also includes national support of fire and disaster teams in other areas of the country (USFS 2005).

As it relates to recreation in the South SWP Hydropower area, fire restrictions are currently in place, most notably Forest Order No. 05-01-20-11, which is closes off all

NFS lands within the ANF or San Gabriel Mountains National Monument to the public through April 1, 2022. (USFS 2020). Forest Order 05-01-20-05, Fire Restrictions prohibit fire (campfire, stove fire, smoking, any open flame) and discharging of a firearm, air rifle, or gas gun. Any fire restrictions (forest or regional) take precedent over the issuance of campfire permits. According to the ANF website, when fire restrictions are not in place, campfire permits are not required at developed Forest Service picnic areas or campgrounds, including Pyramid Lake Day Use Areas or campgrounds accessible to the public by motor vehicle (Emigrant Landing at Pyramid Lake, Frenchmans Flat) (USFS 2011). When restrictions are not in effect, visitors may use the stoves, fire pits, and campfire circles, which are provided, or their own liquid or gas fuel portable stoves as long as proper clearance is maintained. Additionally, visitors cannot build their own fire rings (USFS 2011).

3.20.3 Environmental Impact Analysis

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the proposed Project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Finding: No Impact

The proposed Project is located within a State Responsibility Area and is classified, in part, as having a very high fire severity rating where a potential impact could occur if the proposed Project were to substantially impair emergency response or emergency evacuation. Administrative changes associated with the proposed Project such as the proposed Project boundary adjustments, removal of the Warne Transmission Line, and the addition of Quail Detention Embankment, Primary Project Roads and a lake level gage. However, they do not include any property ownership changes and therefore, South SWP Hydropower adopted emergency response or evacuation plans for each property type, federal, State and local would remain the same. The proposed administrative changes would not impair an adopted emergency response or emergency evacuation plan.

Construction of recreational facility upgrades would be short term and temporary and would not impede access or emergency evacuation routes.

The proposed Project does not include new operation or routine maintenance activities. The implementation of these PM&Es will codify existing routine maintenance activities, would be required by the new FERC license, and thus are a part of the proposed Project as described in the Project Description section above. The PM&Es are primarily associated with erosion control, AIS controls, wildlife, vegetation, and historic properties protections. They do not entail removal of fire or evacuation access or elimination of existing fire prevention and protection measures, nor would they impede any existing access routes. The PM&Es would, therefore, not impair federal, State, or local emergency response and evacuation plans.

The proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. As a result, no impact would occur, and no mitigation is required.

PM&E Measures LU1 – Fire Prevention and Response Plan and LU2 – Project Safety Plan would codify and enhance the existing measures for fire control, fire prevention and response, and emergency evacuation for the proposed Project and therefore, no impact would occur and would result in a possible beneficial impact as a result.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Finding: Less Than Significant Impact

The assessment included herein applies to all recreationists and project staff that inhabit the site for work, camping, or day use recreation.

Administrative changes associated with the proposed Project, including the proposed Project boundary adjustments, removal of the Warne Transmission Line, and addition of the Quail Detention Embankment, Primary Project Roads, and a lake level gage would not exacerbate wildfire risks or expose project occupants, (e.g., recreationists) to pollutant concentrations from wildfires or uncontrolled spread of wildfire. These administrative changes are reconfiguring areas regulated by FERC rather than changing any South SWP Hydropower use that could result in human exposure to fire risk.

Recreation sites in the proposed Project are not located on steep topography; however, they currently are and will continue to be exposed to Santa Ana winds when such conditions prevail in southern California. The proposed Project does not entail expansion of recreation facilities or increased exposure of recreationists or staff to fire-related pollutants or uncontrolled fire risks. The proposed recreation facility upgrades are not intended to increase capacity. The anticipated new FERC license-required PM&Es do not entail activities that would put people at increased risk of wildfire pollution exposure or uncontrolled wildfire. Rather, they are to ensure safety, protect wildlife, vegetation, and cultural resources, or reduce erosion. As such, the potential impact from administrative changes, recreation site upgrades, and PM&Es is considered to be less than significant, and no mitigation is required.

PM&E Measures LU1 – Fire Prevention and Response Plan and LU2 – Project Safety Plan would codify and enhance the existing measures for fire control, fire prevention and response, and emergency evacuation and are expected to and thus, would result in a less-than significant and possible beneficial impact.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Finding: Less Than Significant Impact

The Licensees and associated fire protection agencies already maintain existing powerlines, roads, and fuel breaks. The proposed Project does not entail the installation of such new features. More specifically, the proposed administrative changes, such as the proposed Project boundary adjustment and addition of Primary Project Roads, do not entail the addition of newly constructed infrastructure or the change of fire protection responsibilities and, therefore, would not exacerbate fire risk causing potential fire-related impacts to the environment.

Recreational facility upgrades entail improvements to existing infrastructure with associated temporary increases in contractor traffic and equipment use above baseline conditions. In addition, upgrades or the installation of barriers to reduce dispersed recreation use may occur in vegetated areas where fire risk is higher. That said, the Licensees already implement fire protection measures to keep fire risks from routine maintenance and associated construction activities low. These measures would be codified in the new FERC license required PM&Es. Therefore, with the continuation of existing fire protection measures, the work at and around recreation facilities for planned improvements should result in a less-than-significant change in fire risk and fire-associated environmental impacts.

PM&E Measures LU1 – Fire Prevention and Response Plan and LU2 – Project Safety Plan would codify and enhance the existing measures for fire control, fire prevention and response, and emergency evacuation and are expected to further reduce the level of this impact.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Finding: Less Than Significant Impact

Administrative changes entail, for example, the adjustment of the proposed Project boundary to encompass only areas where there are hydropower and recreation activities. This adjustment in the size of the area regulated by FERC would not expose people to post-fire risks because there are no occupants in the areas excluded from the proposed Project boundary; the proposed change does not change the land ownership and, thus, wildfire and post-wildfire management responsibilities remain unchanged.

The recreation facility upgrades do not entail capacity expansions and operation of these facilities would continue to comply with the relevant fire codes. The proposed Project could include a minor increase in the amount of impervious surfaces and therefore, further contribute to post-fire runoff. These impervious surface additions

would result from the addition of concrete pads associated with recreational facility upgrades, thereby contributing to post-wildfire runoff. However, this increase would be negligible over the entire proposed Project boundary. As such, the recreation facility upgrades do not expose people or structures to significant wildfire or post-wildfire risks beyond existing conditions.

The operation and routine maintenance activities are not proposed to change with the exception of the anticipated inclusion of required PM&Es in the new FERC license.

The ground disturbing PM&Es are generally focused on site stabilization and would not expose people or structures to significant risk from flooding or landslides.

As such, the administrative changes, recreation upgrades, and PM&Es do not increase the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. This potential impact is considered to be less than significant, and no mitigation is required.

The application of PM&Es such as the Erosion and Sediment Control Plan (i.e., Measure GS1 – Erosion and Sediment Control Plan) codify existing erosion and sediment control BMPs post disturbance and, therefore, continue the current slope stability and erosion control practices rather than exacerbate instability or run-off issues.

The proposed Project would have a less-than-significant impact on wildfire induced flood and landslide risk on populations, with and without the relevant PM&E measures (i.e., Measure GS1– Erosion and Sediment Control Plan).

3.20.4 Mitigation Measures

Based on the impact analysis (see Section 3.20.3 [Environmental Impact Analysis]), the proposed Project's potential impacts to the risk of Wildfires, when analyzed with and without the related PM&Es, are considered less than significant. Therefore, no mitigation is required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulative considerable? (“Cumulative considerable” means that the incremental impacts of a project are considerable when viewed in connection with the impacts of past projects, the impacts of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental impacts which will cause substantial adverse impacts on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 Environmental Impact Analysis

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Finding: Less Than Significant Impact

The proposed Project's potential to degrade the quality of the environment was assessed throughout Section 3.0 (Environmental Checklist and Environmental Evaluation) of this IS/MND. Potential environmental degradation in all sections, including biological resources and cultural resources, was determined to be less than significant since the proposed Project would continue the current South SWP Hydropower O&M and associated protective measures. For example, the hydropower generation would remain consistent with current conditions under the proposed Project. The water levels and releases would also be managed as they are under current conditions, with minor exception to the modified multiplier and relatively non-significant increase to releases. The recreation improvements do not entail increases in capacity. In addition, recreational use has declined since the 1980s.

The potential impacts of the proposed Project were assessed with and without the PM&E measures included in the proposed Project design. PM&Es were also separately evaluated for their potential to degrade the environment (including biological and cultural resources) and were not found to result in a potentially significant impact, and thus, no mitigation is required.

The above analysis determined that the proposed Project PM&Es would not be required as mitigation measures under CEQA to offset the proposed Project's potentially significant impact because the relevant impacts were determined to be less than significant. This includes the following possibilities: degradation of the environment, reduction of fish or wildlife habitat, fish, or wildlife population reduction to below self-sustaining levels, plant or animal community extirpation, endangered plant or animal range reduction, or loss of California history or prehistory data. Rather, the PM&Es would codify and enhance South SWP Hydropower practices. The PM&Es include measures and operational plans intended to further protect environmental resources beyond the simple continuation of current practices, even if the relevant impacts are determined to be less than significant under CEQA. Specifically, these PM&Es include protection of sensitive species, habitats, cultural resources, historical resources, and other environmental resources as described in Section 2.0 (Project Description). The following PM&E's, while not required to reduce a potentially significant effect to a less-than-significant level, include proposed Project actions that protect or enhance the quality of the environment within the proposed Project boundary:

- Measure WR1, Pyramid Lake Water Surface Elevations, maintains current minimum pool elevations and limits WSE fluctuations into Pyramid Lake, which benefits both fisheries and recreation.

- Measure WR2, Hazardous Materials Management Plan, requires proper handling of hazardous materials in a way to limit accidental runoff or releases that could negatively impact water quality.

- Measure AR1, Flow Releases into Pyramid Reach, maintains current and ongoing minimum flows from Pyramid Lake into Pyramid reach which protects water quality.

- Measure AR2, Pyramid lake Fish Stocking Measure, includes a continuation of regular stocking of fish in Pyramid Lake to maintain trout recreational fisheries with regular surveying creels.

- Measure GS1, Erosion and Sediment Control Plan, provides procedures that limits erosion and sedimentation from entering waterways through continued implementation of stormwater and bank stabilization controls which in turn prevents the loss or degradation of aquatic and terrestrial habitat.

- Measure TR1, IVMP, outlines procedures and methods that help control the spread of non-native invasive plant species through surveying, documentation, avoidance, and long-term management which limits the potential for extinctions of native plants and animals, promotes biodiversity, and prevents competition with native organisms for limited resources and alteration of habitats. Additionally, the IVMP provides barriers and other minor modifications and protections that prevent impacts to cultural and historical resources during proposed Project O&M activities, such as facility management, Primary Project Road maintenance, and vegetation management at recreation sites within the proposed Project boundary.

- Measure TR2, Sensitive Aquatic and Terrestrial Wildlife Management Plan, provides guidance to enable protections for wetlands, riparian, and other sensitive habitats, protections of sensitive species pre-construction survey requirements, protection of avian resources, and pesticide use guidelines.

- Measure LU1, Fire Protection and Response Plan, outlines procedures that can lead to protection of habitats, species and other resources from risks related to wildfires.

- Measure CR1, HPMP, provides guidelines for the management of historic properties including cultural and tribal resources and historical resources and includes guidance on the installation of barriers and other minor modifications and protections that prevent impacts to cultural and historical resources during proposed Project O&M activities.

When compared to existing baseline South SWP Hydropower conditions, the proposed Project includes no new mechanisms that would reasonably degrade the quality of the existing environment, substantially reduce existing habitat for fish or wildlife species, cause an existing fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate an existing plant or animal community. Furthermore, as discussed in Section 3.5 (Biological Resources), the proposed Project would not reduce the number or restrict the range of existing rare or endangered plant or animal species. No removal or encroachment of existing habitats beyond what currently exists on the site is anticipated as a result of implementation of the new FERC license. Additionally, as discussed in Section 3.6 (Cultural Resources), the proposed Project boundary has identified and anticipated important historic and archaeological resources, which would be avoided, so the proposed Project would help preserve examples of the major periods of California history and prehistory. Construction and ground disturbance as a result of the proposed Project would be limited in nature and occur within previously disturbed areas.

As a result, the proposed Project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history and prehistory. Therefore, the impact is less than significant.

b) Does the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental impacts of a project are considerable when viewed in connection with the impacts of past projects, the impacts of other current projects, and the effects of probable future projects)?

Finding: Less Than Significant Impact

A cumulative impact could occur if the proposed Project would result in an incrementally considerable contribution to a significant cumulative impact when factoring in past, present, and reasonably foreseeable future projects for each resource area.

Past, present, and reasonably foreseeable projects in the geographic and temporal scope of the proposed Project include, future restoration, grazing, fuel break and maintenance, road maintenance, and wireless communication projects within the ANF, as well as community building projects, such as the Centennial development within Los Angeles County. These projects would be localized in nature and would be required to comply with all federal, State, and local laws as they pertain to their relative jurisdictions. No direct significant impacts were identified for the proposed Project that could not be mitigated to a less-than-significant level, and when considered with other projects within the vicinity, it is not anticipated that the proposed Project would result in a contribution to any potentially significant cumulative impacts associated with these projects for the following reasons:

- The proposed Project would have no impact on agriculture and forestry resources, mineral resources, and population and housing.

- The proposed Project would have less-than-significant impacts on aesthetics, biological resources, cultural resources, greenhouse gas emissions, energy resources, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation, tribal resources, utilities and service systems, and wildfires.

    - When considered with past, present, and reasonably foreseeable future projects the overlapping geographic scope of these resources are limited, and the proposed Project would not have a considerable contribution to a cumulative impact. As a result, cumulative impacts related to these resources would not occur.

- Geology and soils impacts that are generated by construction activities would be short-term and limited as work crews and construction layouts would be relatively small and would include very few additional trips by construction workers traveling to the site. Construction would be short in duration; occur on mostly developed, paved areas, and needed to perform recreation improvements. These impacts could be compounded if construction were to occur at the same time or in a similar general area as the past, present, and reasonably foreseeable projects; however, the limited nature of construction activities for the proposed Project would not considerably contribute to any potential cumulative impacts. Additionally, operational impacts would be consistent with the South SWP Hydropower operations under the new FERC license and would not have the potential result in substantial impacts.

As a result, potential proposed Project impacts, when combined with these cumulative projects, would not result in cumulatively considerable impacts. Therefore, cumulative impacts would be considered less than significant. The less-than-significant, cumulative impact persists with and without the application of PM&E measures.

c) Does the project have environmental impacts which will cause substantial adverse impacts on human beings, either directly or indirectly?

Finding: Less Than Significant Impact with Mitigation

The potential impacts of the proposed Project would not cause substantial adverse impacts on human beings, either directly or indirectly, for the reasons listed below.

- The potential impacts of the proposed administrative changes on the environment were assessed throughout Section 3.0 (Environmental Checklist and Environmental Evaluation) of this document. These changes were, in general, found not to have environmental impacts, and thus, would not entail resultant substantial changes to human beings.

- The proposed Project O&M activities would remain relatively consistent with South SWP Hydropower practices. The risk of upset or facility failure was addressed in the Geology and Soils, Hydrology and Water Quality, Hazards and Hazardous Materials, and the Wildfires sections of this document. These potential risks of failure were determined to have a low probability and considered not to be a substantial adverse risk of impact to human beings. The dams must meet stringent FERC and DSOD safety requirements and the South SWP Hydropower facilities are required to meet FERC safety requirements.

- The proposed Project improvements to South SWP Hydropower facilities, including the recreation facility upgrades, were also analyzed in Section 3.0 (Environmental Checklist and Environmental Evaluation) of this document and were found to have less-than-significant impacts on the environment. These impacts included temporary disturbance, traffic, noise, and other temporary construction impacts which were found to be limited in size and duration. As a result, they would not cause substantial adverse impacts on human beings. As such, this potential impact is considered to be less than significant.

- However, the 2005 EIR identified a potentially significant impact due to the potential for exposing people or structures to a risk of loss, injury or death involving flooding hazards from peak natural flow releases associated with extreme storm events under the operating guidelines of Article 52 of the existing FERC license. The EIR included Mitigation Measure H-8 (herein referred to as Mitigation Measure MAND-1 in this document) to reduce this impact to a less-than-significant level. Under Mitigation Measure MAND-1, DWR developed a Flood Warning System and Signage Plan that was approved by the SWRCB and FERC. The plan includes a flood warning system for Pyramid Dam natural flow releases that provides for the maintenance of warning signs at several downstream locations in the Pyramid reach and notification procedures for changes in stream releases. Under the proposed Project, DWR is proposing to incorporate the components of the plan under the Project Safety Plan (i.e. Measure LU2), which is a PM&E measure that was proposed in the FLA. The continued implementation of the Flood Warning System and Signage Plan components under the Project Safety Plan will maintain this impact at a less-than-significant level.

3.21.2 Mitigation Measures

3.21.2.1 Mitigation Measure MAND-1: Development of Flood Warning Signage

The following measure from the 2005 EIR (i.e., Mitigation Measure H-8) shall be implemented for the proposed Project:

> *The [DWR] shall work with the USFS and landowners to develop a warning system and place signage warning the public of dangerously high flows in middle Piru Creek.*

Mitigation Measure MAND-1 Implementation

Responsible Party: DWR

Timing: Ongoing and as soon as possible.

Monitoring and Reporting Program: All consultations with the USFS and landowners shall be documented by DWR and kept on file at DWR offices. Documentation of warning signage implemented shall be kept on file in the form of a memorandum.

Standards for Success: The public shall be effectively notified and warned of potential flooding dangers and the signage and warning systems shall reduce the risk of injury or death from potential flooding in Piru Creek.

4.0 LIST OF PREPARERS

Table 4.0-1 below lists persons that were principally responsible for preparation of this Draft IS/MND.

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5.0 REFERENCES CITED

5.1 REFERENCES CITED – SECTION 1.0 INTRODUCTION

None.

5.2 REFERENCES CITED – SECTION 2.0 PROJECT DESCRIPTION

California Department of Water Resources (DWR). 2019. i003_Proposed_Project_Boundary_SouthSWP_20181210. Prepared by Nathan Buchholz, DWR – Geodetic Branch – Property Management, Land Surveyor. Published on January 4, 2018.

_____. 2018. Final Survey Report, Pyramid Lake Capacity Table Report, by DWR, Division of Engineering – Geodetic Branch – Mapping Section. September 11, 2018.

_____. 2015a. Exhibit 1, Southern Field Division Maintenance Area. May 2015.

_____. 2015b. State Water Project Routine Grab Sampling Schedule. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Water-Quality/Documents/Routine_Sampling_Schedule_070617.pdf?la=en&hash=FFC5F292CCA0CFF8105637E7C5B377EB503B2D48. Accessed: November 11, 2018.

_____. 2014. South SWP Hydropower Project Public Safety Plan.

_____. 2013. Trout stocking program, July 2006 through June 2012 biennial reports. Prepared by T. Veldhuizen and J. Worsley, DWR. December 2013. 27 pp.

_____. 2010. The Quagga and Zebra Mussel Rapid Response Plan for the State Water Project. 93 pp. CONFIDENTIAL/PRIVILEGED/Critical Energy Infrastructure Information – Not for Public Distribution.

_____. 2004. Draft Environmental Impact Report for the simulation of natural flows in Middle Piru Creek. November 2004. Prepared by Aspen Environmental Group for California Department of Water Resources. State Clearinghouse number 2004051123. 319 pp.

_____.1980. Piru Creek fishery enhancement plan. District Report. State of California, The Resources Agency, DWR, Southern District. June 1980. 32 pp.

California Legislative Information. 2019. Assembly Bill (AB) No. 834, Chapter 354. Available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB834#:~:text=The%20bill%20would%20require%20the%20state%20board%2C%20on%20or%20before,state%20board%20related%20to%20harmful. Accessed: January 5, 2021.

California Water Quality Monitoring Council. 2021. Available at: https://mywaterquality.ca.gov/habs/resources/habs_response.html. Accessed: January 2021.

Federal Energy Regulatory Commission (FERC). 2014. Managing Hydropower Project Exhibits, Guidance Document. August 2014.

_____. 2012. 138 FERC Paragraph 62,105. Order Amending October 28, 2009 - Order Amending Article 52 and Exhibit S. Issued on February 10, 2012.

_____. 2004. Final Exhibit E. Santa Felicia Project Relicensing (Project 2153). Section 2.4, Appendix B.

_____. 2000. Order Modifying and Approving Castaic Lake Trout Stocking Plan. Issued on June 12, 2000.

_____. 1999. Order Modifying and Approving Amendment to Exhibit S (89 FERC Paragraph [¶] 62,066; 2426-144; Issued on October 25, 1999).

General Electric (GE) Digital Energy. 2014. GE Digital Energy, Synchronous Condenser Systems. Available at: https://www.gegridsolutions.com/products/brochures/powerd_vtf/synch_cond_web.pdf. Accessed: November 16, 2020.

Richter, Andrew. 2008. Pacific Northwest Aquatic Invasive Species Profile, Quagga Mussel (*Dreissena bugensis*). December 3, 2008. Available at: https://depts.washington.edu/oldenlab/wordpress/wp-content/uploads/2013/03/Dreissena-bugensis_Richter.pdf. Accessed: February 25, 2021.

State of California. 2012. “California Fire Prevention Fee.” Available at: www.firepreventionfee.org/sraviewer.php. Accessed: August 17, 2015.

U.S. Department of Agriculture, Forest Service (USFS). 2013. Environmental Assessment, Santa Clara Watershed Invasive Plant Treatment Project. Available at: https://www.fs.usda.gov/nfs/11558/www/nepa/67356_FSPLT3_1458789.pdf. Accessed: January 20, 2021.

_____. 2011a. Santa Clara/Mojave Rivers Ranger District Picnic Areas. Issued on July 2011. Available at: https://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5313941.pdf. Accessed: January 20, 2021.

_____. 2011b. FSM 2900 - INVASIVE SPECIES MANAGEMENT. Available at: https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsm?2900!. Accessed: January 20, 2021.

_____. 2005a. Final Environmental Impact Statement, Volume 2 (Appendices) Land Management Plans: ANF, Cleveland National Forest, LPNF, SBNF. USFS, Pacific Southwest Region. September 2005.

_____. 2005b. Land Management Plan Part 2, ANF Strategy. U.S. Department of Agriculture, Forest Service. Pacific Southwest Region. R5-MB-076. September 2005.

_____. 2005c. Land Management Plan Part 2, LPNF Strategy. U.S. Department of Agriculture, Forest Service. Pacific Southwest Region. R5-MB-078. September 2005.

_____. 2001. The Built Environment Image Guide, For the National Forests and Grasslands. USDA Forest Service FS-710. September 2001.

U.S. Fish and Wildlife Service (USFWS). 2020. Letter to DWR California State Water Project Hydropower, unincorporated Los Angeles and Ventura Counties, California, (FERC Project No. 2426). October 27, 2020.

5.3 REFERENCES CITED – SECTION 3.0 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

5.3.1 References Cited – Section 3.1 Introduction

Los Angeles County Department of Regional Planning. 2009. Santa Clarita Valley Area Plan – Website. Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan. Accessed: October 21, 2020.

U.S. Department of Agriculture, Forest Service (USFS). 2005a. Land Management Plan Part 2, ANF Strategy. U.S. Department of Agriculture, Forest Service. Pacific Southwest Region. R5-MB-076. September 2005. Accessed: February 25, 2021.

_____. 2005b. Land Management Plan Part 2, LPNF Strategy. U.S. Department of Agriculture, Forest Service. Pacific Southwest Region. R5-MB-078. September 2005. Accessed: February 25, 2021.

_____. 2005c. Land Management Plan. Part 1 – Southern California National Forests Vision. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev7_007721.pdf. Accessed: August 2020.

U.S. Department of the Interior, Bureau of Land Management (BLM). 2016. The Federal Land Policy and Management Act of 1976, as amended. U.S. Department of the Interior, Bureau of Land Management, Office of Public Affairs. Washington, D.C. 106 pp.

5.3.2 References Cited – Section 3.2 Aesthetics

California Department of Transportation (Caltrans). 2013. Scenic Highway Routes: Caltrans Landscape Architecture Program. Eligible and Officially Designated Routes. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/cahisys.htm. Updated on December 19, 2013. Accessed: June 4, 2018.

Los Angeles County Department of Regional Planning. 2015. Antelope Valley Area Plan: Town and Country. Los Angeles, California. June 2015.

_____. 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Los Angeles, California.

U.S. Department of Agriculture, Forest Service (USFS). 2005. Land Management Plan Part 3, Design Criteria for the Southern California National Forests. Pacific Southwest Region. R5-MB-080. September 2005.

U.S. Department of the Interior, Bureau of Land Management (BLM). 1994. South Coast Resource Management Plan and Record of Decision. California Desert District, Palm Springs-South Coast Resource Area. Riverside, California. June 1994.

5.3.3 References Cited – Section 3.3 Agriculture and Forestry Resources

California Department of Conservation (DOC). 2020. Farmland Mapping and Monitoring Program. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed: September 2020.

Los Angeles County. 2020. GIS-NET, Planning and Zoning Information for Unincorporated Los Angeles County. Available at: https://rpgis.isd.lacounty.gov/Html5Viewer/index.html?viewer=GISNET_Public.GIS-NET_Public. Accessed: September 2020.

_____. 2017. Los Angeles County Crop and Livestock Report 2017. Available at: http://file.lacounty.gov/SDSInter/acwm/1052741_2017FINALCROPREPORT.pdf. Accessed: September 2020.

_____. 2014. Agricultural Resources Areas. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-5_agricultural_resource_policy.pdf. Accessed: September 2020.

5.3.4 References Cited – Section 3.4 Air Quality

California Air Resources Board (CARB). 2016. Ambient Air Quality Standards. Last updated May 4, 2016. Available at: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed: August 2020.

_____. 2013. The California Almanac of Emissions and Air Quality. California Air Resources Board. Available at: https://ww2.arb.ca.gov/our-work/programs/resource-center/technical-assistance/air-quality-and-emissions-data/almanac. Accessed: August 2020.

South Coast Air Quality Management District (SCAQMD). 2020. CEQA Localized Significance Thresholds. Available at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed: October 2, 2020.

_____. 2016. Guidance Document, Chapter 2: Air Quality Issues Regarding Land Use. Available at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/chapter-2---air-quality-issues-regarding-land-use.pdf. Accessed: January 13, 2020.

_____. 1993. CEQA Air Quality Handbook. Available at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook. Accessed: February 7, 2021.

5.3.5 References Cited – Section 3.5 Biological Resources

Adams A.J., A.P. Pessier, and C.J. Briggs. 2017. Rapid extirpation of a North American frog coincides with an increase in fungal pathogen prevalence: Historical analysis and implications for reintroduction. Ecology and Evolution 7:10216–10232. Available at: https://doi.org/10.1002/ece3.3468. Accessed: December 11, 2018.

Brandt, Joseph., Wildlife Biologist, U.S. Fish and Wildlife Service. 2020. Personal communication and unpublished data provided by email attachment to Lisa Lee, California Department of Water Resources. June 12, 2020.

California Department of Fish and Wildlife (CDFW). 2020a. California Natural Diversity Database (CNDDB) QuickView Tool in BIOS 5. Last updated September 11, 2020. CDFW, Sacramento, CA. Available at: <https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018410-cnddb-quickview-tool>. Accessed: September 11, 2020.

_____. 2020b. Natural Community Conservation Planning. Last updated 2020. CDFW, Sacramento, CA. Available at: <https://wildlife.ca.gov/Conservation/Planning/NCCP>. Accessed: December 17, 2020.

_____. 2020c. CNDDB in BIOS. Last updated August 19, 2020. CDFW, Sacramento, CA. Available at: <https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018408-cnddb-in-bios>. Accessed: August 19, 2020.

_____. 2020d. CNDDB RareFind 5. Last updated September 14, 2020. CDFW, Sacramento, CA. Available at: <https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018407-rarefind-5>. Accessed: September 14, 2020.

_____. 2017a. Species of Special Concern. Available at: https://www.wildlife.ca.gov/Conservation/SSC. Accessed: January 2021.

_____. 2017b. Fully Protected Animals. Available at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html. Accessed: January 2021.

_____. 2016. Wildlife Linkages - CDFW. Last updated June 2016. CDFW, Sacramento, CA. Available at: <https://map.dfg.ca.gov/metadata/ds1005.html>. Accessed: September 21, 2020.

_____. 2014a. Essential Connectivity Areas. Last updated April 28, 2014. CDFW, Sacramento, CA. Available at: <https://map.dfg.ca.gov/metadata/ds0623.htmll>. Accessed: September 21, 2020.

_____. 2014b. Landscape Blocks - CDFW. Last updated October 28, 2014. CDFW, Sacramento, CA. Available at: <https://map.dfg.ca.gov/metadata/ds1004.html>. Accessed: September 21, 2020.

_____. 2013. Lake Pyramid Fall 2013 General Fish Survey. Inland Fisheries Division Reservoir Research Project South Coast Region. October 22, 2013. 20 pp.

California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) (Licensees). 2020. South SWP Hydropower Relicensing, FERC Project Number 2426. Final License Application, Exhibit E-Environmental Report. January 2020. Available at: http://south-swp-hydropower-relicensing.com/license/. Accessed: February 7, 2021.

_____. 2018a. South SWP Hydropower Relicensing Studies – Special-Status Raptors Study: California Condor Observation (KMZ). Documented on February 22, 2018, by K. Pringle (Stantec).

_____. 2018b. South SWP Hydropower Relicensing Studies – Special-Status Raptors Study: California Condor Observation (Photolog). February 22, 2018. Documented on February 28, 2018, by K. Pringle (Stantec).

_____. 2018c. Incidental Sightings of Raptors & Sensitive Wildlife Observed Within and Adjacent to Devil Canyon Project and South SWP Hydropower FERC Boundaries. May 14, 2018.

_____. 2018d. South SWP Hydropower Relicensing Studies – Special-Status Raptors Study: Incidental observation of one adult and two juvenile California condor noted on June 9, 2018, by J. Rodriguez (LADWP); observation recorded and submitted to CNDDB in April 2018 by J. Holson (Stantec).

California Legislative Information. 2021a. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=3503&lawCode=FGC. Accessed: February 1, 2021.

_____. 2021b. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=3503.5&lawCode=FGC. Accessed: February 1, 2021.

_____. 2021c. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=3800&lawCode=FGC. Accessed: February 1, 2021.

California Native Plant Society (CNPS). 2020. Technical Memorandum – Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis. Available at: https://www.cnps.org/wp-content/uploads/2020/02/crpr4_technical_memo.pdf. Accessed: March 19, 2021.

_____. 2019. Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available at: http://www.rareplants.cnps.org. Accessed: December 2019.

California Natural Diversity Database (CNDDB). 2021. Special Vascular Plants, Bryophytes, and Lichens List. January 2012. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline=1. Accessed: January 4, 2021.

Dickard, M., M. Gonzalez, W. Elmore, S. Leonard, D. Smith, S. Smith, J. Staats, P. Summers, D. Weixelman, S. Wyman. 2015. Riparian area management: proper functioning condition assessment for lotic areas. Technical Reference 1737-15. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO. Available at: https://efotg.sc.egov.usda.gov/references/public/CO/TR_1737-15.pdf. Accessed: February 7, 2021.

Dudek. 2020. 2020 Middle Piru Creek Arroyo toad and sensitive species monitoring. October 2020. Prepared for California Department of Water Resources, Sacramento, CA.

Durst, S.L., M.K. Sogge, H.C. English, H.A. Walker, B.E. Kus, and S.J. Sferra. 2008. Southwestern willow flycatcher breeding site and territory summary – 2007. U.S. Geological Survey, Colorado Plateau Research Station, Flagstaff, Arizona.

eBird. 2020a. Pyramid Lake Forebay Sightings. Last updated September 25, 2020. Available at: <https://ebird.org/hotspot/L464935>. Accessed: September 25, 2020.

_____. 2020b. Quail Lake Sightings. Last updated September 25, 2020. Available at: <https://ebird.org/hotspot/L464935>. Accessed: September 25, 2020.

Federal Energy Regulatory Commission (FERC). 2008. Final Environmental Assessment re: Amendment to License California Aqueduct Project Number 2426-197. June 2008. 113 pp.

Halterman, M.D., M.J. Johnson, J.A. Holmes and S.A. Laymon. 2016. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-Billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods. May 2016. 49 pp.

Jennings, Mark R. and Marc P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, published November 1, 1994.

Los Angeles County. 2015. 2035 General Plan. Last updated October 6, 2015. Los Angeles, CA. Available at: <http://planning.lacounty.gov/generalplan>. Accessed: October 18, 2020.

Los Angeles County Department of Regional Planning. 2012. Santa Clarita Valley Area Plan. Last updated November 27, 2012. Available at: < http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf>. Accessed: October 18, 2020.

Los Padres ForestWatch. 2019. Crotch's bumblebee. Last updated 2019. Los Padres ForestWatch, Santa Barbara, CA. Available at: <https://lpfw.org/our-region/wildlife/crotchs-bumblebee/>. Accessed: December 18, 2020.

_____. 2013. Ring-tailed Cat. Last updated 2013. Los Padres ForestWatch, Santa Barbara, CA. Available at: <https://lpfw.org/our-region/wildlife/ring-tailed-cat/>. Accessed: September 24, 2020.

Madden, M.C., J.Q. Richmond, and R.N. Fisher. 2019. Draft Final: Avian point counts and assessment of least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax trailii extimus*) in fire affected areas of Piru and San Francisquito Creeks, 2018.

Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game Sacramento, California. 166 pp.

Nafis, Gary. 2020. California Herps: A Guide to Reptiles and Amphibians of California. Last updated 2020. Available at: <http://www.californiaherps.com/>. Accessed: August 19, 2020.

NatureServe Explorer. 2020a. *Plebulina emigdionis*. Last updated September 4, 2020. Available at: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.109555/Plebulina_emigdionis>. Accessed: September 14, 2020.

_____. 2020b. *Ensatina eschscholtzii croceater*. Last updated September 4, 2020. Available at: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100958/Ensatina_eschscholtzii_croceaters>. Accessed: September 14, 2020.

Penrod, K., C.R. Cabanero, P. Beier, C. Luke, W. Spencer, and E. Rubin. 2005. South Coast Missing Linkages Project: A Linkage Design for the Sierra Madre-Castaic Connection. South Coast Wildlands. March.

POWER Engineers, Inc. (POWER). 2012. Biological assessment for the Barren Ridge Renewable Transmission Project. Prepared for LADWP. May 2012.

Prichard, D., F. Berg, W. Hagenbuck, R. Krapf, R. Leinard, S. Leonard, M. Manning, C. Noble, J Staats. 2003. Riparian area management: A user guide to assessing proper functioning condition and the supporting science for lentic areas. Bureau of Land Management, National Applied Research Science Center, Technical Reference 1737-16, Denver, Colorado. Available at: https://www.blm.gov/or/programs/nrst/files/Final%20TR%201737-16%20.pdf. Accessed: February 7, 2021.

Sandburg, N.H. 2006. Middle Piru Creek arroyo toad (*Bufo californicus*) clutch surveys 2005. Prepared for DWR.

South Coast Wildlands. 2008. South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion. Available at: <http://www.scwildlands.org/reports/scmlregionalreport.pdf>. Accessed: February 7, 2021.

State Water Resources Control Board (SWRCB). 2021. California Water Boards: State Water Resources Control Board/Regional Water Quality Control Boards, Porter-Cologne Water Quality Control Act, Water Code Division 7 and Related Sections (As amended, including Statutes 2020). January 2021. Available at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf. Accessed: February 7, 2021.

Swift, C. C., T. R. Haglund, M. Ruiz, and R. N. Fisher. 1993. The status and distribution of the freshwater fishes of Southern California. Bulletin of the Southern Academy of Sciences 92:101-167.

Thomson, Robert C., Wright, Amber N., and Shaffer H. Bradley. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press Berkeley, CA.

U.S. Department of Agriculture, Forest Service (USFS). 2013. Region 5 Regional Forester's Sensitive Animal Species List for the Angeles and Los Padres National Forest. Last updated 2013. NFS, Pacific Southwest Region. Available at: <https://www.fs.usda.gov/main/r5/plants-animals/wildlife>. Accessed: August 19, 2020.

_____. 2005a. Angeles National Forest Land Management Plan. September 2005. Available at: https://www.fs.usda.gov/main/angeles/landmanagement/planning. Accessed: October 21, 2020.

_____. 2005b. Los Padres National Forest Land Management Plan. September 2005. Available at: https://www.fs.usda.gov/main/lpnf/landmanagement/planning. Accessed: October 21, 2020.

U.S. Fish and Wildlife Service (USFWS). 2021a. Available at: https://www.fws.gov/endangered/improving_ESA/regulation-revisions.html. Accessed: February 1, 2021.

_____. 2021b. Regulations Governing Take of Migratory Birds. Federal Register, Vol. 86, No. 4. 50 CFR Part 10. Posted by the Fish and Wildlife Service on January 6, 2021. Available at: https://www.regulations.gov/document/FWS-HQ-MB-2018-0090-14240. Accessed: March 12, 2021.

_____. 2020a. Letter to DWR California State Water Project Hydropower, unincorporated Los Angeles and Ventura Counties, California, (FERC Project No. 2426). October 27, 2020.

_____. 2020b. Environmental Conservation Online System (ECOS). Habitat Conservation Plans. Last updated 2020. Available at: https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=9&type=HCP. Accessed: December 17, 2020.

_____. 2020c. Information for Planning and Consultation (IPaC). Last updated September 17, 2020. USFWS, Sacramento CA. Available at: <https://ecos.fws.gov/ipac/>. Accessed: September 17, 2020.

_____. 2020d. USFWS Critical Habitat Mapper. Last updated September 17, 2020. USFWS, Sacramento CA. Available at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed: September 17, 2020.

_____. 2018. Recovery Plan for marsh sandwort (*Arenaria paludicolu*) and Gambel's watercress (*Rorippa gabelii*). September 2018. U.S. Fish and Wildlife Service, Pacific Southwest Region, Ventura, CA.

_____. 2016. Biological Opinion for the Reissuance of a Regional General Permit to the Los Angeles Department of Water and Power for Ongoing Maintenance Activities at the Castaic Power Plant, Los Angeles County, California. August 31, 2016.

_____. 2012. Biological Opinion for the Barren Ridge Renewable Transmission Project, Los Angeles and Kern Counties, California. September 17, 2012.

_____. 2009. Letter response to petition for reconsideration of Water Quality Certification for the California Aqueduct Hydroelectric Project, Federal Energy Regulatory Commission, Project No. 2426, Ventura and Los Angeles Counties, California. Letter to State Water Resources Control Board. February 17, 2009.

_____. 2007. Letter to FERC of concurrence regarding California Department of Water Resources and the City of Los Angeles' application for license amendment for the California Aqueduct Project, FERC Project No. 2426-197. August 22, 2007.

_____. 2002a. Final Recovery Plan Southwestern Willow Flycatcher (*Empinodax traillii extimus*). USFWS; Albuquerque, NM.

_____. 2002b. Recover plan for the California red-legged frog (*Rana aurora draytonii*). May 28, 2002. Region 1, U.S. Fish and Wildlife Service. Portland, Oregon.

_____. 1996. Recovery plan for the California condor. U.S. Fish and Wildlife Service, Portland, Oregon. 62 pp.

_____. 1985. Revised recovery plan for unarmored threespine stickleback. U.S. Fish and Wildlife Service, Portland, Oregon. 80 pp.

_____. 1973. Endangered Species Act. Available at: https://www.fws.gov/endangered/laws-policies/index.html. Accessed: October 2020.

Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. 2014. Bumble bees of North America: an Identification Guide. Princeton University Press.

5.3.6 References Cited – Section 3.6 Cultural Resources

Heizer, R. F. 1978. (editor) Handbook of North American Indians, Volume 8: California, Washington, D.C.

King, Chester. 2004. Ethnographic Overview of the Angeles National Forest: Tataviam and San Gabriel Mountain Serrano Ethnohistory. Paper prepared for U.S. Department of Agriculture, Southern California Province, Angeles National Forest, Arcadia, California.

King, Chester and Thomas Blackburn. 1978. Tataviam. In California. Handbook of the North American Indians, Volume 8, edited by Robert F. Heizer pp. 535-537. Smithsonian Institute. Washington, D.C.

Lloyd, John "Jay", Sandra S. Flint, Leesa Gratreak, Daniel Leonard, Michael Connolly, and Beniamino Volta. 2020. South SWP Hydropower, FERC Project No. 2426-227. Archaeological and Historical Built Environment Resources Survey, National Register of Historic Places Evaluation, and Finding of Effects, Los Angeles County. Prepared by HDR Engineering, Inc., Sacramento, California. Prepared for the California Department of Water Resources, and the Los Angeles Department of Water and Power, Sacramento and Los Angeles, California.

Lloyd, John "Jay" and Daniel Leonard. 2020. South SWP Hydropower, FERC Project No. 2426-227. Supplemental Archaeological and Historical Built Environment Resources Survey, National Register of Historic Places Evaluation, and Finding of Effects, Los Angeles County. Prepared by HDR Engineering, Inc., Sacramento, California. Prepared for the California Department of Water Resources, and the Los Angeles Department of Water and Power.

McKenna, Jeanette. 2004. Cultural Resources Investigations and Paleontological Overview for the Simulation of Natural Flows in Middle Piru Creek Project, Los Angeles and Ventura Counties, California. Prepared by McKenna et al. Whittier, California. Prepared for Aspen Environmental Group, Agoura Hills, California.

U.S. Department of the Interior (USDOI). 2002. How to Apply the National Register Criteria for Evaluation. National Register Bulletin 15. U.S. Department of the Interior, National Park Service, Interagency Resources Division, Washington D.C.

5.3.7 References Cited – Section 3.7 Geology and Soils

Branz. 2019. Earthquake Hazards. Seismic Science and Site Influences: Seismic Resilience- Minimizing Building Damage. Available at: http://www.seismicresilience.org.nz/topics/seismic-science-and-site-influences/earthquake-hazards/. Accessed: September 2020.

California Department of Water Resources (DWR). 2009. Administrative Draft Environmental Impact Report, East Branch Enlargement Phase II Project. Pages 3.1-1 through 3.1-23.

_____. 2012. Pyramid Dam Radial Gate, Faulting and Seismicity, Project Geology Report No. 56-12-32. October 2012.

_____. 2013. Pyramid Dam and Reservoir, Results of Compilation and Analysis of Landslide Mapping. January 22, 2013.

California Geological Survey. 2020a. Landslide Inventory Map. Available at: https://maps.conservation.ca.gov/cgs/lsi/app/. Accessed: September 2020.

_____. 2020b. Earthquake Zones of Required Investigation. Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed: September 2020.

Converse Foundation Engineers (Converse). 1967. Geologic and Foundation Studies, West Branch Project, Castaic Power Plant and Forebay, Report No. 5, Final Penstock and 50-MW Pump-Starting Unit Investigation, Project No. 65-534-AH, August 31, 1967.

GEI Consultants, Inc. (GEI). 2005. Elderberry Forebay Dam, Supporting Technical Information Document, FERC Project 2426, for the Los Angeles Department of Water and Power. July 2005.

Miller, W.E. and T. Downs. 1974. A Hemphillian local fauna containing a new genus of Antilocaprid from Southern California. Natural History Museum, Los Angeles County. Contributions in Science 258:1-36.

Natural Resources Conservation Service (NRCS). 2015a. Custom Soil Resource Report for Angeles National Forest Area, California, and Antelope Valley Area, Quail Lake and Lower Quail Canal. November 9, 2015.

_____. 2015b. Custom Soil Resource Report for Angeles National Forest Area, California, and Antelope Valley Area, Pyramid Dam and Lake. November 9, 2015.

Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Available at: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx. Accessed: September 2020.

Southern California Earthquake Data Center (SCEDC). 2015. Available at: http://scedc.caltech.edu/. Accessed: September 2020.

Squires, Richard L. and LouElla R. Saul. 2006. New buccinoid gastropods from uppermost Cretaceous and Paleocene strata of California and Baja California, Mexico, in The Nautilus 120(2):66-78.

Stanton, R. J. Jr. 1966. Megafauna of the upper Miocene Castaic Formation, Los Angeles County, California, Journal of Paleontology, 40:21-40.

Uniform Billing Code (UBC). 1994. Uniform Building Code. Table 18-1-B. Uniform Building Code. Available at: http://digitalassets.lib.berkeley.edu/ubc/UBC_1994_v2.pdf. Accessed: September 2020.

U.S. Geological Survey (USGS). 1967. Areal Geology of the Western Mojave Desert, California, U.S. Geological Survey Professional Paper 522.

5.3.8 References Cited – Section 3.8 Greenhouse Gases and Energy Resources

California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents. Accessed: September 14, 2020.

_____. 2014. First Update to the Climate Change Scoping Plan, Building on the Framework. May 2014. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2013-scoping-plan-documents. Accessed: February 11, 2021.

_____. 2008. Climate Change Scoping Plan, A Framework for Change. December 2008. Prepared by the California Air Resources Board for the State of California. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents. Accessed: February 11, 2021.

California Department of Water Resources (DWR). 2020. Greenhouse Gas Emissions Reduction Plan. Available at: https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan. Accessed: September 14, 2020.

California Legislative Information. 2016. Assembly Bill No. 197. Chapter 250. Available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB197. Accessed: January 20, 2021.

Garcetti, Eric – Los Angeles (L.A.) Mayor. 2019. L.A.'s Green New Deal, Sustainable City pLAn. Environment, Economy, Equity. Available at: https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf. Accessed: February 11, 2021.

Siyue Li, Richard T. Bush, Isaac R. Santos, Quanfa Zhang, Kaishan Song, Rong Mao, Zhidan Wen, Xi Lu. 2018. Large greenhouse gases emissions from China's lakes and reservoirs. Water Research, Vol 147, Pages 13-24. December 15, 2018. Available at: https://www.sciencedirect.com/science/article/pii/S0043135418307681?via%3Dihub. Accessed: October 13, 2020.

5.3.9 References Cited – Section 3.9 Hazards and Hazardous Materials

California Department of Toxic Substances Control (DTSC). 2020. Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed: November 3, 2020.

State Water Resources Control Board (SWRCB). 2020. GeoTracker. Available at: https://geotracker.waterboards.ca.gov/. Accessed: November 3, 2020.

5.3.10 References Cited – Section 3.10 Hydrology and Water Quality

California Department of Water Resources (DWR). 2020a. Sustainable Groundwater Management Act Portal (DWR SGMAP). Available at: https://sgma.water.ca.gov/portal/#gsa. Accessed: October 30, 2020.

_____. 2020b. GSP Map Viewer. Available at: https://sgma.water.ca.gov/webgis/?jsonfile=https%3a%2f%2fsgma.water.ca.gov%2fportal%2fresources%2fjs%2fmapconfigs%2fGspSubmittalsConfig.js&_dc=0.9010686043748959. Accessed: October 30, 2020.

_____. 2019. Warne NPDES chloride results, 2016-2018. California Department of Water Resources, Environmental Assessment Branch. Sacramento, California.

_____. 1996. Water quality assessment of Piru Creek, West Fork Mojave River, and State Water Project Reservoirs in Southern California. Final. July 1996.

California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) (Licensees). 2020. Application for New License for Major Project – Existing Dam for the South SWP Hydropower, FERC Project Number 2426.

California Regional Water Quality Control Board, Lahontan Region (Lahontan RWQCB). 2016. Water Quality Control Plan for the Lahontan Region, North and South Basins. Plan effective March 31, 1995, amended through January 14, 2016.

California Regional Water Quality Control Board, Los Angeles Region (Los Angeles RWQCB). 2015. Water Quality Control Plan Los Angeles Region. Basin Plan for the coastal watersheds of Los Angeles and Ventura counties. Adopted 1994. Amended through July 2015. Available at: http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html. Accessed: December 11, 2018.

California State Water Resources Control Board (SWRCB). 2018. Final California 2014/2016 Integrated Report (303(d) List/305(b) Report). Regional Board 4 – Los Angeles Region. Available at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml?wbid=CAL40351000200912081057 17. Accessed: December 3, 2018.

Castaic Lake Water Agency (CLWA). 2003. Groundwater Management Plan, Santa Clara River Valley Groundwater Basin, East Subbasin. December 2003.

Fillmore and Piru Basins Groundwater Sustainability Agency (FPBGSA). 2020. Available at: https://www.fpbgsa.org/. Accessed: September 2020.

Fox Canyon Groundwater Management Agency (FCGMA). 2007. 2007 Update to the Fox Canyon Management Agency Groundwater Management Plan. May 2007.

5.3.11 References Cited – Section 3.11 Land Use and Planning

Los Angeles County. 2015. Los Angeles County General Plan, Adopted October 6, 2015. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf. Accessed: September 2020.

U.S. Department of Agriculture, Forest Service (USFS). 2005. Land Management Plan. Part 1 – Southern California National Forests Vision. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev7_007721.pdf. Accessed: September 2020.

5.3.12 References Cited – Section 3.12 Mineral Resources

Department of Regional Planning. 2014. Mineral Resources, Figure 9.6. May 2014. Available at: https://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-6_mineral_resources.pdf. Accessed: October 15,2020.

Los Angeles County. 2015. Los Angeles County General Plan, Adopted October 6, 2015. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf. Accessed: September 2020.

U.S. Geological Survey (USGS). 2018. Mineral Resources Online Spatial Data. Available at: http://mrdata.usgs.gov/. Accessed: September 2020.

5.3.13 References Cited – Section 3.13 Noise

California Government Code (CGC). 2021. § 65302(g). Available at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65302.#:~:text=The%20general%20plan%20shall%20consist,%2C%20standards%2C%20and%20plan%20proposals. Accessed: September 14, 2020.

Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: October 28, 2020.

Los Angeles County. 2021. Municipal Code. Code of Ordinances. Noise Ordinance, Chapter 12.08. Available at: https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO_PT1GEPR_12.08.010TICI. Accessed: September 14, 2020.

5.3.14 References Cited – Section 3.14 Population and Housing

U.S. Census Bureau. 2015. Quickfacts. Los Angeles County.

5.3.15 References Cited – Section 3.15 Public Services

California Department of Water Resources (DWR). 2020. Pyramid Lake Recreation. Available at: https://water.ca.gov/What-We-Do/Recreation/Pyramid-Lake-Recreation. Accessed: September 2020.

U.S. Department of Agriculture, Forest Service (USFS). 2020a. Enforcement. Available at: https://www.fs.fed.us/lei/enforcement.php. Accessed: September 2020.

_____. 2020b. About the Forest – Angeles National Forest. Available at: https://www.fs.usda.gov/main/angeles/about-forest. Accessed: September 2020.

_____. 2020c. About the Forest – Los Padres National Forest. Available at: https://www.fs.usda.gov/main/lpnf/about-forest. Accessed: September 2020.

U.S. Department of the Interior, Bureau of Land Management (BLM). 2020. BLM Law Enforcement- What We Do. Available at: https://www.blm.gov/programs/public-safety-and-fire/law-enforcement/what-we-do. Accessed: September 2020.

5.3.16 References Cited – Section 3.16 Recreation

California Department of Parks and Recreation (DPR). 2018. California State Parks. Home Page. Available at: https://www.parks.ca.gov/?page_id=91. Accessed: September 2020.

_____. 2014. Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012. Available at: https://www.parks.ca.gov/SPOA. Accessed: September 2020.

California Department of Water Resources (DWR). 2001. DWR letter to FERC, follow-up to June 8, 2001 Environmental Inspection for Project P-2426, filed October 9, 2001.

California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) (Licensees). 2020. South SWP Hydropower Relicensing, FERC Project Number 2426. Final License Application, Exhibit E-Environmental Report. January 2020. Available at: http://south-swp-hydropower-relicensing.com/license/. Accessed: September 2020.

Federal Energy Regulatory Commission (FERC). 2015. Federal Energy Regulatory Commission, Office of Energy Projects, Division of Hydropower Administration and Compliance. Compliance Handbook. 2014. Available at: https://www.ferc.gov/sites/default/files/2020-04/ComplianceHandbook.pdf. Accessed: October 2020.

U.S. Department of Agriculture, Forest Service (USFS). 2005. Final Environmental Impact Statement, Volume 2 (Appendices) Land Management Plans: ANF, Cleveland National Forest, LPNF, SBNF. USFS, Pacific Southwest Region. September 2005.

5.3.17 References Cited – Section 3.17 Transportation

Federal Highway Administration (FHWA). 2009. Manual on Uniform Control Devices, Chapter 6A. Available at: https://mutcd.fhwa.dot.gov/pdfs/2009/part6.pdf. Accessed: October 2020.

Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Available at: https://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed: September 2020.

5.3.18 References Cited – Section 3.18 Tribal Cultural Resources

California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) (Licensees). 2020. South SWP Hydropower FERC Project No. 2426-227; Historic Properties Management Plan.

Los Angeles County Department of Regional Planning. 2015. “Los Angeles County General Plan 2035.” Available at: http://planning.lacounty.gov/generalplan/generalplan. Accessed: September 22, 2020.

Parker, Patricia L., and Thomas F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. Revised. Originally published 1990. U.S. Department of the Interior, National Park Service, Washington, D.C.

Reddy, Seetha N., James D. Sarmento, Thomas Garlinghouse and Sarah Nicchitta. 2020. South SWP Hydropower Relicensing Tribal Resources Study Report (in progress). Prepared by Reddy Anthropological Consulting, Inc. Davis, California. Submitted to California Department of Water Resources, Hydropower License Planning and Compliance Office, Sacramento and Los Angeles Department of Water and Power.

5.3.19 References Cited – Section 3.19 Utilities and Service Systems

Southern California Edison (SCE). 2020. Our Service Territory. Available at: https://www.sce.com/about-us/who-we-are/leadership/our-service-territory. Accessed: September 2020.

Southern California Gas Company. 2016. Maps Showing Local Service Zones. Available at: https://www2.socalgas.com/regulatory/tariffs/tm2/pdf/LocalSvcZones.pdf. Accessed: September 2020.

5.3.20 References Cited – Section 3.20 Wildfires

California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire Hazard Severity Zone Viewer. Available at: https://egis.fire.ca.gov/FHSZ/. Accessed: September 9, 2020.

Los Angeles County. 2015. Los Angeles County 2035 General Plan. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf. Accessed: September 9, 2020.

U.S. Department of Agriculture, Forest Service (USFS). 2020. Forest Order No. 05-01-20-11. Bobcat Fire Area, Road, and Trail Closure, Angeles National Forest. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd822448.pdf. Accessed: December 29, 2020.

_____. 2011. Santa Clara/Mojave Rivers Ranger District Picnic Areas. Issued July 2011. Available at: https://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5313941.pdf. Accessed: December 29, 2020.

_____. 2005. Final Environmental Impact Statement, Volume 2 (Appendices) Land Management Plans: ANF, Cleveland National Forest, LPNF, SBNF, NFS, Pacific Southwest Region. September 2005.

5.3.21 References Cited – Section 3.21 Mandatory Findings of Significance

None.

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Appendix A

Determinations of Eligibility and Finding of Effects Letter

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State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
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January 9, 2020

Reply in Reference To: FERC_2016_1031_004

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RE: Section 106 Consultation for the South SWP Hydropower Relicensing (FERC No. 2426) Determinations of Eligibility and Finding of Effects

Dear Ms. Knittweis and Mr. Zewdu,

The State Historic Preservation Officer (SHPO) is in receipt of your letter continuing consultation for the above-referenced undertaking to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300101), as amended, and its implementing regulation found at 36 CFR § 800. The Licensees, the California Department of Water Resources and Los Angeles Department of Water and Power have been delegated Section 106 consultation authority by the Federal Energy Regulatory Commission (FERC), pursuant to FERC's September 30, 2016 *Notice of Intent to File License Application for a New License and Commencing Pre-Filing Process* for the South SWP Hydropower project (project).

At this time, the Licensees request the following:

- Pursuant to 36 CFR § 800.4(b), SHPO comments on the adequacy of historic property identification efforts.
- Pursuant to 36 CFR § 800.4(c), SHPO concurrence with National Register of Historic Places (NRHP) evaluations presented in the supporting documentation and listed below.
- Pursuant to 36 CFR § 800.4(d), SHPO comments on the Licensees assessment of adverse effects.

The current consultation package includes the following documents:

- *South SWP Hydropower, FERC Project No. 2426-227. Archaeological and Historical Built Environment Resources Survey, National Register of Historic Places—Evaluations, and Finding of Effects, Los Angeles County, California.*
    - *Volume I: Project Overview and Summary of Results and Recommendations*
    - *Volume II: Archaeological Study Results and Recommendations*
    - *Volume III: Historical Built Environment Study Results and Recommendations*

The documents were distributed to participating Tribes, the Angeles National Forest, the Los Padres National Forest, and the Bureau of Land Management for a 30-day review period. No comments were received.

The archaeological and built-environment resources surveys identified sixty-one (61) cultural resources within the Area of Potential Effects (APE)—forty-two (42) archaeological sites, thirteen (13) built environment resources, and six (6) isolated artifacts.

The following resources were not evaluated for listing in the NRHP because they were not accessible or would require considerable investigation to determine significance:

- P-19-000392
- P-19-000393
- P-19-000394
- P-19-000395
- P-19-000396
- P-19-000438
- P-19-000439
- P-19-000442
- P-19-000443
- P-19-000444
- P-19-002401
- P-19-002333
- P-19-003081
- HDR-SSWP-SITE-006
- HDR-SSWP-SITE-007
- HDR-SSWP-SITE-008
- HDR-SSWP-SITE-009
- HDR-SSWP-SITE-015
- HDR-SSWP-SITE-016

Pursuant to 36 CFR § 800.4(b), I do not find efforts to identify historic properties to be sufficient. For the unevaluated sites that are accessible, please provide justification explaining the reason they were not evaluated at this time.

The Licensees applied the National Register criteria at 36 CFR part 63 and have determined that archaeological site P-19-000324 is eligible for listing in the NRHP under Criterion D for the important data it might potentially yield. Pursuant to 36 CFR § 800.4(c), **I concur** with this determination.

The Licensees have determined seven built environment resources of the South SWP Hydropower Project—identified as Pyramid Dam, Pyramid Dam Service Spillway, Pyramid Dam Emergency Spillway, Angeles Tunnel Intake, Angeles Tunnel, Angeles Tunnel Surge Chamber, and Elderberry Forebay Spillway—are individually eligible for the NRHP under Criterion A. Pursuant to 36 CFR § 800.4(c), **I concur** with these determinations.

The Licensees have determined that a 0.3-mile segment of the Old Ridge Route (P-19-000990/CA-LAN-990H/05-01-53-32) is not eligible for listing in the NRHP. This segment is part of but does not contribute to the significance of the larger 17-mile segment of the resource that has been determined to be eligible for the NRHP. Pursuant to 36 CFR § 800.4(c), **I object** to the determination that a segment of the resource is not eligible; however, I agree that the segment does not contribute to the significance of the resource and therefore it requires no further management consideration to avoid adversely affecting it.

The following resources have been determined by the Licensees to be not eligible for listing in the NRHP:

- P-19-186905/05-01-53-283
- P-19-188491/05-01-53-340
- HDR-SSWP-SITE-003
- HDR-SSWP-SITE-004
- HDR-SSWP-SITE-005
- HDR-SSWP-SITE-006.2
- HDR-SSWP-SITE-10
- HDR-SSWP-SITE-12
- HDR-SSWP-SITE-13
- HDR-SSWP-SITE-14
- HDR-SSWP-SITE-17
- HDR-SSWP-SITE-19
- HDR-SSWP-SITE-21
- HDR-SSWP-SITE-23
- HDR-SSWP-SITE-25
- HDR-SSWP-SITE-39
- HDR-SSWP-SITE-40
- HDR-SSWP-SITE-41
- HDR-SSWP-SITE-42
- HDR-SSWP-SITE-43
- HDR-SSWP-SITE-44

Pursuant to 36 CFR § 800.4(c), **I concur** that the above resources are not eligible for listing in the NRHP.

The Licensees have determined that six built environment resources of the South SWP Hydropower Project—identified as Quail Lake, Lower Quail Canal, Pyramid Lake, Castaic Powerplant Penstocks, Castaic Powerplant, and Castaic Transmission Line—are not individually eligible for the NRHP. Pursuant to 36 CFR § 800.4(c), **I do not concur**. A large-scale system can absorb routine alterations to hydropower resources—including and not limited to expanded capacity, new inlet/outlets, attachment of new equipment, and recreation area adjustments—without loss of integrity, particularly when the property subject to evaluation is the district rather than each individual resource. I recommend reassessing these evaluations.

The Licensees have determined the South SWP Hydropower Project— consisting of these thirteen built environment resources—is not eligible for the NRHP as a historic district. Pursuant to 36 CFR § 800.4(c), **I do not concur** and recommend a reassessment of this determination. The built environment resources are all components of the SWP, and therefore are united historically and functionally. Per National Register Bulletin 15, a district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources. The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties. Further, a district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It may even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. The Cultural Resources Study acknowledges the importance of the SWP. Throughout the DPR forms, the Significance narrative repeatedly includes this statement:

> "Not only is the SWP the largest State-built, multi-purpose water project in the nation, it was the first of its kind, and has been a major factor in profoundly altering the distribution of scarce water resources across California. As a result, the SWP is likely historically significant and is associated with the significance theme of water conveyance systems in California."

Pursuant to 36 CFR § 800.4(d), the Licensees request SHPO comments on their finding that no historic properties will be affected as a result of this undertaking as no new renovations, upgrades, or alterations to Project facilities other than routine Operations and Maintenance are planned at this time and it has not been demonstrated that ongoing project actions are adversely affecting historic properties. Pursuant to 36 CFR § 800.4(d), I **object** to this determination and agree with the following statement provided in the supporting documentation:

> "Because it is not possible to determine all of the effects of various activities that may occur over the course of a license, FERC typically completes NHPA Section 106 by entering into a Programmatic Agreement with the Advisory Council for Historic Preservation and the SHPO that typically requires the license applicant to develop and implement a Historic Properties Management Plan (HPMP). The HPMP considers and manages effects on historic properties throughout the term of the license, including management measures for any newly discovered resources during the new license term. A HPMP will be submitted to FERC with the License Application and will be used to guide the Licensees during the term of the new license for site specific management needs, overall measures for addressing effects on unevaluated or NRHP listed and eligible properties, and other measures designed to meet NHPA Section 106 compliance under the new license."

Because effects on historic properties cannot be fully determined prior to approval of the undertaking, I cannot provide comment at this time on a finding of effect. I look forward to continuing consultation for this undertaking. If you have any questions or concerns, please contact Brendon Greenaway at (916) 445-7036 or Brendon.Greenaway@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

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Appendix B

Supplemental Cultural Resources Study Report Letter

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State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
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calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

January 22, 2020

Reply in Reference To: FERC_2016_1031_004

Gwen Knittweis, Chief
Hydropower License Planning and Compliance Office
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Simon Zewdu, Director
Regulatory Compliance and Specifications
Power System
Los Angeles Department of Water and Power
111 North Hope Street
Los Angeles, CA 90012

RE: Section 106 Consultation for the South SWP Hydropower Relicensing (FERC No. 2426) Supplemental Cultural Resources Study Report

Dear Ms. Knittweis and Mr. Zewdu,

The State Historic Preservation Officer (SHPO) is in receipt of your letter continuing consultation for the above-referenced undertaking to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300101), as amended, and its implementing regulation found at 36 CFR § 800. The Licensees, the California Department of Water Resources and Los Angeles Department of Water and Power have been delegated Section 106 consultation authority by the Federal Energy Regulatory Commission (FERC), pursuant to FERC's September 30, 2016 *Notice of Intent to File License Application for a New License and Commencing Pre-Filing Process* for the South SWP Hydropower project (project).

At this time, the Licensees request the following regarding supplemental studies for a revised Area of Potential Effects (APE):

- Pursuant to 36 CFR § 800.4(b), SHPO comments on the adequacy of historic property identification efforts.
- Pursuant to 36 CFR § 800.4(c), SHPO concurrence with National Register of Historic Places (NRHP) evaluations presented in the supporting documentation and listed below.

- Pursuant to 36 CFR § 800.4(d), SHPO comments on the Licensees assessment of adverse effects.

The current consultation package includes the following documents:

- *South SWP Hydropower, FERC Project No. 2426-227. Archaeological and Historical Built Environment Resources Survey, National Register of Historic Places—Evaluations, and Finding of Effects, Los Angeles County, California. Supplemental Archaeological Study Results and Recommendations. (December 2019)*

The document was distributed to participating Tribes, the Angeles National Forest, the Los Padres National Forest, and the Bureau of Land Management for a 30-day review period. No comments were received other than those from the Angeles National Forest, which were accepted and incorporated.

The archaeological and built-environment resources surveys identified fourteen (14) archaeological within the revised APE.

The following resources (all access roads to either the Castaic Transmission Line or Angeles Tunnel) have been determined by the Licensees to be not eligible for listing in the NRHP:

- HDR-SSWP-SITE-017
- HDR-SSWP-SITE-026
- HDR-SSWP-SITE-027
- HDR-SSWP-SITE-028
- HDR-SSWP-SITE-029
- HDR-SSWP-SITE-030
- HDR-SSWP-SITE-031
- HDR-SSWP-SITE-032
- HDR-SSWP-SITE-033
- HDR-SSWP-SITE-034
- HDR-SSWP-SITE-035
- HDR-SSWP-SITE-036
- HDR-SSWP-SITE-037
- HDR-SSWP-SITE-038

Pursuant to 36 CFR § 800.4(c), **I concur** that the above resources are not eligible for listing in the NRHP.

Pursuant to 36 CFR § 800.4(d), the Licensees request SHPO comments on their finding that no historic properties will be affected as a result of this undertaking as no new renovations, upgrades, or alterations to Project facilities other than routine Operations and Maintenance are planned at this time and it has not been demonstrated that ongoing project actions are adversely affecting historic properties. Pursuant to 36 CFR § 800.4(d), I reiterate my objection to this determination provided in my letter of January 9, 2020 and agree with the following statement provided in previous supporting documentation:

> "Because it is not possible to determine all of the effects of various activities that may occur over the course of a license, FERC typically completes NHPA Section 106 by entering into a Programmatic Agreement with the Advisory Council for Historic Preservation and the SHPO that typically requires the license applicant to develop and implement a Historic Properties Management Plan (HPMP). The HPMP considers and manages effects on historic properties throughout the term of the license, including management measures for any newly discovered resources during the new license term. A HPMP will be submitted to FERC with the License Application and will be used to guide the Licensees during the term of the new license for site specific management needs, overall measures for addressing effects on unevaluated or NRHP listed and eligible properties, and other measures designed to meet NHPA Section 106 compliance under the new license."

Because effects on historic properties cannot be fully determined prior to approval of the undertaking, I cannot provide comment at this time on a finding of effect. I look forward to continuing consultation for this undertaking. If you have any questions or concerns, please contact Brendon Greenaway at (916) 445-7036 or Brendon.Greenaway@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

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Appendix C

Air Quality, GHG and Energy Modeling and Calculations

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South SWP Hydropower

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	45.00	Acre	45.00	1,960,200.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - non-asphalt surfaces used to represent all of the recreational areas to be improved

Construction Phase - The longest duration required for any of the proposed recreation improvements is six months. This analysis assumes that all sites would be under construction simultaneously.

Off-road Equipment - equipment required for all sites.

Off-road Equipment -

Grading - Haul trucks added to Trips and VMT tab. Up to a total of 45 acres would be disturbed.

Trips and VMT - up to six trips per day over a 10 day period. Trip length of 50 miles used due to remote nature of the project sites.

Consumer Products - no change in operational emissions

Area Coating - no change in operational emissions

Landscape Equipment - no change in operational emissions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	117612	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	110.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	PhaseEndDate	8/6/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	8/23/2024	7/16/2021
tblConstructionPhase	PhaseEndDate	4/23/2021	1/15/2021
tblConstructionPhase	PhaseStartDate	4/24/2021	1/18/2021
tblConstructionPhase	PhaseStartDate	6/8/2024	6/21/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	1/4/2021
tblGrading	AcresOfGrading	275.00	45.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3557	3.7542	2.6314	6.0400e-003	0.5393	0.1604	0.6996	0.2596	0.1475	0.4071	0.0000	537.9768	537.9768	0.1388	0.0000	541.4459
Maximum	**0.3557**	**3.7542**	**2.6314**	**6.0400e-003**	**0.5393**	**0.1604**	**0.6996**	**0.2596**	**0.1475**	**0.4071**	**0.0000**	**537.9768**	**537.9768**	**0.1388**	**0.0000**	**541.4459**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3557	3.7542	2.6314	6.0400e-003	0.2943	0.1604	0.4546	0.1307	0.1475	0.2783	0.0000	537.9763	537.9763	0.1388	0.0000	541.4454
Maximum	**0.3557**	**3.7542**	**2.6314**	**6.0400e-003**	**0.2943**	**0.1604**	**0.4546**	**0.1307**	**0.1475**	**0.2783**	**0.0000**	**537.9763**	**537.9763**	**0.1388**	**0.0000**	**541.4454**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.43**	**0.00**	**35.02**	**49.64**	**0.00**	**31.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	2.0384	2.0384
2	**4-4-2021**	**7-3-2021**	1.8973	1.8973
3	**7-4-2021**	**9-30-2021**	0.0749	0.0749
		Highest	2.0384	2.0384

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1268	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1268	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/18/2021	6/18/2021	5	110	
3	Paving	Paving	6/21/2021	7/16/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 45

Acres of Paving: 45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Cranes	2	8.00	231	0.29
Grading	Forklifts	2	8.00	89	0.20
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Excavators	2	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	5.00	60.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	0.0154	3.5800e-003	5.0000e-005	1.2900e-003	6.0000e-005	1.3500e-003	3.5000e-004	5.0000e-005	4.1000e-004	0.0000	5.1394	5.1394	3.1000e-004	0.0000	5.1471
Vendor	3.0000e-004	8.3300e-003	2.1900e-003	4.0000e-005	1.1400e-003	3.0000e-005	1.1700e-003	3.3000e-004	3.0000e-005	3.6000e-004	0.0000	3.5742	3.5742	1.4000e-004	0.0000	3.5776
Worker	1.0800e-003	8.8000e-004	9.7900e-003	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	2.8825	2.8825	7.0000e-005	0.0000	2.8844
Total	**1.8500e-003**	**0.0246**	**0.0156**	**1.2000e-004**	**5.7900e-003**	**1.1000e-004**	**5.9000e-003**	**1.5700e-003**	**1.0000e-004**	**1.6800e-003**	**0.0000**	**11.5961**	**11.5961**	**5.2000e-004**	**0.0000**	**11.6090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0407**	**0.0102**	**0.0509**	**0.0223**	**9.4000e-003**	**0.0317**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	0.0154	3.5800e-003	5.0000e-005	1.2900e-003	6.0000e-005	1.3500e-003	3.5000e-004	5.0000e-005	4.1000e-004	0.0000	5.1394	5.1394	3.1000e-004	0.0000	5.1471
Vendor	3.0000e-004	8.3300e-003	2.1900e-003	4.0000e-005	1.1400e-003	3.0000e-005	1.1700e-003	3.3000e-004	3.0000e-005	3.6000e-004	0.0000	3.5742	3.5742	1.4000e-004	0.0000	3.5776
Worker	1.0800e-003	8.8000e-004	9.7900e-003	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	2.8825	2.8825	7.0000e-005	0.0000	2.8844
Total	**1.8500e-003**	**0.0246**	**0.0156**	**1.2000e-004**	**5.7900e-003**	**1.1000e-004**	**5.9000e-003**	**1.5700e-003**	**1.0000e-004**	**1.6800e-003**	**0.0000**	**11.5961**	**11.5961**	**5.2000e-004**	**0.0000**	**11.6090**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3551	0.0000	0.3551	0.1846	0.0000	0.1846	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2943	3.2703	2.1213	4.3300e-003		0.1423	0.1423		0.1309	0.1309	0.0000	380.2401	380.2401	0.1230	0.0000	383.3145
Total	**0.2943**	**3.2703**	**2.1213**	**4.3300e-003**	**0.3551**	**0.1423**	**0.4974**	**0.1846**	**0.1309**	**0.3156**	**0.0000**	**380.2401**	**380.2401**	**0.1230**	**0.0000**	**383.3145**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3100e-003	0.0916	0.0241	4.1000e-004	0.0125	3.5000e-004	0.0129	3.6100e-003	3.4000e-004	3.9400e-003	0.0000	39.3164	39.3164	1.4900e-003	0.0000	39.3537
Worker	0.0218	0.0178	0.1974	6.4000e-004	0.0677	4.8000e-004	0.0682	0.0180	4.4000e-004	0.0184	0.0000	58.1303	58.1303	1.5000e-003	0.0000	58.1678
Total	**0.0251**	**0.1095**	**0.2215**	**1.0500e-003**	**0.0802**	**8.3000e-004**	**0.0810**	**0.0216**	**7.8000e-004**	**0.0224**	**0.0000**	**97.4467**	**97.4467**	**2.9900e-003**	**0.0000**	**97.5215**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1598	0.0000	0.1598	0.0831	0.0000	0.0831	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2943	3.2703	2.1213	4.3300e-003		0.1423	0.1423		0.1309	0.1309	0.0000	380.2396	380.2396	0.1230	0.0000	383.3141
Total	**0.2943**	**3.2703**	**2.1213**	**4.3300e-003**	**0.1598**	**0.1423**	**0.3021**	**0.0831**	**0.1309**	**0.2140**	**0.0000**	**380.2396**	**380.2396**	**0.1230**	**0.0000**	**383.3141**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3100e-003	0.0916	0.0241	4.1000e-004	0.0125	3.5000e-004	0.0129	3.6100e-003	3.4000e-004	3.9400e-003	0.0000	39.3164	39.3164	1.4900e-003	0.0000	39.3537
Worker	0.0218	0.0178	0.1974	6.4000e-004	0.0677	4.8000e-004	0.0682	0.0180	4.4000e-004	0.0184	0.0000	58.1303	58.1303	1.5000e-003	0.0000	58.1678
Total	**0.0251**	**0.1095**	**0.2215**	**1.0500e-003**	**0.0802**	**8.3000e-004**	**0.0810**	**0.0216**	**7.8000e-004**	**0.0224**	**0.0000**	**97.4467**	**97.4467**	**2.9900e-003**	**0.0000**	**97.5215**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.4 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0167	4.3800e-003	7.0000e-005	2.2800e-003	6.0000e-005	2.3400e-003	6.6000e-004	6.0000e-005	7.2000e-004	0.0000	7.1484	7.1484	2.7000e-004	0.0000	7.1552
Worker	1.8000e-003	1.4700e-003	0.0163	5.0000e-005	5.5900e-003	4.0000e-005	5.6300e-003	1.4900e-003	4.0000e-005	1.5200e-003	0.0000	4.8042	4.8042	1.2000e-004	0.0000	4.8073
Total	**2.4000e-003**	**0.0181**	**0.0207**	**1.2000e-004**	**7.8700e-003**	**1.0000e-004**	**7.9700e-003**	**2.1500e-003**	**1.0000e-004**	**2.2400e-003**	**0.0000**	**11.9526**	**11.9526**	**3.9000e-004**	**0.0000**	**11.9625**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.4 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0167	4.3800e-003	7.0000e-005	2.2800e-003	6.0000e-005	2.3400e-003	6.6000e-004	6.0000e-005	7.2000e-004	0.0000	7.1484	7.1484	2.7000e-004	0.0000	7.1552
Worker	1.8000e-003	1.4700e-003	0.0163	5.0000e-005	5.5900e-003	4.0000e-005	5.6300e-003	1.4900e-003	4.0000e-005	1.5200e-003	0.0000	4.8042	4.8042	1.2000e-004	0.0000	4.8073
Total	**2.4000e-003**	**0.0181**	**0.0207**	**1.2000e-004**	**7.8700e-003**	**1.0000e-004**	**7.9700e-003**	**2.1500e-003**	**1.0000e-004**	**2.2400e-003**	**0.0000**	**11.9526**	**11.9526**	**3.9000e-004**	**0.0000**	**11.9625**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1268	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Unmitigated	0.1268	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Total	**0.1268**	**1.0000e-005**	**5.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1200e-003	1.1200e-003	0.0000	0.0000	1.1900e-003
Total	**0.1268**	**1.0000e-005**	**5.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1200e-003**	**1.1200e-003**	**0.0000**	**0.0000**	**1.1900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

South SWP Hydropower

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	45.00	Acre	45.00	1,960,200.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

South SWP Hydropower - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - non-asphalt surfaces used to represent all of the recreational areas to be improved

Construction Phase - The longest duration required for any of the proposed recreation improvements is six months. This analysis assumes that all sites would be under construction simultaneously.

Off-road Equipment - equipment required for all sites.

Off-road Equipment -

Grading - Haul trucks added to Trips and VMT tab. Up to a total of 45 acres would be disturbed.

Trips and VMT - up to six trips per day over a 10 day period. Trip length of 50 miles used due to remote nature of the project sites.

Consumer Products - no change in operational emissions

Area Coating - no change in operational emissions

Landscape Equipment - no change in operational emissions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	117612	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	110.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	PhaseEndDate	8/6/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	8/23/2024	7/16/2021
tblConstructionPhase	PhaseEndDate	4/23/2021	1/15/2021
tblConstructionPhase	PhaseStartDate	4/24/2021	1/18/2021
tblConstructionPhase	PhaseStartDate	6/8/2024	6/21/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	1/4/2021
tblGrading	AcresOfGrading	275.00	45.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8007	61.3413	42.9512	0.0984	19.2432	2.6024	21.3102	10.2502	2.3945	12.1525	0.0000	9,635.7541	9,635.7541	2.5263	0.0000	9,698.9120
Maximum	**5.8007**	**61.3413**	**42.9512**	**0.0984**	**19.2432**	**2.6024**	**21.3102**	**10.2502**	**2.3945**	**12.1525**	**0.0000**	**9,635.7541**	**9,635.7541**	**2.5263**	**0.0000**	**9,698.9120**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8007	61.3413	42.9512	0.0984	9.3067	2.6024	11.3738	4.7883	2.3945	6.6907	0.0000	9,635.7541	9,635.7541	2.5263	0.0000	9,698.9120
Maximum	**5.8007**	**61.3413**	**42.9512**	**0.0984**	**9.3067**	**2.6024**	**11.3738**	**4.7883**	**2.3945**	**6.6907**	**0.0000**	**9,635.7541**	**9,635.7541**	**2.5263**	**0.0000**	**9,698.9120**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**51.64**	**0.00**	**46.63**	**53.29**	**0.00**	**44.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**	**0.0000**	**0.0105**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**	**0.0000**	**0.0105**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/18/2021	6/18/2021	5	110	
3	Paving	Paving	6/21/2021	7/16/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 45

Acres of Paving: 45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Cranes	2	8.00	231	0.29
Grading	Forklifts	2	8.00	89	0.20
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Excavators	2	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	5.00	60.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0944	2.9417	0.7079	0.0105	0.2619	0.0115	0.2734	0.0718	0.0110	0.0827		1,136.9107	1,136.9107	0.0670		1,138.5868
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.2126	0.1567	2.1536	6.7100e-003	0.6839	4.7700e-003	0.6887	0.1813	4.3900e-003	0.1857		668.3658	668.3658	0.0174		668.8013
Total	**0.3668**	**4.6920**	**3.2947**	**0.0246**	**1.1769**	**0.0226**	**1.1995**	**0.3195**	**0.0214**	**0.3409**		**2,594.9122**	**2,594.9122**	**0.1141**		**2,597.7655**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0944	2.9417	0.7079	0.0105	0.2619	0.0115	0.2734	0.0718	0.0110	0.0827		1,136.9107	1,136.9107	0.0670		1,138.5868
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.2126	0.1567	2.1536	6.7100e-003	0.6839	4.7700e-003	0.6887	0.1813	4.3900e-003	0.1857		668.3658	668.3658	0.0174		668.8013
Total	**0.3668**	**4.6920**	**3.2947**	**0.0246**	**1.1769**	**0.0226**	**1.1995**	**0.3195**	**0.0214**	**0.3409**		**2,594.9122**	**2,594.9122**	**0.1141**		**2,597.7655**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4559	0.0000	6.4559	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	5.3511	59.4603	38.5698	0.0787		2.5873	2.5873		2.3803	2.3803		7,620.7810	7,620.7810	2.4647		7,682.3989
Total	**5.3511**	**59.4603**	**38.5698**	**0.0787**	**6.4559**	**2.5873**	**9.0433**	**3.3571**	**2.3803**	**5.7374**		**7,620.7810**	**7,620.7810**	**2.4647**		**7,682.3989**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.3898	0.2874	3.9483	0.0123	1.2539	8.7400e-003	1.2626	0.3324	8.0500e-003	0.3405		1,225.3374	1,225.3374	0.0319		1,226.1357
Total	**0.4496**	**1.8810**	**4.3814**	**0.0197**	**1.4849**	**0.0151**	**1.5000**	**0.3989**	**0.0141**	**0.4130**		**2,014.9731**	**2,014.9731**	**0.0616**		**2,016.5131**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9052	0.0000	2.9052	1.5107	0.0000	1.5107			0.0000			0.0000
Off-Road	5.3511	59.4603	38.5698	0.0787		2.5873	2.5873		2.3803	2.3803	0.0000	7,620.7810	7,620.7810	2.4647		7,682.3989
Total	**5.3511**	**59.4603**	**38.5698**	**0.0787**	**2.9052**	**2.5873**	**5.4925**	**1.5107**	**2.3803**	**3.8910**	**0.0000**	**7,620.7810**	**7,620.7810**	**2.4647**		**7,682.3989**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.3898	0.2874	3.9483	0.0123	1.2539	8.7400e-003	1.2626	0.3324	8.0500e-003	0.3405		1,225.3374	1,225.3374	0.0319		1,226.1357
Total	**0.4496**	**1.8810**	**4.3814**	**0.0197**	**1.4849**	**0.0151**	**1.5000**	**0.3989**	**0.0141**	**0.4130**		**2,014.9731**	**2,014.9731**	**0.0616**		**2,016.5131**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.1772	0.1306	1.7947	5.5900e-003	0.5699	3.9700e-003	0.5739	0.1511	3.6600e-003	0.1548		556.9715	556.9715	0.0145		557.3344
Total	**0.2369**	**1.7242**	**2.2278**	**0.0130**	**0.8010**	**0.0103**	**0.8113**	**0.2175**	**9.7400e-003**	**0.2273**		**1,346.6072**	**1,346.6072**	**0.0442**		**1,347.7119**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.5936	0.4332	7.4100e-003	0.2311	6.3600e-003	0.2374	0.0664	6.0800e-003	0.0725		789.6357	789.6357	0.0297		790.3775
Worker	0.1772	0.1306	1.7947	5.5900e-003	0.5699	3.9700e-003	0.5739	0.1511	3.6600e-003	0.1548		556.9715	556.9715	0.0145		557.3344
Total	**0.2369**	**1.7242**	**2.2278**	**0.0130**	**0.8010**	**0.0103**	**0.8113**	**0.2175**	**9.7400e-003**	**0.2273**		**1,346.6072**	**1,346.6072**	**0.0442**		**1,347.7119**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Unmitigated	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6943					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**		**0.0105**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6943					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**		**0.0105**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

South SWP Hydropower

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	45.00	Acre	45.00	1,960,200.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - non-asphalt surfaces used to represent all of the recreational areas to be improved

Construction Phase - The longest duration required for any of the proposed recreation improvements is six months. This analysis assumes that all sites would be under construction simultaneously.

Off-road Equipment - equipment required for all sites.

Off-road Equipment -

Grading - Haul trucks added to Trips and VMT tab. Up to a total of 45 acres would be disturbed.

Trips and VMT - up to six trips per day over a 10 day period. Trip length of 50 miles used due to remote nature of the project sites.

Consumer Products - no change in operational emissions

Area Coating - no change in operational emissions

Landscape Equipment - no change in operational emissions

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	117612	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	110.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	PhaseEndDate	8/6/2021	6/18/2021
tblConstructionPhase	PhaseEndDate	8/23/2024	7/16/2021
tblConstructionPhase	PhaseEndDate	4/23/2021	1/15/2021
tblConstructionPhase	PhaseStartDate	4/24/2021	1/18/2021
tblConstructionPhase	PhaseStartDate	6/8/2024	6/21/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	1/4/2021
tblGrading	AcresOfGrading	275.00	45.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripLength	7.90	50.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00
tblTripsAndVMT	WorkerTripLength	19.80	50.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8556	61.4145	42.4829	0.0975	19.2432	2.6025	21.3103	10.2502	2.3945	12.1526	0.0000	9,551.6747	9,551.6747	2.5244	0.0000	9,614.7853
Maximum	**5.8556**	**61.4145**	**42.4829**	**0.0975**	**19.2432**	**2.6025**	**21.3103**	**10.2502**	**2.3945**	**12.1526**	**0.0000**	**9,551.6747**	**9,551.6747**	**2.5244**	**0.0000**	**9,614.7853**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8556	61.4145	42.4829	0.0975	9.3067	2.6025	11.3739	4.7883	2.3945	6.6907	0.0000	9,551.6746	9,551.6746	2.5244	0.0000	9,614.7853
Maximum	**5.8556**	**61.4145**	**42.4829**	**0.0975**	**9.3067**	**2.6025**	**11.3739**	**4.7883**	**2.3945**	**6.6907**	**0.0000**	**9,551.6746**	**9,551.6746**	**2.5244**	**0.0000**	**9,614.7853**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**51.64**	**0.00**	**46.63**	**53.29**	**0.00**	**44.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**	**0.0000**	**0.0105**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**	**0.0000**	**0.0105**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/15/2021	5	10	
2	Grading	Grading	1/18/2021	6/18/2021	5	110	
3	Paving	Paving	6/21/2021	7/16/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 45

Acres of Paving: 45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Cranes	2	8.00	231	0.29
Grading	Forklifts	2	8.00	89	0.20
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Excavators	2	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	5.00	60.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	5.00	0.00	50.00	50.00	50.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0956	3.0198	0.7291	0.0104	0.2619	0.0115	0.2734	0.0718	0.0110	0.0828		1,127.7042	1,127.7042	0.0684		1,129.4149
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.2419	0.1717	1.8924	6.2700e-003	0.6839	4.7700e-003	0.6887	0.1813	4.3900e-003	0.1857		624.6557	624.6557	0.0161		625.0574
Total	**0.3985**	**4.8309**	**3.0652**	**0.0241**	**1.1769**	**0.0227**	**1.1996**	**0.3195**	**0.0215**	**0.3410**		**2,538.0514**	**2,538.0514**	**0.1148**		**2,540.9202**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0956	3.0198	0.7291	0.0104	0.2619	0.0115	0.2734	0.0718	0.0110	0.0828		1,127.7042	1,127.7042	0.0684		1,129.4149
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.2419	0.1717	1.8924	6.2700e-003	0.6839	4.7700e-003	0.6887	0.1813	4.3900e-003	0.1857		624.6557	624.6557	0.0161		625.0574
Total	**0.3985**	**4.8309**	**3.0652**	**0.0241**	**1.1769**	**0.0227**	**1.1996**	**0.3195**	**0.0215**	**0.3410**		**2,538.0514**	**2,538.0514**	**0.1148**		**2,540.9202**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4559	0.0000	6.4559	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	5.3511	59.4603	38.5698	0.0787		2.5873	2.5873		2.3803	2.3803		7,620.7810	7,620.7810	2.4647		7,682.3989
Total	**5.3511**	**59.4603**	**38.5698**	**0.0787**	**6.4559**	**2.5873**	**9.0433**	**3.3571**	**2.3803**	**5.7374**		**7,620.7810**	**7,620.7810**	**2.4647**		**7,682.3989**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.4434	0.3147	3.4693	0.0115	1.2539	8.7400e-003	1.2626	0.3324	8.0500e-003	0.3405		1,145.2021	1,145.2021	0.0295		1,145.9386
Total	**0.5045**	**1.9542**	**3.9131**	**0.0189**	**1.4849**	**0.0151**	**1.5001**	**0.3989**	**0.0142**	**0.4130**		**1,930.8937**	**1,930.8937**	**0.0597**		**1,932.3864**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9052	0.0000	2.9052	1.5107	0.0000	1.5107			0.0000			0.0000
Off-Road	5.3511	59.4603	38.5698	0.0787		2.5873	2.5873		2.3803	2.3803	0.0000	7,620.7810	7,620.7810	2.4647		7,682.3989
Total	**5.3511**	**59.4603**	**38.5698**	**0.0787**	**2.9052**	**2.5873**	**5.4925**	**1.5107**	**2.3803**	**3.8910**	**0.0000**	**7,620.7810**	**7,620.7810**	**2.4647**		**7,682.3989**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.4434	0.3147	3.4693	0.0115	1.2539	8.7400e-003	1.2626	0.3324	8.0500e-003	0.3405		1,145.2021	1,145.2021	0.0295		1,145.9386
Total	**0.5045**	**1.9542**	**3.9131**	**0.0189**	**1.4849**	**0.0151**	**1.5001**	**0.3989**	**0.0142**	**0.4130**		**1,930.8937**	**1,930.8937**	**0.0597**		**1,932.3864**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.2016	0.1431	1.5770	5.2200e-003	0.5699	3.9700e-003	0.5739	0.1511	3.6600e-003	0.1548		520.5464	520.5464	0.0134		520.8812
Total	**0.2626**	**1.7825**	**2.0208**	**0.0126**	**0.8010**	**0.0104**	**0.8114**	**0.2175**	**9.7700e-003**	**0.2273**		**1,306.2380**	**1,306.2380**	**0.0436**		**1,307.3290**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2556**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0610	1.6395	0.4438	7.3700e-003	0.2311	6.3900e-003	0.2375	0.0664	6.1100e-003	0.0725		785.6916	785.6916	0.0303		786.4478
Worker	0.2016	0.1431	1.5770	5.2200e-003	0.5699	3.9700e-003	0.5739	0.1511	3.6600e-003	0.1548		520.5464	520.5464	0.0134		520.8812
Total	**0.2626**	**1.7825**	**2.0208**	**0.0126**	**0.8010**	**0.0104**	**0.8114**	**0.2175**	**9.7700e-003**	**0.2273**		**1,306.2380**	**1,306.2380**	**0.0436**		**1,307.3290**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Unmitigated	0.6947	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6943					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**		**0.0105**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6943					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.8500e-003	9.8500e-003	3.0000e-005		0.0105
Total	**0.6947**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.8500e-003**	**9.8500e-003**	**3.0000e-005**		**0.0105**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

OFFROAD EQUIPMENT LIST

Project Phase	Construction Phase	Equipment	Quantity	Horsepower	Load Factor	Hours per day	Total Working Days	Total Hours	LPMH	GPH	Total Fuel (gals)
Maintenance and Recreation Facility Upgrades	Site Preparation	Rubber Tired Dozers	3	247	0.4	8	10	80	20.00	5.28	1,268
		Tractors/Loaders/Backhoes	4	97	0.37	8	10	80	7.26	1.92	614
	Grading	Excavators	2	158	0.38	8	110	880	12.15	3.21	5,649
		Graders	1	187	0.41	8	110	880	15.52	4.10	3,607
		Rubber Tired Dozers	1	247	0.4	8	110	880	20.00	5.28	4,648
		Scrapers	2	367	0.48	8	110	880	35.65	9.42	16,576
		Tractors/Loaders/Backhoes	2	97	0.37	8	110	880	7.26	1.92	3,377
		Cranes	2	231	0.29	8	110	880	13.56	3.58	6,303
		Forklifts	2	89	0.2	8	110	880	3.60	0.95	1,675
		Skid Steer Loader	1	65	0.37	8	110	880	4.87	1.29	1,131
	Paving	Pavers	2	130	0.42	8	20	160	11.05	2.92	934
		Paving Equipment	2	132	0.36	8	20	160	9.62	2.54	813
		Rollers	2	80	0.38	8	20	160	6.15	1.63	520

Total Diesel Consumption **47,117**

Formula:

$$LPMH = (K \times HP \times LF) \div KPL$$

Constants:

Desc	Symbol	Quantity	Units
fuel consumption	K =	0.17	kg/brake hp-hour
weight	KPL =	0.84	kg/liter
	1 Liter =	0.26417	gallons

Notes:
CalEEMod Off-Highway Trucks used for Dump Trucks
Aerial Lift horsepower, load factor and hours of use per day used for Manlifts and Scissor Lifts - Please confirm equipment is equivalent

ONROAD EQUIPMENT LIST

Project Phase	Construction Phase	Category	Vehicle Type	Start Date	End Date	Total Working Days	Trip Length	Total trips per Day	Total Trips per Phase	Mileage per Day	Total Mileage per Phase	Fuel Economy	Total Fuel Consumption	
Phase 1 & 2	Site Preparation	Worker	Light-Duty/Passenger Vehicles	2021/01/04	2021/02/12	10	50	18		900	9,000	26.2	344	
		Trucks	Heavy-Duty Diesel	2021/01/04	2021/02/12	10	50	5	60	251	2,512	6.1	412	755
	Grading	Worker	Light-Duty/Passenger Vehicles	2021/02/13	2021/03/26	110	50	33		1,650	181,500	26.2	6,927	
		Trucks	Heavy-Duty Diesel	2021/02/13	2021/03/26	110	50	5		250	27,500	6.1	4,508	11,436
	Paving	Worker	Light-Duty/Passenger Vehicles	2021/03/27	2022/05/20	20	50	15		750	15,000	26.2	573	
		Trucks	Heavy-Duty Diesel	2021/03/27	2022/05/20	20	50	5		250	5,000	6.1	820	1,392
	Total Gas Consumption												**7,844**	
	Total Diesel Consumption												**5,740**	

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Appendix D

Biological Database Queries

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CNDDB Quad Species List 32 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411867	BLACK MTN.	Mapped and Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411867	BLACK MTN.	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411867	BLACK MTN.	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411867	BLACK MTN.	Mapped	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411867	BLACK MTN.	Mapped and Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411867	BLACK MTN.	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411867	BLACK MTN.	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411867	BLACK MTN.	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Ceratochrysis longimala	Desert cuckoo wasp	IIHYM71040	None	None	-	-	3411867	BLACK MTN.	Mapped	Animals - Insects - Chrysididae - Ceratochrysis longimala
Animals - Mammals	Ovis canadensis nelsoni	desert bighorn sheep	AMALE04013	None	None	FP	-	3411867	BLACK MTN.	Unprocessed	Animals - Mammals - Bovidae - Ovis canadensis nelsoni
Animals - Mammals	Perognathus inornatus	San Joaquin pocket mouse	AMAFD01060	None	None	-	-	3411867	BLACK MTN.	Mapped	Animals - Mammals - Heteromyidae - Perognathus inornatus
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411867	BLACK MTN.	Unprocessed	Animals - Mammals - Muridae - Neotoma lepida intermedia
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411867	BLACK MTN.	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411867	BLACK MTN.	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411867	BLACK MTN.	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata

Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411867	BLACK MTN.	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411867	BLACK MTN.	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411867	BLACK MTN.	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	CTT61350CA	None	None	-	-	3411867	BLACK MTN.	Mapped	Community - Terrestrial - Canyon Live Oak Ravine Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411867	BLACK MTN.	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411867	BLACK MTN.	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411867	BLACK MTN.	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411867	BLACK MTN.	Mapped	Community - Terrestrial - Southern Willow Scrub
Plants - Vascular	Allium howellii var. clokeyi	Mt. Pinos onion	PMLIL02161	None	None	-	1B.3	3411867	BLACK MTN.	Mapped	Plants - Vascular - Alliaceae - Allium howellii var. clokeyi
Plants - Vascular	Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-	4.3	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Asteraceae - Lessingia tenuis
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411867	BLACK MTN.	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Frasera neglecta	pine green-gentian	PDGEN05080	None	None	-	4.3	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Gentianaceae - Frasera neglecta
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411867	BLACK MTN.	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis

Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411867	BLACK MTN.	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum

CNDDB Quad Species List 26 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411865	BURNT PEAK	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411865	BURNT PEAK	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411865	BURNT PEAK	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3411865	BURNT PEAK	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Sphyrapicus ruber	red-breasted sapsucker	ABNYF05020	None	None	-	-	3411865	BURNT PEAK	Unprocessed	Animals - Birds - Picidae - Sphyrapicus ruber
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411865	BURNT PEAK	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411865	BURNT PEAK	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411865	BURNT PEAK	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411865	BURNT PEAK	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3411865	BURNT PEAK	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411865	BURNT PEAK	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411865	BURNT PEAK	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Riparian Scrub

Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411865	BURNT PEAK	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Perideridia pringlei	adobe yampah	PDAPI1N0D0	None	None	-	4.3	3411865	BURNT PEAK	Unprocessed	Plants - Vascular - Apiaceae - Perideridia pringlei
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411865	BURNT PEAK	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Streptanthus campestris	southern jewelflower	PDBRA2G0B0	None	None	-	1B.3	3411865	BURNT PEAK	Mapped	Plants - Vascular - Brassicaceae - Streptanthus campestris
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411865	BURNT PEAK	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Lilium humboldtii ssp. ocellatum	ocellated humboldt lily	PMLIL1A072	None	None	-	4.2	3411865	BURNT PEAK	Unprocessed	Plants - Vascular - Liliaceae - Lilium humboldtii ssp. ocellatum
Plants - Vascular	Gilia latiflora ssp. cuyamensis	Cuyama gilia	PDPLM040T2	None	None	-	4.3	3411865	BURNT PEAK	Unprocessed	Plants - Vascular - Polemoniaceae - Gilia latiflora ssp. cuyamensis
Plants - Vascular	Androsace elongata ssp. acuta	California androsace	PDPRI02031	None	None	-	4.2	3411865	BURNT PEAK	Unprocessed	Plants - Vascular - Primulaceae - Androsace elongata ssp. acuta

CNDDB Quad Species List 30 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped and Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411857	COBBLESTONE MTN.	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411857	COBBLESTONE MTN.	Mapped	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411857	COBBLESTONE MTN.	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Mammals	Ovis canadensis nelsoni	desert bighorn sheep	AMALE04013	None	None	FP	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Mammals - Bovidae - Ovis canadensis nelsoni
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea

Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411857	COBBLESTONE MTN.	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411857	COBBLESTONE MTN.	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	CTT61350CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Canyon Live Oak Ravine Forest
Community - Terrestrial	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Coastal and Valley Freshwater Marsh
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411857	COBBLESTONE MTN.	Mapped	Community - Terrestrial - Southern Willow Scrub
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411857	COBBLESTONE MTN.	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411857	COBBLESTONE MTN.	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum
Plants - Vascular	Heuchera caespitosa	urn-flowered alumroot	PDSAX0E1C0	None	None	-	4.3	3411857	COBBLESTONE MTN.	Unprocessed	Plants - Vascular - Saxifragaceae - Heuchera caespitosa

CNDDB Quad Species List 46 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Batrachoseps gabrieli	San Gabriel slender salamander	AAAAD02110	None	None	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Amphibians - Plethodontidae - Batrachoseps gabrieli
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Polioptila melanura	black-tailed gnatcatcher	ABPBJ08030	None	None	WL	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Polioptilidae - Polioptila melanura
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411854	GREEN VALLEY	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni

Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411854	GREEN VALLEY	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Euphydryas editha quino	quino checkerspot butterfly	IILEPK405L	Endangered	None	-	-	3411854	GREEN VALLEY	Mapped	Animals - Insects - Nymphalidae - Euphydryas editha quino
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Mammals - Muridae - Neotoma lepida intermedia
Animals - Mammals	Onychomys torridus ramona	southern grasshopper mouse	AMAFF06022	None	None	SSC	-	3411854	GREEN VALLEY	Mapped	Animals - Mammals - Muridae - Onychomys torridus ramona
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Neotamias speciosus speciosus	lodgepole chipmunk	AMAFB02172	None	None	-	-	3411854	GREEN VALLEY	Mapped	Animals - Mammals - Sciuridae - Neotamias speciosus speciosus
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411854	GREEN VALLEY	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411854	GREEN VALLEY	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411854	GREEN VALLEY	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis sirtalis pop. 1	south coast gartersnake	ARADB3613F	None	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis sirtalis pop. 1
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411854	GREEN VALLEY	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411854	GREEN VALLEY	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Aquatic	Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	CARE2320CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Aquatic - Southern California Threespine Stickleback Stream
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest

Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411854	GREEN VALLEY	Mapped	Community - Terrestrial - Southern Willow Scrub
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411854	GREEN VALLEY	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411854	GREEN VALLEY	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411854	GREEN VALLEY	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Lepechinia fragrans	fragrant pitcher sage	PDLAM0V030	None	None	-	4.2	3411854	GREEN VALLEY	Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia fragrans
Plants - Vascular	Lepechinia rossii	Ross' pitcher sage	PDLAM0V060	None	None	-	1B.2	3411854	GREEN VALLEY	Mapped	Plants - Vascular - Lamiaceae - Lepechinia rossii
Plants - Vascular	Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	PMLIL0D095	None	None	-	1B.2	3411854	GREEN VALLEY	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. avius
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411854	GREEN VALLEY	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411854	GREEN VALLEY	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus palmeri var. palmeri	Palmer's mariposa-lily	PMLIL0D122	None	None	-	1B.2	3411854	GREEN VALLEY	Mapped	Plants - Vascular - Liliaceae - Calochortus palmeri var. palmeri
Plants - Vascular	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	None	None	-	1B.1	3411854	GREEN VALLEY	Mapped	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. parryi
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411854	GREEN VALLEY	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum

CNDDB Quad Species List 74 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Ensatina eschscholtzii croceater	yellow-blotched salamander	AAAAD04011	None	None	WL	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Amphibians - Plethodontidae - Ensatina eschscholtzii croceater
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411877	LEBEC	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Alaudidae - Eremophila alpestris actia
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411877	LEBEC	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411877	LEBEC	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411877	LEBEC	Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411877	LEBEC	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411877	LEBEC	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Xanthocephalus xanthocephalus	yellow-headed blackbird	ABPBXB3010	None	None	SSC	-	3411877	LEBEC	Unprocessed	Animals - Birds - Icteridae - Xanthocephalus xanthocephalus
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411877	LEBEC	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Parulidae - Setophaga petechia

Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Passerellidae - Ammodramus savannarum
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3411877	LEBEC	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411877	LEBEC	Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411877	LEBEC	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Plebulina emigdionis	San Emigdio blue butterfly	IILEPG7010	None	None	-	-	3411877	LEBEC	Mapped	Animals - Insects - Lycaenidae - Plebulina emigdionis
Animals - Mammals	Perognathus alticola inexpectatus	Tehachapi pocket mouse	AMAFD01082	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Mammals - Heteromyidae - Perognathus alticola inexpectatus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411877	LEBEC	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Myotis thysanodes	fringed myotis	AMACC01090	None	None	-	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Myotis thysanodes
Animals - Mammals	Myotis volans	long-legged myotis	AMACC01110	None	None	-	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Myotis volans
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Reptiles	Anniella pulchra	Northern California legless lizard	ARACC01020	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.

Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Gambelia sila	blunt-nosed leopard lizard	ARACF07010	Endangered	Endangered	FP	-	3411877	LEBEC	Mapped	Animals - Reptiles - Crotaphytidae - Gambelia sila
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411877	LEBEC	Mapped	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411877	LEBEC	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411877	LEBEC	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Valley Needlegrass Grassland	Valley Needlegrass Grassland	CTT42110CA	None	None	-	-	3411877	LEBEC	Mapped	Community - Terrestrial - Valley Needlegrass Grassland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411877	LEBEC	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Wildflower Field	Wildflower Field	CTT42300CA	None	None	-	-	3411877	LEBEC	Mapped	Community - Terrestrial - Wildflower Field
Plants - Vascular	Perideridia pringlei	adobe yampah	PDAPI1N0D0	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Apiaceae - Perideridia pringlei
Plants - Vascular	Eriophyllum lanatum var. hallii	Fort Tejon woolly sunflower	PDAST3N058	None	None	-	1B.1	3411877	LEBEC	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Eriophyllum lanatum var. hallii
Plants - Vascular	Microseris sylvatica	sylvan microseris	PDAST6E0E0	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Asteraceae - Microseris sylvatica
Plants - Vascular	Packera ionophylla	Tehachapi ragwort	PDAST8H1T0	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Asteraceae - Packera ionophylla
Plants - Vascular	Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	None	None	-	1B.2	3411877	LEBEC	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Symphyotrichum defoliatum
Plants - Vascular	Syntrichopappus lemmonii	Lemmon's syntrichopappus	PDAST90020	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Asteraceae - Syntrichopappus lemmonii
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii

Plants - Vascular	Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	PDERI042P0	None	None	-	1B.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Ericaceae - Arctostaphylos glandulosa ssp. gabrielensis
Plants - Vascular	Astragalus leucolobus	Big Bear Valley woollypod	PDFAB0F4T0	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Fabaceae - Astragalus leucolobus
Plants - Vascular	Thermopsis californica var. argentata	silvery false lupine	PDFAB3Z011	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Fabaceae - Thermopsis californica var. argentata
Plants - Vascular	Ribes menziesii var. ixoderme	aromatic canyon gooseberry	PDGRO02104	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Grossulariaceae - Ribes menziesii var. ixoderme
Plants - Vascular	Nemophila parviflora var. quercifolia	oak-leaved nemophila	PDHYD0B073	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Hydrophyllaceae - Nemophila parviflora var. quercifolia
Plants - Vascular	Acanthomintha obovata ssp. cordata	heart-leaved thorn-mint	PDLAM01033	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Lamiaceae - Acanthomintha obovata ssp. cordata
Plants - Vascular	Monardella linoides ssp. oblonga	Tehachapi monardella	PDLAM180D2	None	None	-	1B.3	3411877	LEBEC	Mapped	Plants - Vascular - Lamiaceae - Monardella linoides ssp. oblonga
Plants - Vascular	Calochortus palmeri var. palmeri	Palmer's mariposa-lily	PMLIL0D122	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Liliaceae - Calochortus palmeri var. palmeri
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Diplacus pictus	calico monkeyflower	PDSCR1B240	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Phrymaceae - Diplacus pictus
Plants - Vascular	Erythranthe inconspicua	small-flowered monkeyflower	PDSCR1B1F0	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Phrymaceae - Erythranthe inconspicua
Plants - Vascular	Eriastrum hooveri	Hoover's eriastrum	PDPLM03070	Delisted	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Polemoniaceae - Eriastrum hooveri
Plants - Vascular	Eriastrum tracyi	Tracy's eriastrum	PDPLM030C0	None	Rare	-	3.2	3411877	LEBEC	Mapped and Unprocessed	Plants - Vascular - Polemoniaceae - Eriastrum tracyi
Plants - Vascular	Navarretia peninsularis	Baja navarretia	PDPLM0C0L0	None	None	-	1B.2	3411877	LEBEC	Mapped	Plants - Vascular - Polemoniaceae - Navarretia peninsularis
Plants - Vascular	Navarretia setiloba	Piute Mountains navarretia	PDPLM0C0S0	None	None	-	1B.1	3411877	LEBEC	Mapped	Plants - Vascular - Polemoniaceae - Navarretia setiloba
Plants - Vascular	Eriogonum callistum	Tehachapi buckwheat	PDPGN08790	None	None	-	1B.1	3411877	LEBEC	Mapped and Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum callistum
Plants - Vascular	Eriogonum nudum var. indictum	protruding buckwheat	PDPGN08494	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum nudum var. indictum
Plants - Vascular	Androsace elongata ssp. acuta	California androsace	PDPRI02031	None	None	-	4.2	3411877	LEBEC	Unprocessed	Plants - Vascular - Primulaceae - Androsace elongata ssp. acuta

Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411877	LEBEC	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum

CNDDB Quad Species List 29 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411866	LIEBRE MTN.	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411866	LIEBRE MTN.	Mapped	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411866	LIEBRE MTN.	Mapped and Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411866	LIEBRE MTN.	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Vireo vicinior	gray vireo	ABPBW01140	None	None	SSC	-	3411866	LIEBRE MTN.	Unprocessed	Animals - Birds - Vireonidae - Vireo vicinior
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411866	LIEBRE MTN.	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411866	LIEBRE MTN.	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411866	LIEBRE MTN.	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411866	LIEBRE MTN.	Unprocessed	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411866	LIEBRE MTN.	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411866	LIEBRE MTN.	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411866	LIEBRE MTN.	Mapped	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest

Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411866	LIEBRE MTN.	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Allium howellii var. clokeyi	Mt. Pinos onion	PMLIL02161	None	None	-	1B.3	3411866	LIEBRE MTN.	Mapped	Plants - Vascular - Alliaceae - Allium howellii var. clokeyi
Plants - Vascular	Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-	4.3	3411866	LIEBRE MTN.	Unprocessed	Plants - Vascular - Asteraceae - Lessingia tenuis
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411866	LIEBRE MTN.	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411866	LIEBRE MTN.	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Clinopodium mimuloides	monkey-flower savory	PDLAM1T040	None	None	-	4.2	3411866	LIEBRE MTN.	Unprocessed	Plants - Vascular - Lamiaceae - Clinopodium mimuloides
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411866	LIEBRE MTN.	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Castilleja gleasoni	Mt. Gleason paintbrush	PDSCR0D140	None	Rare	-	1B.2	3411866	LIEBRE MTN.	Mapped	Plants - Vascular - Orobanchaceae - Castilleja gleasoni
Plants - Vascular	Gilia latiflora ssp. cuyamensis	Cuyama gilia	PDPLM040T2	None	None	-	4.3	3411866	LIEBRE MTN.	Unprocessed	Plants - Vascular - Polemoniaceae - Gilia latiflora ssp. cuyamensis
Plants - Vascular	Androsace elongata ssp. acuta	California androsace	PDPRI02031	None	None	-	4.2	3411866	LIEBRE MTN.	Unprocessed	Plants - Vascular - Primulaceae - Androsace elongata ssp. acuta
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411866	LIEBRE MTN.	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum

CNDDB Quad Species List 23 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411876	LA LIEBRE RANCH	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411876	LA LIEBRE RANCH	Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3411876	LA LIEBRE RANCH	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Dipodomys panamintinus panamintinus	Panamint kangaroo rat	AMAFD03092	None	None	-	-	3411876	LA LIEBRE RANCH	Unprocessed	Animals - Mammals - Heteromyidae - Dipodomys panamintinus panamintinus
Animals - Mammals	Perognathus alticola inexpectatus	Tehachapi pocket mouse	AMAFD01082	None	None	SSC	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Mammals - Heteromyidae - Perognathus alticola inexpectatus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411876	LA LIEBRE RANCH	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Reptiles	Anniella pulchra	Northern California legless lizard	ARACC01020	None	None	SSC	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411876	LA LIEBRE RANCH	Mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411876	LA LIEBRE RANCH	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411876	LA LIEBRE RANCH	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Perideridia pringlei	adobe yampah	PDAPI1N0D0	None	None	-	4.3	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Apiaceae - Perideridia pringlei
Plants - Vascular	Microseris sylvatica	sylvan microseris	PDAST6E0E0	None	None	-	4.2	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Asteraceae - Microseris sylvatica

Plants - Vascular	Syntrichopappus lemmonii	Lemmon's syntrichopappus	PDAST90020	None	None	-	4.3	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Asteraceae - Syntrichopappus lemmonii
Plants - Vascular	Thermopsis californica var. argentata	silvery false lupine	PDFAB3Z011	None	None	-	4.3	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Fabaceae - Thermopsis californica var. argentata
Plants - Vascular	Calochortus palmeri var. palmeri	Palmer's mariposa-lily	PMLIL0D122	None	None	-	1B.2	3411876	LA LIEBRE RANCH	Mapped	Plants - Vascular - Liliaceae - Calochortus palmeri var. palmeri
Plants - Vascular	Muhlenbergia utilis	aparejo grass	PMPOA481X0	None	None	-	2B.2	3411876	LA LIEBRE RANCH	Mapped	Plants - Vascular - Poaceae - Muhlenbergia utilis
Plants - Vascular	Chorizanthe spinosa	Mojave spineflower	PDPGN040R0	None	None	-	4.2	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Polygonaceae - Chorizanthe spinosa
Plants - Vascular	Goodmania luteola	golden goodmania	PDPGN0B010	None	None	-	4.2	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Polygonaceae - Goodmania luteola
Plants - Vascular	Androsace elongata ssp. acuta	California androsace	PDPRI02031	None	None	-	4.2	3411876	LA LIEBRE RANCH	Unprocessed	Plants - Vascular - Primulaceae - Androsace elongata ssp. acuta

CNDDB Quad Species List 53 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Batrachoseps gabrieli	San Gabriel slender salamander	AAAAD02110	None	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Amphibians - Plethodontidae - Batrachoseps gabrieli
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Alaudidae - Eremophila alpestris actia
Animals - Birds	Chaetura vauxi	Vaux's swift	ABNUA03020	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Apodidae - Chaetura vauxi
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Strigidae - Asio flammeus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Trochilidae - Calypte costae

Animals - Birds	Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Tyrannidae - Contopus cooperi
Animals - Birds	Vireo vicinior	gray vireo	ABPBW01140	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Birds - Vireonidae - Vireo vicinior
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3411844	MINT CANYON	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411844	MINT CANYON	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411844	MINT CANYON	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Euphydryas editha quino	quino checkerspot butterfly	IILEPK405L	Endangered	None	-	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Insects - Nymphalidae - Euphydryas editha quino
Animals - Mammals	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Mammals - Leporidae - Lepus californicus bennettii
Animals - Mammals	Onychomys torridus ramona	southern grasshopper mouse	AMAFF06022	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Mammals - Muridae - Onychomys torridus ramona
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411844	MINT CANYON	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411844	MINT CANYON	Unprocessed	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii

Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411844	MINT CANYON	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411844	MINT CANYON	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411844	MINT CANYON	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411844	MINT CANYON	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411844	MINT CANYON	Mapped	Community - Terrestrial - Southern Willow Scrub
Plants - Vascular	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	None	None	-	4.2	3411844	MINT CANYON	Mapped and Unprocessed	Plants - Vascular - Boraginaceae - Harpagonella palmeri
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411844	MINT CANYON	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411844	MINT CANYON	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411844	MINT CANYON	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411844	MINT CANYON	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411844	MINT CANYON	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus palmeri var. palmeri	Palmer's mariposa-lily	PMLIL0D122	None	None	-	1B.2	3411844	MINT CANYON	Mapped	Plants - Vascular - Liliaceae - Calochortus palmeri var. palmeri
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411844	MINT CANYON	Mapped	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Orcuttia californica	California Orcutt grass	PMPOA4G010	Endangered	Endangered	-	1B.1	3411844	MINT CANYON	Mapped	Plants - Vascular - Poaceae - Orcuttia californica
Plants - Vascular	Navarretia fossalis	spreading navarretia	PDPLM0C080	Threatened	None	-	1B.1	3411844	MINT CANYON	Mapped	Plants - Vascular - Polemoniaceae - Navarretia fossalis

Plants - Vascular	Navarretia setiloba	Piute Mountains navarretia	PDPLM0C0S0	None	None	-	1B.1	3411844	MINT CANYON	Mapped	Plants - Vascular - Polemoniaceae - Navarretia setiloba
Plants - Vascular	Dodecahema leptoceras	slender-horned spineflower	PDPGN0V010	Endangered	Endangered	-	1B.1	3411844	MINT CANYON	Mapped	Plants - Vascular - Polygonaceae - Dodecahema leptoceras
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411844	MINT CANYON	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum

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Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3411845	NEWHALL	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Alaudidae - Eremophila alpestris actia
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Piranga flava	hepatic tanager	ABPBX45020	None	None	WL	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Cardinalidae - Piranga flava
Animals - Birds	Piranga rubra	summer tanager	ABPBX45030	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Cardinalidae - Piranga rubra
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Icteriidae - Icteria virens

Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Birds - Passerellidae - Ammodramus savannarum
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Birds	Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Tyrannidae - Contopus cooperi
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411845	NEWHALL	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Rhinichthys osculus ssp. 3	Santa Ana speckled dace	AFCJB3705K	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Fish - Cyprinidae - Rhinichthys osculus ssp. 3
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411845	NEWHALL	Mapped	Animals - Insects - Apidae - Bombus crotchii

Animals - Mammals	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Mammals - Leporidae - Lepus californicus bennettii
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Mammals - Muridae - Neotoma lepida intermedia
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Euderma maculatum	spotted bat	AMACC07010	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Mammals - Vespertilionidae - Euderma maculatum
Animals - Mammals	Myotis velifer	cave myotis	AMACC01050	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis velifer
Animals - Reptiles	Anniella pulchra	Northern California legless lizard	ARACC01020	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411845	NEWHALL	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411845	NEWHALL	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411845	NEWHALL	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411845	NEWHALL	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Aquatic	Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	CARE2320CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Aquatic - Southern California Threespine Stickleback Stream
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	Mainland Cherry Forest	Mainland Cherry Forest	CTT81820CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Mainland Cherry Forest
Community - Terrestrial	Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	CTT32720CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Riversidian Alluvial Fan Sage Scrub

Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411845	NEWHALL	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Deinandra paniculata	paniculate tarplant	PDAST4R0N0	None	None	-	4.2	3411845	NEWHALL	Unprocessed	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Vascular	Helianthus inexpectatus	Newhall sunflower	PDAST4N250	None	None	-	1B.1	3411845	NEWHALL	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Helianthus inexpectatus
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411845	NEWHALL	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Senecio aphanactis	chaparral ragwort	PDAST8H060	None	None	-	2B.2	3411845	NEWHALL	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Vascular	Berberis nevinii	Nevin's barberry	PDBER060A0	Endangered	Endangered	-	1B.1	3411845	NEWHALL	Mapped	Plants - Vascular - Berberidaceae - Berberis nevinii
Plants - Vascular	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	None	None	-	4.2	3411845	NEWHALL	Mapped and Unprocessed	Plants - Vascular - Boraginaceae - Harpagonella palmeri
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411845	NEWHALL	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411845	NEWHALL	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Phacelia mohavensis	Mojave phacelia	PDHYD0C310	None	None	-	4.3	3411845	NEWHALL	Unprocessed	Plants - Vascular - Hydrophyllaceae - Phacelia mohavensis
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411845	NEWHALL	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411845	NEWHALL	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411845	NEWHALL	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411845	NEWHALL	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus

Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411845	NEWHALL	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus palmeri var. palmeri	Palmer's mariposa-lily	PMLIL0D122	None	None	-	1B.2	3411845	NEWHALL	Mapped	Plants - Vascular - Liliaceae - Calochortus palmeri var. palmeri
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411845	NEWHALL	Mapped	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Orcuttia californica	California Orcutt grass	PMPOA4G010	Endangered	Endangered	-	1B.1	3411845	NEWHALL	Mapped	Plants - Vascular - Poaceae - Orcuttia californica
Plants - Vascular	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	PDPGN040J1	None	Endangered	-	1B.1	3411845	NEWHALL	Mapped and Unprocessed	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. fernandina
Plants - Vascular	Dodecahema leptoceras	slender-horned spineflower	PDPGN0V010	Endangered	Endangered	-	1B.1	3411845	NEWHALL	Mapped	Plants - Vascular - Polygonaceae - Dodecahema leptoceras
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411845	NEWHALL	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum
Plants - Vascular	Cercocarpus betuloides var. blancheae	island mountain-mahogany	PDROS08022	None	None	-	4.3	3411845	NEWHALL	Unprocessed	Plants - Vascular - Rosaceae - Cercocarpus betuloides var. blancheae

CNDDB Quad Species List 50 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411847	PIRU	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411847	PIRU	Mapped	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus

Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411847	PIRU	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411847	PIRU	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411847	PIRU	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Mammals	Vulpes macrotis mutica	San Joaquin kit fox	AMAJA03041	Endangered	Threatened	-	-	3411847	PIRU	Unprocessed	Animals - Mammals - Canidae - Vulpes macrotis mutica
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411847	PIRU	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411847	PIRU	Mapped	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Riparian Scrub

Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Walnut Forest	Walnut Forest	CTT81600CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Walnut Forest
Plants - Vascular	Deinandra paniculata	paniculate tarplant	PDAST4R0N0	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Vascular	Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-	4.3	3411847	PIRU	Unprocessed	Plants - Vascular - Asteraceae - Lessingia tenuis
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411847	PIRU	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411847	PIRU	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Lupinus paynei	Payne's bush lupine	PDFAB2B580	None	None	-	1B.1	3411847	PIRU	Mapped	Plants - Vascular - Fabaceae - Lupinus paynei
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411847	PIRU	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Clarkia exilis	slender clarkia	PDONA050G0	None	None	-	4.3	3411847	PIRU	Unprocessed	Plants - Vascular - Onagraceae - Clarkia exilis

CNDDB Quad Species List 52 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Chaetura vauxi	Vaux's swift	ABNUA03020	None	None	SSC	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Apodidae - Chaetura vauxi
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3411846	VAL VERDE	Mapped	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Trochilidae - Calypte costae

Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411846	VAL VERDE	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411846	VAL VERDE	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Euderma maculatum	spotted bat	AMACC07010	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Mammals - Vespertilionidae - Euderma maculatum
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3411846	VAL VERDE	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411846	VAL VERDE	Mapped	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis sirtalis pop. 1	south coast gartersnake	ARADB3613F	None	None	SSC	-	3411846	VAL VERDE	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis sirtalis pop. 1
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411846	VAL VERDE	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411846	VAL VERDE	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri

Community - Aquatic	Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	CARE2320CA	None	None	-	-	3411846	VAL VERDE	Mapped	Community - Aquatic - Southern California Threespine Stickleback Stream
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411846	VAL VERDE	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411846	VAL VERDE	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411846	VAL VERDE	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411846	VAL VERDE	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	None	None	-	4.2	3411846	VAL VERDE	Mapped	Plants - Vascular - Boraginaceae - Harpagonella palmeri
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411846	VAL VERDE	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411846	VAL VERDE	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411846	VAL VERDE	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411846	VAL VERDE	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Orcuttia californica	California Orcutt grass	PMPOA4G010	Endangered	Endangered	-	1B.1	3411846	VAL VERDE	Mapped	Plants - Vascular - Poaceae - Orcuttia californica
Plants - Vascular	Navarretia ojaiensis	Ojai navarretia	PDPLM0C130	None	None	-	1B.1	3411846	VAL VERDE	Mapped and Unprocessed	Plants - Vascular - Polemoniaceae - Navarretia ojaiensis
Plants - Vascular	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	PDPGN040J1	None	Endangered	-	1B.1	3411846	VAL VERDE	Mapped	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. fernandina
Plants - Vascular	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	None	None	-	1B.1	3411846	VAL VERDE	Mapped	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. parryi
Plants - Vascular	Cercocarpus betuloides var. blancheae	island mountain-mahogany	PDROS08022	None	None	-	4.3	3411846	VAL VERDE	Unprocessed	Plants - Vascular - Rosaceae - Cercocarpus betuloides var. blancheae

CNDDB Quad Species List 53 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Spizella breweri	Brewer's sparrow	ABPBX94040	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Passerellidae - Spizella breweri

Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Birds	Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Trochilidae - Selasphorus rufus
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411856	WHITAKER PEAK	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Lynx rufus pallescens	pallid bobcat	AMAJH03022	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Mammals - Felidae - Lynx rufus pallescens
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411856	WHITAKER PEAK	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411856	WHITAKER PEAK	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri

Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411856	WHITAKER PEAK	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411856	WHITAKER PEAK	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411856	WHITAKER PEAK	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411856	WHITAKER PEAK	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411856	WHITAKER PEAK	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411856	WHITAKER PEAK	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411856	WHITAKER PEAK	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411856	WHITAKER PEAK	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411856	WHITAKER PEAK	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411856	WHITAKER PEAK	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411856	WHITAKER PEAK	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411856	WHITAKER PEAK	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Hordeum intercedens	vernal barley	PMPOA380E0	None	None	-	3.2	3411856	WHITAKER PEAK	Unprocessed	Plants - Vascular - Poaceae - Hordeum intercedens
Plants - Vascular	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	PDPGN040J1	None	Endangered	-	1B.1	3411856	WHITAKER PEAK	Mapped	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. fernandina

CNDDB Quad Species List 55 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Birds - Alaudidae - Eremophila alpestris actia
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Calypte costae	Costa's hummingbird	ABNUC47020	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Trochilidae - Calypte costae
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gasterosteus aculeatus microcephalus	resident threespine stickleback	AFCPA03015	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus microcephalus

Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Mammals - Leporidae - Lepus californicus bennettii
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Mammals - Muridae - Neotoma lepida intermedia
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Aquatic	Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	CARE2320CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Aquatic - Southern California Threespine Stickleback Stream
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Terrestrial - Southern Riparian Scrub

Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411855	WARM SPRINGS MOUNTAIN	Mapped	Community - Terrestrial - Southern Willow Scrub
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411855	WARM SPRINGS MOUNTAIN	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Berberis nevinii	Nevin's barberry	PDBER060A0	Endangered	Endangered	-	1B.1	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Plants - Vascular - Berberidaceae - Berberis nevinii
Plants - Vascular	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Boraginaceae - Harpagonella palmeri
Plants - Vascular	Streptanthus campestris	southern jewelflower	PDBRA2G0B0	None	None	-	1B.3	3411855	WARM SPRINGS MOUNTAIN	Mapped	Plants - Vascular - Brassicaceae - Streptanthus campestris
Plants - Vascular	Opuntia basilaris var. brachyclada	short-joint beavertail	PDCAC0D053	None	None	-	1B.2	3411855	WARM SPRINGS MOUNTAIN	Mapped	Plants - Vascular - Cactaceae - Opuntia basilaris var. brachyclada
Plants - Vascular	Silene occidentalis ssp. longistipitata	long-stiped campion	PDCAR0U161	None	None	-	1B.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Caryophyllaceae - Silene occidentalis ssp. longistipitata
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Lepechinia fragrans	fragrant pitcher sage	PDLAM0V030	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia fragrans
Plants - Vascular	Lepechinia rossii	Ross' pitcher sage	PDLAM0V060	None	None	-	1B.2	3411855	WARM SPRINGS MOUNTAIN	Mapped and Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia rossii
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411855	WARM SPRINGS MOUNTAIN	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Lilium humboldtii ssp. ocellatum	ocellated humboldt lily	PMLIL1A072	None	None	-	4.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Liliaceae - Lilium humboldtii ssp. ocellatum
Plants - Vascular	Hordeum intercedens	vernal barley	PMPOA380E0	None	None	-	3.2	3411855	WARM SPRINGS MOUNTAIN	Unprocessed	Plants - Vascular - Poaceae - Hordeum intercedens
Plants - Vascular	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	PDPGN040J1	None	Endangered	-	1B.1	3411855	WARM SPRINGS MOUNTAIN	Mapped	Plants - Vascular - Polygonaceae - Chorizanthe parryi var. fernandina

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Los Angeles and Ventura counties, California

Local offices

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958

2493 Portola Road, Suite B
Ventura, CA 93003-7726

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

NOT FOR CONSULTATION

California Condor Gymnogyps californianus — Endangered
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/8193

Coastal California Gnatcatcher Polioptila californica californica — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8178

Least Bell's Vireo Vireo bellii pusillus — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/5945

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/6749

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad Anaxyrus californicus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/3762	Endangered
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Unarmored Threespine Stickleback Gasterosteus aculeatus williamsoni There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7002	Endangered

Crustaceans

NAME	STATUS

NOT FOR CONSULTATION

Riverside Fairy Shrimp Streptocephalus woottoni — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8148

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS
California Orcutt Grass Orcuttia californica No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4923	Endangered
Gambel's Watercress Rorippa gambellii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4201	Endangered
Marsh Sandwort Arenaria paludicola No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered
Nevin's Barberry Berberis nevinii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8025	Endangered
Slender-horned Spineflower Dodecahema leptoceras No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4007	Endangered
Spreading Navarretia Navarretia fossalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1334	Threatened

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE

Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* Final
https://ecos.fws.gov/ecp/species/3762#crithab

California Condor *Gymnogyps californianus* Final
https://ecos.fws.gov/ecp/species/8193#crithab

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

NOT FOR CONSULTATION

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin — Breeds Feb 1 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9637

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black-chinned Sparrow Spizella atrogularis — Breeds Apr 15 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

NOT FOR CONSULTATION

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Mountain Plover Charadrius montanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3638

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

NOT FOR CONSULTATION

Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that

week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

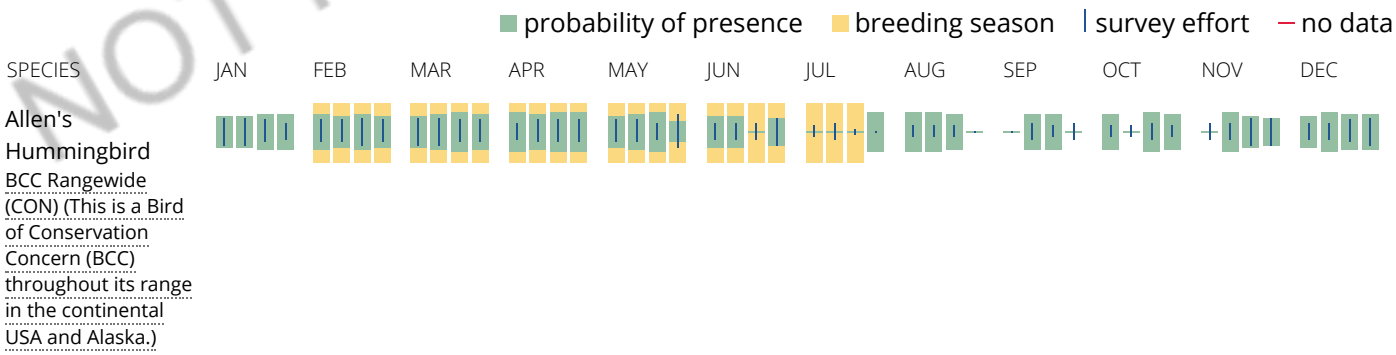
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

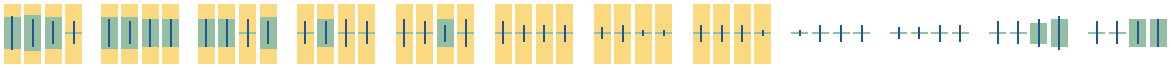
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

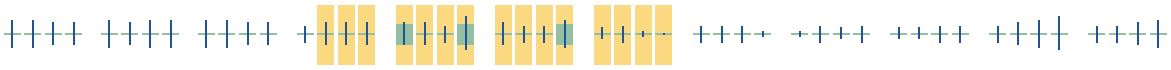


NOT FOR CONSULTATION

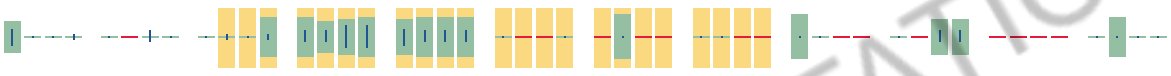
Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



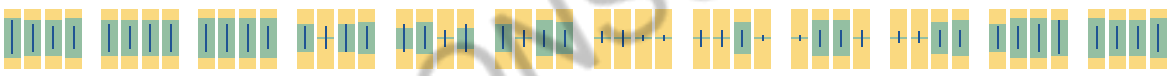
Black-chinned Sparrow
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



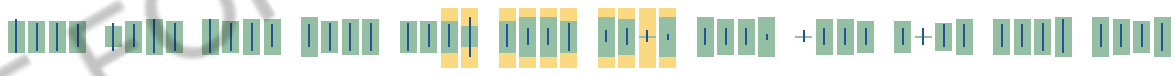
Burrowing Owl
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



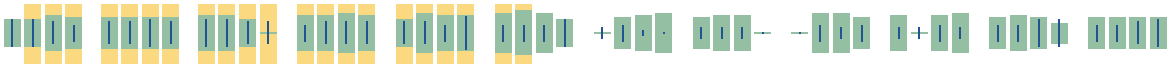
Clark's Grebe
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



DRAFT FOR CONSULTATION

Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Lewis's Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Long-billed Curlew
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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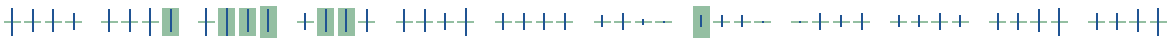
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Mountain Plover
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

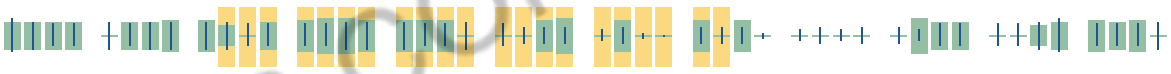
Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

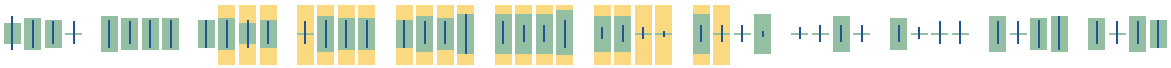
Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to

occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

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Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal,

state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Special Status Animals in California, Including BLM Designated Sensitive Species

	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Mammals						
	Amargosa vole	Microtus californicus scirpensis	FE	SE		
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	California wolverine	Gulo gulo				
	Cave myotis	Myotis velifer			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fisher	Pekania pennanti	FC	SC	BLMS	SSC
	Fringed myotis	Myotis thysanodes			BLMS	
	Giant kangaroo rat	Dipodomys ingens	FE	SE		
	Gray Wolf	Canis lupus	FE			
	Long-eared myotis	Myotis evotis			BLMS	
	Mohave ground squirrel	Xerospermophilus mohavensis		ST	BLMS	
	Monterey dusky-footed woodrat	Neotoma macrotis luciana			BLMS	
	Nelson's antelope squirrel	Ammospermophilus nelsoni		ST	BLMS	
	Owens Valley vole	Microtus californicus vallicola			BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Palm Springs little pocket mouse	Perognathus longimembris bangsi			BLMS	
	Palm Springs round-tailed ground squirrel	Xerospermophilus tereticaudus chlorus	FC		BLMS	SSC
	Peninsular Bighorn sheep	Ovis canadensis nelsoni (Pensiluar)	FE			
	Point arena mountain beaver	Aplodontia rufa nigra	FE			
	Pygmy rabbit	Brachylagus idahoensis			BLMS	
	San bernadino kangaroo rat	Dipodomys merriami parvus	FE			
	San Joaquin kit fox	Vulpes macrotis mutica	FE	ST		
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Short-nosed kangaroo rat	Dipodomys nitratoides brevinasus			BLMS	
	Sierra Nevada bighorn sheep	Ovis canadensis sierrae	FE	SE		SF
	Sierra Nevada Red fox	Vulpes vulpes necator				
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Southern sea otter	Enhydra lutris nereis	FT			
	Spotted bat	Euderma maculatum			BLMS	SSC
	Steller sea-lion	Eumetopias jubatus				
	Stephens' kangaroo rat	Dipodomys stephensi	FE	ST		
	Tipton kangaroo rat	Dipodomys nitratoides nitratoides	FE	SE		
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Tulare grasshopper mouse	Onychomys torridus tularensis			BLMS	
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	White-eared pocket mouse	Perognathus alticola			BLMS	
	Yellow-eared pocket mouse	Perognathus mollipilosus xanthonotus			BLMS	
	Yuma myotis	Myotis yumanensis			BLMS	
Birds						
	American peregrine falcon	Falco peregrinus anatum				
	Arizona bell's vireo	Vireo bellii arizonae		SE	BLMS	
	Ashy storm-petrel	Oceanodroma homochroa			BLMS	SSC

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Bendire's thrasher	Toxostoma bendirei			BLMS	SSC
	Brown pelican	Pelecanus occidentalis californicus	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California condoe	Gymnogyps californianus	FE			
	California Least tern	Sternula antillarum browni	FE			
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Coastal California gnatcatcher	Polioptila californica californica	FT			
	Crissal thrasher	Toxostoma crissale			BLMS	
	Elf owl	Micrathene whitneyi		SE	BLMS	
	Fork-tailed storm-petrel	Oceanodroma furcata			BLMS	SSC
	Gila woodpecker	Melanerpes uropygialis		SE	BLMS	
	Gilded flicker	Colaptes chrysoides		SE	BLMS	
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Gray vireo	Vireo vicinior			BLMS	SSC
	Greater sage-grouse	Centrocercus urophasianus	FC		BLMS	SSC
	Greater sandhill crane	Antigone canadensis tabida		ST	BLMS	SF
	Inyo California towhee	Melozone crissalis eremophilus	FT	SE		
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Lucy's warbler	Oreothlypis luciae			BLMS	SSC
	Marbled murrelet	Brachyramphus marmoratus	FT			
	Mountain plover	Charadrius montanus			BLMS	SSC
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	San Joaquin Le Conte's thrasher	Toxostoma lecontei			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western snowy plover	Charadrius alexandrinus nivosus	FT			
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Xantus' murrelet	Synthliboramphus scrippsi	FC	ST	BLMS	
	Yuma clapper rail	Rallus obsoletus yumanensis	FE	ST		SF
Reptiles						
	Barefoot banded gecko	Coleonyx switaki		ST	BLMS	
	Blunt-nosed leopard lizard	Gambelia sila	FE	SE		SF
	California mountain kingsnake	Lampropeltis zonata (pulchra)			BLMS	
	Coachella Valley fringe-toed lizard	Uma inornata	FT	SE		
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Colorado Desert fringe-toed lizard	Uma notata			BLMS	
	Coronado skink	Plestiodon skiltonianus interparietalis			BLMS	
	Desert tortoise	Gopherus agassizii	FT	ST		
	Flat-tailed horned lizard	Phrynosoma mcallii			BLMS	
	Gila monster Banded	Heloderma suspectum cinctum			BLMS	
	Mojave fringe-toed lizard	Uma scoparia			BLMS	

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	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	
	Panamint alligator lizard	Elgaria panamintina			BLMS	
	Two-striped garter snake	Thamnophis hammondii			BLMS	
	Western pond turtle	Emys marmorata			BLMS	
Amphibians						
	Arroyo toad	Anaxyrus californicus	FE			
	Black toad	Anaxyrus exsul		ST	BLMS	SF
	California Red-Legged frog	Rana draytonii	FT			
	California tiger salamander	Ambystoma californiense	FT	SC		SSC
	Couch's spadefoot toad	Scaphiopus couchii			BLMS	
	Desert slender salamander	Batrachoseps major aridus	FE	SE		
	Foothill yellow-legged frog	Rana boylii			BLMS	
	Inyo Mountains slender salamander	Batrachoseps campi			BLMS	
	Limestone salamander	Hydromantes brunus		ST	BLMS	SF
	Lowland leopard frog	Lithobates yavapaiensis			BLMS	
	Oregon spotted frog	Rana pretiosa	FC		BLMS	
	Shasta salamander	Hydromantes shastae			BLMS	
	Sierra Nevada Yellow-Legged frog	Rana sierrae	FE			
	Southern Mountain Yellow-Legged frog	Rana muscosa	FE			
	Tehachapi slender salamander	Batrachoseps stebbinsi			BLMS	
	Western spadefoot toad	Spea hammondii			BLMS	
	Yellow-blotched salamander	Ensatina eschscholtzii croceator			BLMS	
Fish						
	Amargosa River pupfish	Cyprinodon nevadensis amargosae			BLMS	
	Amargosa speckled dace	Rhinichthys osculus ssp. 1			BLMS	
	Bonytail	Gila elegans	FE			
	Central Valley spring-run chinook salmon	Oncorhynchus tshawytscha (Central Valley Spring-	FT	ST		
	Coho salmon	Oncorhynchus kisutch (Southern Oregon / Norther	FT			
	Coho salmon - central California coast	Oncorhynchus kisutch (Central California Coast ES	FE	SE		
	Colorado pikeminnow	Ptychocheilus lucius	FE	SE		SF
	Cow head tui chub	Gila bicolor vaccaceps			BLMS	
	Desert pupfish	Cyprinodon macularius	FE	SE		
	Green Sturgeon	Acipenser medirostris	FT			
	Lahontan cutthroat trout	Oncorhynchus clarkii henshawi	FT			
	Longfin smelt	Spirinchus thaleichthys				
	Lost River sucker	Deltistes luxatus	FE	SE		SF
	Modoc sucker	Catostomus microps		SE		SF
	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
	Owens pupfish	Cyprinodon radiosus	FE	SE		SF
	Owens speckled dace	Rhinichthys osculus ssp. 2			BLMS	
	Owens tui chub	Siphateles bicolor snyderi	FE	SE		
	Pacific lamprey	Entosphenus tridentatus			BLMS	
	Razorback sucker	Xyrauchen texanus	FE	SE		SF
	Red Hills roach	Lavinia symmetricus ssp. 3			BLMS	
	Rough sculpin	Cottus asperrimus		ST	BLMS	
	Sacramento River winter-run chinook salmon	Oncorhynchus tshawytscha (Sacramento River Wi	FE	SE		

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	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Santa ana sucker	Catostomus santaanae	FT			
	Shortnose sucker	Chasmistes brevirostris	FE	SE		SF
	Steelhead	Oncorhynchus mykiss irideus (Southern California	FE			
	Steelhead	Oncorhynchus mykiss irideus (Central Valley DPS)	FT			
	Steelhead	Oncorhynchus mykiss irideus (South-Central Califo	FT			
	Steelhead	Oncorhynchus mykiss irideus (Central California C	FT			
	Steelhead	Oncorhynchus mykiss irideus (Northern California	FT			
	Tidewater gobey	Eucyclogobius newberryi	FE			
	Unarmored threespine stickleback	Gasterosteus aculeatus williamsoni	FE	SE		SF
	Wall Canyon sucker	Catostomus murivallis			BLMS	
	Warner sucker	Catostomus warnerensis	FT			
Insects						
	Behren's Silverspot butterfly	Speyeria zerene behrensii	FE			
	Carson Wandering skipper	Pseudocopaeodes eunus obscurus	FE			
	Casey's june beetle	Dinacoma caseyi	FE			
	Ciervo aegialian scarab beetle	Aegialia concinna			BLMS	
	Kern primrose sphinx moth	Euproserpinus euterpe	FT			
	Oregon Silverspot butterfly	Speyeria zerene hippolyta	FT			
	Quino checkerspot butterfly	Euphydryas editha quino	FE			
	San Joaquin dune beetle	Coelus gracilis			BLMS	
	Silverspot butterflymyrtle's	Speyeria zerene myrtleae	FE			
	Smith's blue butterfly	Euphilotes enoptes smithi	FE			
	Thorne's hairstreak butterfly	Callophrys thornei			BLMS	
	Valley elderberry longhorn beetle	Desmocerus californicus dimorphus	FT			
Arachnids						
	Shoshone Cave whip-scorpion	Hubbardia shoshonensis			BLMS	
Crustaceans						
	Longhorn fairy shrimp	Branchinecta longiantenna	FE			
	Riverside fairy shrimp	Streptocephalus woottoni	FE			
	San diego fairy shrimp	Branchinecta sandiegoensis	FE			
	Shasta crayfish	Pacifastacus fortis	FE	SE		
	Vernal pool fairy shrimp	Branchinecta lynchi	FT			
	Vernal pool tadpole shrimp	Lepidurus packardi	FE			
Snails						
	Hirsute Sierra sideband snail	Monadenia mormonum hirsuta			BLMS	
	Keeled sideband snail	Monadenia circumcarinata			BLMS	
	Tuolumne sideband snail	Monadenia tuolumneana			BLMS	

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USDA Forest Service, Pacific Southwest Region

Sensitive Animal Species by Forest

6/30/2013; Updated 9/9/2013

Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	Lake Tahoe Basin
BIRDS (12)																			
Accipiter gentilis	Northern goshawk	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren		X									X							
Centrocercus urophasianus	Greater sage-grouse				X					X									
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	X	X		X							X	X			X			
Coturnicops noveboracensis	Yellow rail						X							X					
Empidonax traillii	Willow flycatcher			X	X	X	X	X	X		X	X	X	X	X		X	X	X
Grus canadensis tabida	Greater sandhill crane					X	X			X	X							X	
Haliaeetus leucocephalus	Bald eagle	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pelicanus occidentalis	Brown pelican		X					X				X							
Strix nebulosa	Great gray owl			X	X	X	X			X	X		X		X		X	X	X
Strix occidentalis occidentalis	California spotted owl	X	X	X	X		X	X		X	X	X	X		X		X	X	X
Vireo vicinior	Gray vireo	X	X									X							
MAMMALS (13)																			
Antrozous pallidus	Pallid bat	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brachylagus idahoensis	Pygmy rabbit				X					X									
Corynorhinus townsendii	Townsend's big-eared bat	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Glaucomys sabrinus californicus	San Bernardino flying squirrel											X							
Gulo gulo luscus	North American wolverine			X	X	X	X		X	X	X		X	X	X	X	X	X	X
Martes caurina	Pacific marten			X	X	X	X		X	X	X		X	X	X	X	X	X	X
Pekania pennanti	Fisher			X	X	X	X		X		X		X	X	X	X	X	X	
Myotis thysanodes	Fringed myotis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ovis canadensis nelsoni	San Gabriel Mountains bighorn sheep	X										X							
Perognathus alticolus alticolus	White-eared pocket mouse											X							
Perognathus alticolus inexpectatus	Tehachapi pocket mouse	X						X											
Tamias speciosus callipeplus	Mount Pinos lodgepole chipmunk							X											
Vulpes vulpes necator	Sierra Nevada red fox				?		X										X		
AMPHIBIANS (21)																			
Anaxyrus canorus	Yosemite toad			X	X										X		X		
Anaxyrus exsul	Black toad				X														
Batrachoseps bramei	Fairview slender salamander												X						
Batrachoseps campi	Inyo Mountain salamander				X														
Batrachoseps gabrieli	San Gabriel Mountains slender salamander	X										X							
Batrachoseps incognitus	San Simeon slender salamander							X											
Batrachoseps minor	Lesser slender salamander							X											
Batrachoseps regius	Kings River slender salamander														X				
Batrachoseps relictus	Relictual slender salamander												X						
Batrachoseps simatus	Kern Canyon slender salamander												X						
Ensatina eschscholtzii croceater	Yellow-blotched salamander	X						X					X						
Ensatina eschscholtzii klauberi	Large-blotched salamander		X									X							

Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	Lake Tahoe Basin
Hydromantes brunus	Limestone salamander														X		X		
Hydromantes shastae	Shasta salamander													X					
Plethodon stormi	Siskiyou Mountain salamander					X													
Rana aurora aurora	Northern red-legged frog													X		X			
Rana boylii	Foothill yellow-legged frog			X		X	X	X	X		X		X	X	X	X	X	X	
Rana cascadae	Cascade frog					X	X							X					
Rana muscosa	Mountain yellow-legged frog: Southern Sierra DPS				X								X						
Rana sierrae	Sierra Nevada yellow-legged frog			X	X		X				X				X		X	X	X
Rhyacotriton variegatus	Southern torrent salamander					X								X		X			
REPTILES (12)																			
Emys marmorata	Western pond turtle	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	
Anniella pulchra	California legless lizard	X	X					X				X	X						
Aspidoscelis hyperythra	Orange-throated whiptail		X									X							
Charina umbratica	Southern rubber boa											X							
Crotalus ruber ruber	Red diamond rattlesnake		X									X							
Diadophis punctatus modestus	San Bernardino ringneck snake	X						X				X							
Diadophis punctatus similus	San Diego ringneck snake		X									X							
Elgaria panamintina	Panamint alligator lizard				X														
Lampropeltis zonata parvirubra	San Bernardino Mountain kingsnake	X										X							
Lampropeltis zonata pulchra	San Diego Mountain kingsnake		X																
Lichanura orcutti	Coastal rosy boa or 3-lined boa	X	X									X							
Thamnophis hammondii	Two-striped garter snake	X	X					X				X							
INVERTEBRATES, TERRESTRIAL (24)																			
Bombus occidentalis	Western bumble bee			X		X	X			X	X			X		X		X	X
Danaus plexippus	Monarch butterfly							X											
Euphilotes baueri (*battoides*) *vernalis*	Vernal blue butterfly											X							
Euphilotes enoptes cryptorufes	Pratt's blue butterfly											X							
Euphilotes enoptes nr. *Dammersi*	Dammer's blue butterfly											X							
Euphydryas editha bingi	Bing's checkerspot butterfly									X									
Euphydryas editha ehrlichi	Ehrlich's checkerspot butterfly											X							
Euphydryas editha karinae	Karin's checkerspot butterfly								X										
Euphydryas editha monoensis	Mono Lake checkerspot butterfly				X														
Glaucopsyche piasus nr. *sagittegera*	Arrowhead blue butterfly											X							
Hermelyceana hermes	Hermes copper butterfly		X																
Incisalia mossii hidakupa	San Gabriel Mountains elfin											X							
Monadenia troglodytes troglodytes	Shasta sideband snail													X					
Monadenia troglodytes wintu	Wintu sideband snail													X					
Plebejus saepiolus aureolus	San Gabriel Mountains blue butterfly	X										X							
Plebulina emigdionis	San Emigdio blue butterfly	X			X							X							
Polites mardon	Mardon skipper															X			
Rothelix warnerfontis	Warner Spring shoulderband snail		X																
Speyeria egleis tehachapina	Tehachapi fritillary butterfly												X						
Speyeria nokomis apacheana	Apache silverspot butterfly				X														

Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	Lake Tahoe Basin
Trilobopsis roperi	Shasta chaparral snail													X					
Trilobopsis tehamana	Tehama chaparral snail					X								X					
Vespericola pressleyi	Big Bar hesperian snail													X					
Vespericola shasta	Shasta hesperian snail						X							X					
INVERTEBRATES, AQUATIC - Mollusks (13)																			
Anodonta californiensis	California floater (freshwater mussel)						X			X				X		X		X	
Fluminicola seminalis	Nugget pebblesnail						X							X					
Helisoma newberryi newberryi	Great Basin rams-horn (snail)						X											X	X
Juga (Calibasis) acutifilosa	Topaz juga (snail)						X			X									
Juga chacei	Chace juga (snail)															X			
Juga nigrina	Black juga (snail)						X			X				X				X	
Juga (Calibasis) occata	Scalloped juga (snail)						X							X					
Lanx patelloides	Kneecap lanx (limpet)						X							X					
Pisidium (Cyclocalyx) ultramontanum	Montane peaclam						X							X					
Pristinicola hemphilli	Pristine springsnail															X			
Pyrgulopsis lasseni	Willow Creek pyrg (springsnail)									X									
Pyrgulopsis owensensis	Owen's Valley springsnail				X														
Pyrgulopsis wongi	Wong's springsnail				X														
FISHES (22)																			
Catostomus occidentalis lacusanserinus	Goose Lake sucker									X									
Entosphenus similis	Klamath River lamprey					X													
Entosphenus tridentatus	Pacific lamprey			X		X	X	X	X	X				X		X			
Gila bicolor pectinifer	Lahontan Lake tui chub																	X	X
Gila bicolor thallassina	Goose Lake tui chub									X									
Gila orcutti	Arroyo chub	X	X					X				X							
Lampetra hubbsi	Kern brook lamprey												X		X				
Lampetra richardsoni	Western brook lamprey					X			X							X			
Lampetra tridentata ssp.	Goose Lake lamprey									X									
Lavinia exilicauda chi	Clear Lake hitch								X										
Mylopharodon conocephalus	Hardhead			X			X		X	X	X		X	X	X		X	X	
Oncorhynchus clarkii	Coastal run cutthroat trout															X			
Oncorhynchus mykiss	Steelhead - Klamath Mountains Province ESU					X								X		X			
Oncorhynchus mykiss aguabonita	California golden trout				X								X						
Oncorhynchus mykiss aquilarum (pop 5)	Eagle Lake rainbow trout						X												
Oncorhynchus mykiss gilberti	Kern River rainbow trout												X						
Oncorhynchus mykiss pop 4	Warner Valley redband trout									X									
Oncorhynchus mykiss pop 6	Goose Lake redband trout						X			X									
Oncorhynchus mykiss pop 7	McCloud River redband trout													X					
Oncorhynchus tshawytscha	Upper Klamath-Trinity chinook ESU					X								X		X			
Oncorhynchus tshawytscha ssp.	SONCC Chinook salmon															X			
Rhinichthys osculus ssp 8	Santa Ana speckled dace	X	X									X							
R5 Total Sensitive Animals = 124	Total # Sensitive Animals per Forest	**22**	**22**	**18**	**27**	**23**	**32**	**21**	**16**	**26**	**17**	**36**	**25**	**34**	**19**	**24**	**18**	**21**	**14**
		ANG	CLE	ELD	INY	KNF	LAS	LP	MEN	MOD	PLU	SB	SEQ	S-T	SIE	6R	STAN	TAH	LTB

Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	Lake Tahoe Basin

Note: Common names may not always meet official standards used by various scientific organizations, but have been edited for document consistency.
Only the first letter of the common name has been capitalized unless referring to a personal or geographic name.

Species List - Intersection of USGS Topographic Quadrangles with NOAA Fisheries ESA Listed Species, Critical Habitat, Essential Fish Habitat, and MMPA Species Data

November 2016

X = Present on the Quadrangle		ESA ANADROMOUS FISH (E) = Endangered, (T) = Threatened					ESA ANADROMOUS FISH CRITICAL HABITAT					ESA MARINE INVERTEBRATES		ESA MARINE INVERT. CRITICAL HABITAT	ESA SEA TURTLES				ESA WHALES	ESA PINNIPEDS	ESA PINNIPEDS CRITICAL HABITAT	ESSENTIAL FISH HABITAT				MMPA SPECIES	
		COHO	CHINOOK	STEELHEAD	Eulachon (T)	Southern DPS Green	COHO	CHINOOK	STEELHEAD	Eulachon	Southern DPS Green	Black Abalone	White Abalone (E)	Black Abalone	East Pacific Green Sea	Olive Ridley Sea Turtle	Leatherback Sea Turtle (E)	North Pacific Loggerhead Sea	Whales (see list below)	Guadalupe Fur Seal (T)	Steller Sea Lion	SALMON	Groundfish	Coastal Pelagic	Highly Migratory	MMPA Cetaceans (see "MMPA Species" tab for list)	MMPA Pinnipeds (see "MMPA Species" tab for list)
Black Mountain	34118-F7																										
Burnt Peak	34118-F5																										
Cobblestone Mountain	34118-E7			X																							
Green Valley	34118-E4			X																							
Lebec	34118-G7																										
Liebre Mountain	34118-F6																										
Newhall	34118-D5			X																							
Piru	34118-D7			X					X																		
Val Verde	34118-D6			X																							
Warm Springs Mountain	34118-E5			X																							
Whitaker Peak	34118-E6			X																							

Blue Whale (E)

Fin Whale (E)

Humpback Whale (E)

Southern Resident Killer Whale (E)

North Pacific Right Whale (E)

Sei Whale (E)

Sperm Whale (E)

Appendix E

Special-status Wildlife

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APPENDIX E
SPECIAL-STATUS WILDLIFE

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Invertebrates							
Bombus crotchii	Crotch's bumble bee	None	SCE	None	Inhabits open grassland and scrub habitats. Nesting occurs underground. This species is classified as a short-tongued species, whose food plants include those in the following genera: *Asclepias*, *Chaenactis*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia* (Williams et al. 2014).	Yes	Suitable habitat present
Branchinecta lynchi	vernal pool fairy shrimp	FT	None	None	Endemic to the grasslands of the Central Valley and the Central and South Coast Range mountains of California, and the Agate Desert of southern Oregon. Found only in cool water vernal pools and vernal pool-like habitats; does not occur in riverine, marine, or other permanent bodies of water (USFWS 2007).	No	No suitable habitat within the proposed Project boundary.
Euphydryas editha quino	Quino checkerspot	FE	None	None	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego Counties. Prefers patchy shrub or small tree landscapes with openings of several feet between large plants, or a landscape of open swales alternating with dense patches of shrubs. Host plants include California plantain (*Plantago erecta*), Patagonia plantain (*Plantago patagonica*), and Coulter snapdragon (*Antirrhinum coulterianum*) (USFWS 2009a).	No	Outside of known range of species, which is within Riverside and San Diego Counties (USFWS 2009a).
Plebulina emigdionis	San Emigdio blue butterfly	None	None	FSS	San Emigdio blue butterfly is a nectivore that is known to reside in the host plant fourwing saltbush (*Atriplex canescens*). The species typically prefers riparian areas, as well as dry river courses and intermittent stream sides and surrounds flat lands with adults emerging from April to September (NatureServe 2020a).	Yes	Suitable habitat present
Fish							
Catostomus santaanae	Santa Ana sucker	FT	None	None	Occurs in watersheds draining the San Gabriel and San Bernardino Mountains. Can survive in diverse habitats, from clear mountain streams to rivers in alluvial plains with high sediment loads. Originally believed to be native only in 3 watersheds: Santa Ana River, San Gabriel River, and the Los Angeles River. Genetic evidence indicates that the native range includes the Santa Clara watershed (Richmond et al. 2018), but that population was excluded by USFWS from the listed entity (USFWS 2017).	Yes	Lack of certainty about genetic composition of population in Pyramid reach of Piru Creek.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE	SE, FP	None	Inhabits slow-moving reaches or quiet-water microhabitats in streams and rivers, especially sections where larger predaceous fish do not occur. Currently restricted to three areas: the upper Santa Clara River and its tributaries, San Antonio Creek in Santa Barbara County, and the Shay Creek vicinity in San Bernardino County (USFWS 2009b).	Yes	Historical occurrences and some remnants of suitable habitat.
Gila orcuttii	arroyo chub	None	SSC	FSS	Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita Rivers, as well as Malibu and San Juan Creeks. Has been extirpated from much of its native range, but introduced to streams along the coast and the Mojave River system. Southern coastal streams in habitats characterized by slow-moving water, mud or sand substrate, and depths greater than 15 inches. Also found in pool habitats with gravel, cobble, and boulder substrates. Adapted to survive in low oxygen waters and wide temperature fluctuations (Moyle et al. 2015).	No	Introduced species outside of native range.

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Oncorhyncus mykiss irideus (pop. 10)	steelhead (southern California DPS)	FE	None	None	Includes naturally spawned anadromous steelhead originating below natural and manmade impassable barriers from the Santa Maria River to the U.S.-Mexico border. Spawning habitat includes gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning habitat includes estuarine and marine waters (NOAA 2020). Access to Pyramid reach of Piru Creek blocked by Santa Felicia Dam. No critical habitat designated in Piru Creek upstream of Santa Felicia Dam. Genetic analysis of samples from resident rainbow trout in Piru Creek watershed indicate that resident population is more genetically similar to anadromous form than hatchery strains (Clemento et al. 2008).	Yes	Historical occurrences and presence of suitable habitat.
Rhinichthys osculus (ssp. 3)	Santa Ana speckled dace	None	SSC	FSS	Requires permanent flowing streams with summer temperatures of 62 to 68°F that are often maintained by outflows of cool springs. Inhabits shallow cobble and gravel riffles (Moyle et al. 1995). A single record of this species was indicated from Castaic, but it was believed to have been introduced (Swift et al. 1993).	No	Outside of known range of species.
Lavinia exilicauda	Sacramento hitch	None	SSC	None	Native to Central California, including the Sacramento-San Joaquin River system in low elevation streams and the Delta. Currently, the species occurs in scattered small populations across much of the native range, with the exception of the southern San Joaquin River and its tributaries where Sacramento hitch are now absent (Moyle et al 2015, CDFW 2020a). Outside of its native range, populations of Sacramento hitch have been established in the San Luis Reservoir and other southern California reservoirs (Moyle 2002). Hitch have been sporadically documented in Pyramid Lake, but it is not known if the species has become established there (Swift et al. 1993).	No	Introduced species outside of native range.
Amphibians							
Anaxyrus californicus	arroyo toad	FE	SSC	None	Breeds in slow moving streams with shallow pools, nearby sandbars, and adjacent stream terraces. Often breeds in shallow, sandy pools bordered by sand or gravel flood terraces. Inhabits upland habitats when not breeding, such as sycamore-cottonwood woodlands, oak woodlands, coastal sage scrub, chaparral, and grasslands (USFWS 2009c).	Yes	Known occurrences and Critical Habitat within the proposed Project boundary.
Ensatina eschscholtzii croceater	yellow-blotched ensatina	None	None	FSS, BLM-S	Palustrine habitats include riparian zones, while terrestrial habitats include hardwood forests. Species is known to prefer shaded slopes with abundant leaf litter, rock, logs, and/or debris to take cover in/under. Individuals known in abundance in areas with large volumes of woody debris (NatureServe 2020b).	Yes	Suitable habitat present
Rana boylii	foothill yellow-legged frog	None	SE, ST, SSC Note: the 3 most southerly clades (Southwest/South Coast, East/Southern Sierra, and West/Central Coast) are listed as SE; 2 more northerly clades are ST; and 1 is SSC	FSS, BLM-S	Stream-adapted species found historically from southern Oregon to Los Angeles County, California, and Baja California, Mexico, but no known extant populations south of the border of Monterey and San Luis Obispo counties (CDFW 2019). Generally found in shallow flowing streams and rivers with at least cobble sized substrate. Breeding generally occurs at the margins of wide shallow channels with reduced flow variation near tributary confluences. Specifically, egg masses are placed in low flow locations on or under rocks with preferred substrates being boulders, cobbles, or gravel. Eggs have been found at depths to 34 inches in water velocities of 0 - 0.69 feet per second and at most 40 feet from shore. Maximum water temperature for breeding is 79°F and 48 to 70°F is the preferred range. Tadpoles avoid areas below 55°F and prefer temperatures between 62°F and 72 °F (Thomson et al. 2016).	Yes	Suitable habitat present in Piru Creek, although likely extirpated

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Rana draytonii	California red-legged frog	FT	SSC	None	Ponds and streams in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover in lowlands or foothills. Breeding habitat includes permanent or seasonal water bodies holding water for at least 20 weeks in most years, including lakes, ponds, small reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry. Occurs from sea level to 5,000 feet in elevation. Occurs along the Coast Ranges from Mendocino County south to northern Baja California, and inland across the northernmost reaches of the Sacramento Valley and locally south through portions of the Sierra Nevada foothills as far south as northern Tulare County (Nafis 2020).	Yes	Suitable habitat present
Spea hammondii	western spadefoot	None	SSC	BLM-S	Generally found in grasslands, oak woodlands, coastal sage scrub, and chaparral in washes, floodplains, alluvial fans, playas, and alkali flats. Natural and constructed, fish-free waterbodies are used for breeding. Specifically, vernal pools used by this species have an average ponding duration of 81 days, and successful recruitment occurs in ponds that last on average 21 days longer than larval development time. Pool temperature requirements are from 48 to 90°F. Presence of introduced species, including crayfish (*Pacifasticus* spp.), or bullfrogs (*Lithobates catesbeianus*) often, but not always, exclude this species (Thomson et al. 2016).	Yes	Suitable habitat present
Reptiles							
Anniella pulchra	Northern California legless lizard	None	SSC	FSS	Generally found in habitats with relatively sparse vegetation including coastal sand dunes, chaparral, pine-oak woodland, desert scrub, grassland, and riparian zones. Specifically, requires sandy to loose loamy substrates suitable for burrowing, and avoids areas with gravel or larger sized substrates and those with greater than 10% clay content. Also tends to avoid non-native grasslands, iceplant fields, and other non-native dominated herbaceous communities (Thomson et al. 2016). Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to Ventura County, south of which there is a wide area where the species of *Anniella* is or are unknown. Occurs in scattered locations in the San Joaquin Valley, along the southern Sierra Nevada Mountains, on the desert side of the Tehachapi Mountains, and part of the San Gabriel Mountains. Two melanistic or dusky populations occur. One is in coastal dunes from Morro Bay south to the mouth of the Santa Maria River in San Luis Obispo County. The other, recognized as *Anniella pulchra nigra*, occurs in beach dunes on the Monterey Peninsula and on the southern coast of Monterey Bay south of the Salinas River in Monterey County (Nafis 2020).	Yes	Suitable habitat present
Anniella stebbinsi	Southern California legless lizard	None	SSC	FSS	Little is known about this species and this information is based on *Anniella pulchra* before it was split into five species. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodland, desert scrub, sandy washes, and stream terraces (Papenfuss and Parham 2013). Found throughout southern California south of the Transverse Ranges into northern Baja California, Mexico. Populations in the Tehachapi and Piute Mountains of Kern County are disjunct from the main distribution of this species to the south. Therefore, the distribution of *Anniella stebbinsi* is presumably bisected by southern populations of *Anniella pulchra* ranging from the Santa Barbara region into the Antelope Valley (Nafis 2020).	Yes	Suitable habitat present.
Arizona elegans occidentalis	California glossy snake	None	SSC	None	Ranges in the cismontane portion of southern California, the southern portion of the Central Coast Ranges, and in isolated pockets up to the Alameda and San Joaquin County border. Generally found in open desert, grasslands, shrublands, chaparral, and woodlands. Some evidence of open and sandy habitat preference exists, but specific habitat requirements for this species aren't known (Thomson et al. 2016).	Yes	Suitable habitat present and two CNDDB records inside the proposed Project boundary (CDFW 2020b).

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None	SSC	None	Ranges in cismontane southern California. Generally found in a wide range of habitats including coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas. Specifically this species prefers sand or gravel bottomed habitats with decent shrub cover and is not often found near development (Thomson et al. 2016).	Yes	Suitable habitat present and one known occurrence in the proposed Project boundary (CDFW 2020b).
Diadophis punctatus modestus	San Bernardino ringneck snake	None	None	FSS	Found along the southern California coast from the Santa Barbara area south along the coast to San Diego County, and inland into the San Bernardino mountains in moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, woodlands (Nafis 2020).	Yes	Suitable habitat present.
Emys pallida	southern western pond turtle	None	SSC	BLM-S, FSS	Ranges throughout California except for Inyo and Mono Counties. Generally occurs in various water bodies including permanent and ephemeral systems either natural or artificial. Upland habitat that is at least moderately undisturbed is required for nesting and overwintering, in soils that are loose enough for excavation (Thomson et al. 2016).	Yes	Suitable habitat present and observed during relicensing studies.
Gambelia sila	blunt-nosed leopard lizard	FE	SE, FP	None	Inhabits open, sparsely vegetated areas of low relief on the San Joaquin Valley floor and in the surrounding foothills. Non-native grassland, valley sink scrub, valley needlegrass grassland, alkali playa, and *Atriplex* grassland (USFWS 2010a). Uses mammal dens and burrows for cover and shelter. The number of available burrows will determine the size of this lizard's population in an area (Nafis 2020).	No.	Outside of known range of species, which is only in the San Joaquin Valley (USFWS 2010a).
Lampropeltis zonata parvirubra	California mountain kingsnake (San Bernardino population)	None	None	FSS	Found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, and coastal sage scrub. Prefers wooded areas near streams with rock outcrops and rotting logs exposed to the sun. Ranges from southern Oregon south through the Cascade and Sierra Nevada Mountains and the Coast Range as far south as Santa Cruz County (Nafis 2020).	Yes	Suitable habitat present
Lichanura orcutti	coastal rosy boa	None	SSC	BLM-S	Inhabits arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, and other rocky areas. Appears to be common in riparian areas, but does not require permanent water (Nafis 2020).	Yes	Suitable habitat present
Phrynosoma blainvillii	coast horned lizard	None	SSC	BLM-S	Ranges in the southern half of California outside of the desert, along the foothills of the Sierra Nevada Mountains to Butte County, and along the Central Coast ranges up to Contra Costa County. Generally occurs in sage scrub, dunes, alluvial scrub, annual grassland, chaparral, oak, riparian, and Joshua tree woodland, coniferous forest, and saltbush scrub. Needs loose, fine soils for burrowing, open areas for basking, and dense foliage for cover. Negatively associated with Argentine ants (*Linepithema humi*) (Thomson et al. 2016).	Yes	Suitable habitat present, and occurrences reported in the proposed Project boundary (CDFW 2020b).
Salvadora hexalepis virgultea	coast patch-nosed snake	None	SSC	None	Ranges in cismontane southern California and southern San Luis Obispo County. Generally found in relatively dense chaparral but also known in a wide variety of habitats with dense shrub cover. Some evidence shows a preference for chamise or red shanks chaparral, but that has not been fully determined (Thomson et al. 2016).	Yes	Suitable habitat present
Thamnophis hammondii	two-striped gartersnake	None	SSC	FSS, BLM-S	Ranges in cismontane southern California with some occurrences in Monterey and San Luis Obispo Counties and southern San Benito County. Generally found in or near permanent and intermittent freshwater streams, creeks, and pools, as well as stock ponds and other artificial aquatic habitats bordered by dense vegetation. Associated habitat includes willow, oak woodlands, chaparral, brushland and coniferous forest from sea level to 8,000 feet elevation (Thomson et al. 2016).	Yes	Suitable habitat present
Thamnophis sirtalis infernalis (in part; also known as “subspecies 1”)	south coast gartersnake	None	SSC	None	Limited to the coastal plain or adjacent foothills from the Santa Clara River Valley in Ventura County to San Diego County. Generally occurs in marsh and upland habitats near permanent, shallow, low-gradient water and dense riparian vegetation (Thomson et al. 2016, Jennings and Hayes 1994). Extirpated from most known sites.	Yes	Suitable habitat present

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Birds							
Accipiter gentilis	northern goshawk	None	SSC	BLM-S, FSS	Nests in mature and old-growth coniferous forests at high elevations in the Sierra Nevada, Cascade, North Coast, and Transverse Ranges. Prefers stands with Pacific Ponderosa pine (*Pinus ponderosa* var. *pacifica*), Jeffrey pine (*Pinus jeffreyi*), Lodgepole pine (*Pinus contorta*), Douglas-fir (*Pseudotsuga menziesii*), and rarely pinyon-juniper (*Pinus monophylla* and *Juniperus* spp.) or quaking aspen (*Populus tremuloides*). Prefers stands with larger trees, denser canopies, and relatively open understories (Shuford and Gardali 2008).	Yes	Suitable habitat present
Agelaius tricolor	tricolored blackbird	None	ST, SSC	BLM-S	Mostly a year-round resident in California. Common locally throughout Central Valley and in coastal districts from Sonoma County south. Breeds locally in northeastern California. In winter, becomes more widespread along the central coast and San Francisco Bay area, and can be found in portions of the Colorado Desert (Hamilton 2004). Preferred nesting habitat includes cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), Himalayan blackberry (*Rubus armeniacus*), and agricultural silage. Dense vegetation is preferred but heavily lodged cattails not burned in recent years may preclude settlement. Need access to open water. Strips of emergent vegetation along canals are avoided as nest sites unless they are about 30 feet or more wide but in some ponds, especially where associated with Himalayan blackberries and deep water, settlement may be in narrower fetches of cattails. (CDFW 2020c).	Yes	Suitable habitat present and seen during relicensing studies at Quail Lake.
Ammodramus savannarum	grasshopper sparrow	None	SSC	None	Nests in a variety of grassland habitats throughout much of the Central Valley, Coast Range Mountains, and the Inland Empire region. Prefers short to middle-height, moderately open grasslands with scattered shrubs. Avoids areas with high shrub cover (Shuford and Gardali 2008).	Yes	Suitable habitat present
Aquila chrysaetos	golden eagle	BGEPA	FP	BLM-S	Uncommon resident in hills and mountains throughout California, and an uncommon migrant and winter resident in the Central Valley and Mojave Desert. Prefers rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rock outcrops. (CDFW 2020c).	Yes	Species has been observed perching near Quail Lake and soaring over Pyramid Lake. In addition, two individuals were observed in the proposed Project boundary, one at Pyramid Lake and one at Quail Lake during relicensing studies.
Asio flammeus	short-eared owl	None	SSC	None	Found in open, treeless areas with elevated sites for perches, and dense vegetation for roosting and nesting. Associated with perennial grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Breeds in coastal areas in Del Norte and Humboldt Counties, San Francisco Bay Delta, northeastern Modoc plateau, east Sierras from Lake Tahoe to Inyo County and San Joaquin Valley. Winters in the Central Valley, western Sierra Nevada foothills and along the coastline (CDFW 2020c).	Yes	Suitable habitat present
Asio otus	long-eared owl	None	SSC	None	Widespread but uncommon and local across California year-round, except in the Central Valley where it is a rarely encountered migrant and winter resident. Nests and roosts in dense stands of live oak (*Quercus* spp.) in riparian thickets with dense canopies near meadow edges. Also nests in dense stands of conifers at higher elevations (CDFW 2020c).	Yes	Suitable habitat present

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Athene cunicularia	burrowing owl	None	SSC	BLM-S	Resident in much of the state in open, dry grasslands and various desert habitats. Requires open areas with mammal burrows; especially those of California ground squirrel (*Otospermophilus beecheyi*) Inhabits rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub, vacant lots and other open human disturbed lands such as airports and golf courses. Absent from northwest coast and elevations above 5,500 feet (CDFW 2020a).	Yes	Species observed during relicensing studies.
Aythya americana	redhead	None	SSC	None	Nests in freshwater emergent wetlands where dense stands of cattails and bulrushes are interspersed with areas of deep, open water. Also observed nesting in somewhat alkaline marshes and potholes (Shuford and Gardali 2008).	Yes	Suitable habitat present
Buteo swainsoni	Swainson's hawk	None	ST	BLM-S	Nests in oak savanna and cottonwood riparian areas adjacent to foraging habitat of grasslands, agricultural fields, and pastures where they often follow farm equipment to gather killed and maimed rodents. Increasingly also nests in sparse stands of gum trees (*Eucalyptus* spp.) and Australian pines (*Casuarina equisetifolia*) and often forage along roadsides and grassy highway medians. Breeding resident in the Central Valley, Klamath Basin, Northeastern Plateau, and in juniper-sagebrush flats of Lassen County. Limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. Winters primarily in Argentina, with most birds absent from California October through February, though a few overwinter in the Sacramento-San Joaquin River Delta. Prolific migrant through southern California in spring and fall, with large mixed-age groups of birds frequently observed kettling high overhead on thermals or foraging together on freshly cut agricultural fields (CDFW 2020c).	Yes	Observed near Quail Canal on multiple occasions.
Chaetura vauxi	Vaux's swift	None	SSC	None	Nests in cavities in a variety of trees and less frequently in artificial structures such as smokestacks. Shows an affinity for old-growth coast redwood (*Sequoia sempervirens*) and Douglas fir (*Pseudotsuga menziesii*) forests with nest sites in large hollow trees and snags, especially tall, burnt-out stubs (Shuford and Gardali 2008).	No	Outside of known species range (CDFW 2020b).
Charadrius montanus	mountain plover	None	SSC	BLM-S	Does not nest in California. Present in the state November through March in open grasslands and plowed fields with no or very short vegetation. Found in flocks mostly on the west side of the Central Valley from Colusa County south to Kern County, Carrizo Plain, Antelope Valley, Imperial Valley, and western Riverside County. Single individuals are rarely found on beaches or offshore islands (CDFW 2020c).	Yes	Suitable habitat present
Circus hudsonius	northern harrier	None	SSC	None	Nests on the ground in patches of dense, tall vegetation in undisturbed areas. Breed and forage in a variety of open habitats such as marshes, wet meadows, weedy borders of lakes, rivers and streams, grasslands, pastures, croplands, sagebrush flats, and desert sinks (Shuford and Gardali 2008).	Yes	Species observed during relicensing studies as well as during O&M along Quail Lake and the Peace Valley Pipeline.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT	SE	FSS	Has declined drastically in California due primarily to loss of habitat. Requires riparian woodland with dense cover; primarily mature cottonwood (*Populus* spp.) forests with willow (*Salix* spp.) understory, but will also nest in overgrown orchards adjacent to streams and dense thickets alongside marshes. Persists in small numbers along the Sacramento River between Red Bluff and Colusa, the Feather River between Yuba City and the Bear River, Owens Valley, the Kern River Valley, the Colorado River Valley, the Santa Ana River near Prado Basin, and the San Luis Rey River in northern San Diego County (USFWS 2019).	Yes	Suitable habitat present
Contopus cooperi	olive-sided flycatcher	None	SSC	None	Nests in a wide variety of forest and woodland habitats below 9,000 feet in elevation in the coastal and mountainous portions of California. Occurs only as a migrant elsewhere in the state. Prefers forests and woodlands with adjacent meadows, lakes, or open terrain for foraging. (CDFW 2020c).	Yes	Suitable habitat present

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Elanus leucurus	white-tailed kite	None	FP	BLM-S	Fairly common resident of the Central Valley, coast, and Coast Range Mountains. Nests in oak savanna, oak and willow riparian, and other open areas with scattered trees near foraging habitat. Forages in open grasslands, meadows, farmlands, and emergent wetlands. Often seen hover foraging over roadsides or grassy highway medians (CDFW 2020c).	Yes	Suitable habitat present
Empidonax traillii extimus	southwestern willow flycatcher	FE	SE	None	Uncommon to rare summer resident in the southern Sierra Nevada Range, the Lower Kern River Valley, along the Santa Margarita River, and the upper San Luis Rey River. Prefers dense riparian forests with willow component and scrub habitats associated with arroyos, washes, rivers, lakes, and reservoirs. Has declined drastically as much of its preferred willow habitat has been taken over by invasive tamarisk (*Tamarix* spp.), though does now sometimes use tamarisk for nesting and foraging in the absence of native vegetation (USFWS 2002).	Yes	Suitable habitat present and migrating individuals of uncertain subspecies observed during relicensing studies.
Falco peregrinus anatum	American peregrine falcon	None	FP	None	Breeds near wetlands, lakes, rivers, or other waters on cliffs, banks, dunes or mounds, mostly in woodland, forest, and coastal habitats. Nest is a scrape on a depression or ledge in an open site. May use man-made structures (such as bridges, skyscrapers, or electrical towers), large snags, or trees for nesting (CDFW 2020c).	Yes	Suitable habitat present and observed at Silverwood Lake during relicensing studies.
Gavia immer	common loon	None	SSC	None	Very rare as a breeder in the state on large mountain lakes in the Cascade and Sierra Nevada Ranges. Common September through May in estuarine and subtidal marine habitats along the entire coast. A very few non-breeding individuals over-summer on the north coast. Also, less commonly winters on large, deep lakes in valleys and foothills throughout the state (CDFW 2020a).	Yes	Suitable habitat present
Gymnogyps californianus	California condor	FE	SE, FP	None	Formerly ranged across much of North America, but over the course of the 20th Century, disappeared over nearly its entire range. Dwindled to such small numbers that by the 1980s, all remaining birds were removed from the wild to a captive rearing program. In the 1990's, began being re-released, and now the species has re-established in the foothills of the southern Sierra Nevada Range, across the Tehachapi Range and through the Transverse Ranges from Los Angeles County to Santa Barbara County, and up the Coast Range Mountains to Big Sur and Pinnacles National Park. Nests in cavities located on steep rock formations or in the burned out hollows of old-growth coast redwoods (*Sequoia sempervirens*) or giant sequoias (*Sequoiadendron giganteum*). Less commonly uses cliff ledges or large old nests of other bird species. Forages in open terrain of foothill grassland and oak savanna habitats, and at coastal sites in central California (USFWS 2013).	Yes	Suitable habitat present and seen flying over Pyramid Lake during relicensing studies and documented by telemetry data roosting near the Project
Haliaeetus leucocephalus	bald eagle	BGEPA	SE, FP	BLMS, FSS	Permanent resident in the highest Coast Range mountains, across the Cascade Range, and down the Sierra Nevada to the eastern Transverse Ranges of San Bernardino and Riverside Counties. Uncommon migrant and winter visitor to lowland rivers, lakes, and reservoirs. Nests in large, old-growth, or dominant live trees with open branchwork, especially ponderosa pine (*Pinus ponderosa*). Requires large bodies of water or rivers with abundant fish, and adjacent snags (CDFW 2020c).	Yes	Suitable habitat present and observed at Pyramid Lake and Quail Lake during relicensing studies.
Icteria virens	yellow-breasted chat	None	SSC	None	Nests in early-successional riparian habitats with a well-developed shrub layer and an open canopy. Restricted to narrow borders of streams, creeks, sloughs, and rivers. Often nest in dense thickets of blackberry (*Rubus* spp.) and willow (Shuford and Gardali 2008).	Yes	Suitable habitat present

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Lanius ludovicianus	loggerhead shrike	None	SSC	None	Shrublands and open woodlands with a fair amount of grass cover and areas of bare ground. Requires tall shrubs or trees, fences, or power lines for hunting perches and territorial advertisement. Also requires open areas of short grasses, forbs, or bare ground for hunting, large shrubs or trees for nest placement, and thorny vegetation or barbed wire fences for impaling prey. Ranges across most of the state, but absent from the highest mountains and the northwest forests and coast (Shuford and Gardali 2008).	Yes	Suitable habitat present and observed at California Canal during relicensing studies.
Pelecanus erythrorhynchos	American white pelican	None	SSC	None	In California, nests almost exclusively in large lakes in the Klamath Basin region. On migration and over winter, occurs across much of the state in open wetlands and sheltered bays and lagoons. Nests on ground on earthen, sandy, and rocky islands or rarely on peninsulas or floating tule mat islands. Nests may be in the open in the sand or interspersed with or adjacent to tall weeds and open, low-stature shrubs. Roosts along water edges, beaches, sandbars, or old drift wood (Shuford and Gardali 2008).	Yes	Suitable habitat present
Piranga rubra	summer tanager	None	SSC	None	Breeds primarily in mature riparian woodland with extensive Fremont cottonwood (*Populus fremontii*) canopy. In California, present from mid-April into October along the Colorado River and at scattered riparian sites and desert oases from Inyo County south. Rare elsewhere in the state and at other seasons (Shuford and Gardali 2008).	No	Outside of known range.
Polioptila californica californica	coastal California gnatcatcher	FT	SSC	None	Strongly associated with coastal scrub, sage scrub, and coastal succulent scrub communities. Ranges from southern Ventura County east across the coastal side of the Transverse Ranges to just west of Palm Springs, and south through Orange and San Diego Counties into Baja California (USFWS 2010b).	Yes	Suitable habitat present
Pooecetes gramineus affinis	Oregon vesper sparrow	None	SSC	None	Does not nest in California (the vesper sparrows that nest in the northeastern part of the state are *Poocetes gramineus confinus*, the Great Basin vesper sparrow, which are not considered special status). Oregon vesper sparrows are known to winter in the low foothills of the Sierra Nevada Range, the leeward side of the Coast Range from Yolo County south through the Carrizo Plain, and the South Coast and Inland Empire regions. Obligate grassland species. Open ground with little vegetation or short grass and low annuals, including stubble fields, meadows and road edges (Shuford and Gardali 2008).	Yes	Suitable habitat present
Progne subis	purple martin	None	SSC	None	Present in California from mid-March through late September. Requires concentrations of nesting cavities, relatively open air space above accessible nest sites, and relatively abundant aerial insect prey. In the coastal mountains, Cascade Range, and Sierra Nevada foothills, inhabits open forests, woodlands, and riparian areas. Extirpated as a breeder from most of the Central Valley except the Sacramento area where it has taken to nesting in hollow-box bridges. In southern California, now only a rare and local breeder on the coast and in interior mountain ranges, with few breeding localities. Absent from higher desert regions except as a rare migrant (Shuford and Gardali 2008).	Yes	Suitable habitat present
Riparia riparia	bank swallow	None	ST	BLM-S	Riparian areas with sandy, vertical bluffs or riverbanks. Also nest in earthen banks and bluffs, as well as sand and gravel pits (Shuford and Gardali 2008).	Yes	Suitable habitat present
Setophaga petechia	yellow warbler	None	SSC	None	Usually found in riparian deciduous habitats in summer: cottonwoods, willows, alders (*Alnus* ssp.), and other small trees and shrubs typical of low, open-canopy riparian woodland. Also breeds in montane shrubbery in open coniferous forests (CDFW 2020c).	Yes	Suitable habitat present and observed during relicensing studies.

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Strix occidentalis occidentalis	California spotted owl	None	SSC	BLM-S, FSS	Older forests in areas of high canopy cover, with a multi-layered canopy, old decadent trees, a high number of large trees, and coarse downed woody debris. In California, ranges throughout the west slopes of the Sierra Nevada Mountains, and down the Coast Range Mountains from Carmel south through the Transverse Ranges nearly to Baja California (Shuford and Gardali 2008).	Yes	Suitable habitat present and multiple occurrences known.
Toxostoma lecontei	Le Conte's thrasher (San Joaquin Valley population)	None	SSC	None	Species is more widespread and numerous across the Mohave Desert, but the San Joaquin Valley population (residing from the Coalinga area in Fresno County south to the Tulare Lake Basin and Carrizo Plain) has declined precipitously with conversion of the land to agricultural use. Prefers gentle to rolling, well-drained slopes bisected with dry washes; conditions found most often on bajadas or alluvial fans. Occupied habitats are moderately to sparsely-vegetated with saltbush (*Atriplex* spp.) with bare ground or patchy, sparse, low-growing grass (Shuford and Gardali 2008).	Yes	Suitable habitat present
Vireo bellii pusillus	least Bell's vireo	FE	SE	None	Once occupied much of the Central Valley, but has disappeared from most its former range, and is now restricted to southern California from southern Inyo and Monterey Counties south through the South Coast and Inland Empire regions. Obligate riparian breeder, favoring cottonwood, willow, and oak (*Quercus* spp.) woodlands, and mule fat (*Baccharis salicifolia*) scrub along watercourses (USFWS 2006).	Yes	Suitable habitat present and two non-breeding detections during relicensing studies.
Vireo vicinior	gray vireo	None	SSC	BLM-S, FSS	Uncommon and very local in southern California, where it occurs from 2,000 to 6,500 feet in elevation across the leeward sides of the Transverse and Peninsular Ranges, and in the higher mountain ranges of the Mojave Desert. Breeds in desert scrub, mature arid chaparral, or open pinyon-juniper woodland mixed with chaparral (Shuford and Gardali 2008).	Yes	Suitable habitat present
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	SSC	None	Nests in fresh marshes with tall, emergent vegetation such as bulrushes and cattails adjacent to deep water (Shuford and Gardali 2008).	Yes	Suitable habitat present
Mammals							
Antrozous pallidus	pallid bat	None	SSC	BLM-S, FSS	Ranges across nearly all of California except for high elevation portions of the Sierra Nevada Mountains and Del Norte, western Siskiyou, Humboldt, and northern Mendocino Counties. Generally found in a wide variety of habitats but with some preference for drier areas. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings (CDFW 2020c).	Yes	Suitable habitat present and known occurrence within one mile.
Bassaricus astutus	ringtail	None	FP	None	Occurs in various riparian habitats, and in brush stands of most forest and shrub habitats, at low to middle elevations. Suitable habitat consists of a mixture of forest and shrubland in close association with rocky areas or riparian habitats. Usually not found more than 0.6 mile from permanent water. Hollow trees, logs, snags, cavities in talus slopes and other rocky areas, and other recesses are used for cover. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests (CDFW 2020c).	Yes	Suitable habitat present
Corynorhinus townsendii	Townsend's big-eared bat	None	SSC	BLM-S, FSS	Ranges throughout California except for high elevation portions of the Sierra Nevada Mountains. Generally prefers mesic habitats but known to occur in all non-alpine habitats of California. Roosting occurs in caves, tunnels, mines, buildings, or other structures and this species may use different roosting sites for day and night (CDFW 2020c).	Yes	Suitable habitat present

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Euderma maculatum	spotted bat	None	SSC	BLM-S	Ranges across the eastern half of California from the low foothills and over the Cascade and Sierra Nevada crests to Nevada, as well as all of Southern California except for the lowlands of Orange and Los Angeles Counties. Generally occurs in desert, mixed coniferous forests, and grassland habitats. Prefers to roost in rock crevices on cliffs, but will sometimes use caves and buildings (CDFW 2020c).	Yes	Suitable habitat present
Eumops perotis californicus	western mastiff bat	None	SSC	None	Ranges throughout all of Southern California, the central coast, and the Sierra Nevada Mountains. Generally occurs in open, arid, or semi-arid habitats. Roosts in rock crevices and buildings. (CDFW 2020c).	Yes	Suitable habitat present
Lasiurus blossevillii	western red bat	None	SSC	None	Ranges across the Central Valley, as well as the coast and Coast Range mountains from Mendocino County south, and east across the Los Angeles area into the Inland Empire region. Occurs in most habitats except desert and alpine areas. Roosts in trees, sometimes shrubs, and typically at the margins of habitats (CDFW 2020c).	Yes	Suitable habitat present
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	SSC	None	Ranges from the south end of the Los Padres National Forest in Ventura County, southward and west of the Peninsular Ranges into northwestern Baja California. Occurs primarily in arid regions with short grass. Preferred habitats include open grasslands, agricultural fields, and sparse coastal scrub. Not typically found in high grass or dense brush (SDMMP 2017).	Yes	Suitable habitat present and nearest occurrence approximately 0.2 mile away.
Macrotus californicus	California leaf-nosed bat	None	SSC	BLM-S	Feeds on flying insects taken from vegetation or off the ground. Individuals inhabit lowland desert scrub and are known to roost in caves and abandoned mine tunnels during the day, while night roosts include buildings, rock, porches, mines, and caves. Night roosts are typically separate from those used during winter. Long migrations are not typical, but small seasonal roost changes are known to occur (NatureServe 2020c).	Yes	Suitable habitat present
Myotis ciliolabrum	small-footed myotis	None	None	BLM-S	Common in arid regions of California. Known ranges include Contra Costa County south, the west side of the Sierra Nevada, various areas of the Great Basin, and areas of Modoc, Kern, and San Bernardino Counties. Individuals are nocturnal and typically inhabit arid upland locations, preferring open stands of forest and brush near water sources. Individuals are known to shelter and roost in small groups of 50 plus in mines, natural crevices, buildings, caves and bridges (CDFW 2020c).	Yes	Suitable habitat present
Myotis evotis	long-eared myotis	None	None	BLM-S	Uncommon throughout its known range, although known to be widespread throughout California. Unlike similar species, the long-eared myotis avoids arid regions and is known to occur along the California coast, parts of the Great Basin, as well as the Sierra Nevada and Tehachapi mountain ranges. The long-eared myotis forages fairly close to the ground on insects, with a special attraction to beetles, in open stands of trees, shrubs, and over water sources. The species is known to roost singly or in very small groupings within infrastructure, behind tree bark or snags, and in caves. Feeding habits include foraging in open areas along habitat edges and over water (CDFW 2020c).	Yes	Suitable habitat present
Myotis thysanodes	fringed myotis	None	None	BLM-S, FSS	Widespread in California, occurring in all but the Central Valley and Colorado and Mojave deserts. It occurs in a wide variety of habitats; records range in elevation from sea level to 9,350 feet in New Mexico. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 4,000 to 7,000 feet (CDFW 2020c).	Yes	Suitable habitat present
Myotis velifer	cave myotis	None	SSC	BLM-S	Found in desert habitats in the vicinity of the California Arizona border. Roosts in caves, preferably with water, and occasionally buildings or mines (CDFW 2020c).	No	Outside known species range

Table E-1. Special-status Wildlife with the Potential to Occur in the Proposed Project Boundary (continued)

Scientific Name	Common Name	Federal Status	State Status	Forest Service Status	Habitat Characteristics	Impacts Analyzed	Rationale
Myotis yumanensis	Yuma myotis	None	None	BLM-S	Known to be widespread and extremely common in California, occurring from sea level to 11,000 feet in elevation. Preferred habitats include open woodlands and forests with adequate access to water. The species is known to feed heavily over water on small insects using echolocation. Individuals are known to roost in various infrastructures, mines, caves, and other natural crevices. Maternity roosts typically consist of several thousand females and young in similar roost locations with preferred temperatures no greater than 40°C (CDFW 2020c).	Yes	Suitable habitat present
Neotoma lepida intermedia	San Diego desert woodrat	None	SSC	None	Prefers Joshua tree (*Yucca brevifolia*), pinyon-juniper, mixed and chamise or red shanks chaparral, sagebrush (*Artemisia* spp.), and most desert habitats, but is also found in a variety of other habitats. Moderate to dense canopies are preferred. Particularly abundant in rock outcrops and rocky cliffs and slopes, especially those with Joshua trees. Elevational range from sea level to 8,500 feet (CDFW 2020c).	Yes	Suitable habitat present
Onychomys torridus ramona	southern grasshopper mouse	None	SSC	None	Historically, inhabited mesas and valleys along the Pacific slope of the Peninsular and Transverse Ranges and extreme northwestern Baja California. Currently ranges southward from Los Angeles County to the Mexican border, generally west of the desert. Inhabits a variety of low, open and semi-open flat, sandy, valley floor scrub habitats including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs (Bolster 1998).	Yes	Suitable habitat present
Ovis canadensis nelsoni	desert bighorn sheep	None	FP	FSS, BLM-S	Desert mountain ranges from the White Mountains south to the San Bernardino Mountains and southeastward to the Mexican border. Feeds in open habitats, such as rocky barrens, meadows, and low, sparse brushlands (CDFW 2020c).	No	Outside known species range (NatureServe 2020d).
Perognathus alticola inexpectatus	Tehachapi pocket mouse	None	SSC	FSS	Historically occurred from the vicinity of Tehachapi Pass, west to Mount Pinos, and south to Elizabeth and Quail Lakes, at elevations from 3,350 to 6,000 feet in elevation. There are no recent records of the species, despite intensive survey efforts. The habitat at Mount Pinos (the type locality) was grassy flats among scattered yellow pine. At lower elevations, it has been reported in chaparral and sage scrub, and rangelands dominated by non-native annual grasses. In the western Tehachapi Mountains, it has been reported from Joshua tree and pinyon-juniper woodland (Bolster 1998).	Yes	Suitable habitat present
Perognathus inornatus	San Joaquin pocket mouse	None	None	BLM-S	Prefers dry, grassy, open fields in annual grasslands, desert-scrub, and savannas. On the east side of the San Joaquin Valley, individuals are known to occur in low density up to 1,500 feet in elevation. The species is known to burrow and feeds on various grass seeds, forbs, and other vegetative varieties (NatureServe 2020e).	Yes	Suitable habitat present
Taxidea taxus	American badger	None	SSC	None	Ranges across nearly all of California except northernmost Humboldt and Del Norte Counties. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils (CDFW 2020c).	Yes	Suitable habitat present
Vulpes macrotis mutica	San Joaquin kit fox	FE	ST	None	Historically ranged in alkali scrub/shrub and arid grasslands throughout the level terrain of the San Joaquin Valley floor from southern Kern County north to Tracy in San Joaquin County, and up into more gradual slopes of the surrounding foothills and adjoining valleys of the interior Coast Range. Occurs in desert-like habitats characterized by sparse or absent shrub cover, sparse ground cover, and short vegetative structure. Prefers areas with open, level, sandy ground (USFWS 2010c).	No	Outside of known range of species.

Key:
Federal:
BGEPA = Bald and Golden Eagle Protection Act
FE = Federally Endangered
FT = Federally Threatened
BLM-S = Bureau of Land Management Sensitive

FSS = Forest Service Sensitive

State:
FP = Fully Protected
SCE = State Candidate Endangered
SE = State Endangered
SSC = State Species of Special Concern
ST = State Threatened

REFERENCES

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division.

California Department of Fish and Wildlife (CDFW). 2020a. California Department of Fish and Wildlife Sensitive Species Lists. Available online: https://www.wildlife.ca.gov/Conservation. Accessed: August 20, 2020.

_____. 2020b. CNDDB RareFind 5. Available online: <https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018407-rarefind-5>. Accessed September 15, 2020. Last updated September 15, 2020. CDFW, Sacramento, CA.

_____. 2020c. California Wildlife Habitat Relationships System Life History Accounts and Range Maps. Available online: <https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range>. Accessed August 17, 2020. Last updated 2020. CDFW Biogeographic Data Branch; Sacramento, CA

Clemento, A. J., E. C. Anderson, D. Boughton, D. Girman, and J. C. Garza. 2008. Population genetic structure and ancestry of *Oncorhynchus mykiss* populations above and below dams in south-central California. Conservation Genetics 10(5):1321-1336.

Hamilton, W. J. 2004. Tricolored Blackbird (*Agelaius tricolor*). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Submitted to California Department of Fish and Game, Inland Fisheries Division. Rancho Cordova, CA. November 1, 1994. 260 pp.

Moyle, P. B. 2002. Inland Fishes of California, Second Edition. University of California Press, Berkeley.

Moyle, P.B., R. M. Quiñones, J. V. Katz and J. Weaver. 2015. Fish Species of Special Concern in California, Third Edition. Sacramento: California Department of Fish and Wildlife. July 2015. Available online: < https://wildlife.ca.gov/Conservation/SSC/Fishes >. Accessed August 20, 2020.

Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayake. 1995. Fish species of special concern in California. Second edition. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Nafis, Gary. 2020. California Herps: A Guide to Reptiles and Amphibians of California. Available online: <http://www.californiaherps.com/>. Accessed August 19, 2020. Last updated 2020.

National Oceanic and Atmospheric Administration (NOAA). 2020. Steelhead Trout. Available online: <https://www.fisheries.noaa.gov/species/steelhead-trout>. Accessed September 14, 2020. Last updated 2020.

NatureServe Explorer. 2020a. *Plebulina emigdionis*. Available online: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.109555/Plebulina_emigdionis>. Accessed September 14, 2020. Last updated September 4, 2020.

_____. 2020b. *Ensatina eschscholtzii croceater*. Available online: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100958/Ensatina_eschscholtzii_croceaters>. Accessed September 14, 2020. Last updated September 4, 2020.

_____. 2020c. *Macrotus californicus*. Available online: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100867/Macrotus_californicus>. Accessed September 15, 2020. Last updated September 4, 2020.

_____. 2020d. *Ovis canadensis nelsoni*. Available online: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105707/Ovis_canadensis_nelsoni>. Accessed September 24, 2020. Last updated September 4, 2020.

_____. 2020e. *Perognathus inornatus*. Available online: <https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105562/Perognathus_inornatus>. Accessed September 15, 2020. Last updated September 4, 2020.

Papenfuss, T.J., and J.F. Parham. 2013. Four New Species of California Legless Lizards (*Anniella*). Breviora, Number 536:1-17.

Richmond, J. Q., A. R. Backlin, C. Galst-Cavalcante, J. W. O'Brien, and R. N. Fisher. 2018. Loss of dendritic connectivity in southern California's urban riverscape facilitates decline of an endemic freshwater fish. Molecular Ecology 27:369-386.

San Diego Management and Monitoring Program (SDMMP). 2017. San Diego Management and Monitoring Program. Species Profile. San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Available online: <https://sdmmp.com/species_profile.php?taxaid=900973>. Accessed August 18, 2020. Last updated 2017.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Swift, C. C., T. R. Haglund, M. Ruiz, and R. N. Fisher. 1993. The status and distribution of the freshwater fishes of Southern California. Bulletin of the Southern Academy of Sciences 92:101-167.

Thomson, Robert C., Wright, Amber N., and Shaffer H. Bradley. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press Berkeley, CA.

USFWS. 2019. ECOS Environmental Conservation Online System - Species Profile for Yellow-billed Cuckoo. Available online: <https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B06R>. Accessed August 19, 2020. Last updated August 18, 2020. USFWS, Sacramento, CA.

_____. 2017. Recovery Plan for the Santa Ana sucker. USFWS, Pacific Southwest Region, Sacramento, California. xii + 92 pp.

_____. 2013. California Condor (*Gymnogyps californianus*) 5-Year Review: Summary and Evaluation. USFWS; Pacific Southwest Region.

_____. 2010a. Blunt-nosed leopard lizard (*Gambelia sila*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, California.

_____. 2010b. Coastal California gnatcatcher (*Polioptila californica californica*) 5-year Review: Summary and Evaluation. USFWS; Carlsbad, CA.

_____. 2010c. San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.

_____. 2009a. Quino Checkerspot Butterfly (*Euphydryas editha quino*) 5-Year Review: Summary and Evaluation. USFWS; Carlsbad, CA.

_____. 2009b. Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*) 5-Year Review: Summary and Evaluation. USFWS; Ventura, CA.

_____. 2009c. Arroyo Toad (*Bufo californicus* [=*microscaphus*]) 5-Year Review: Summary and Evaluation. USFWS; Ventura, CA.

_____. 2007. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.

_____. 2006. Least Bell's Vireo (*Vireo bellii pusillus*) 5-Year Review: Summary and Evaluation. USFWS; Carlsbad, CA.

_____. 2002. Final Recovery Plan Southwestern Willow Flycatcher (*Empinodax traillii extimus*). USFWS; Albuquerque, NM.

Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. 2014. Bumble bees of North America: an Identification Guide. Princeton University Press.

Appendix F

Proposed Project Facilities - Hazardous Materials Stored

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APPENDIX F
EXISTING PROJECT-SPECIFIC HAZARDOUS MATERIALS USE, TRANSPORT, STORAGE, AND DISPOSAL

The Licensees use hazardous materials during routine O&M of the Project's facilities. The Licensees also transport hazardous materials to sites located within the existing Project boundary when they are to be used for periodic maintenance work, as described below. Table 1 provides a general description, by location, of hazardous materials that may be used, stored, or transported for routine existing Project O&M..

The Licensees have Hazardous Materials Business Plans and Spill Prevention, Control, and Countermeasure (SPCC) plans, as appropriate, for the hazardous materials stored, used, or transported at the Warne and Castaic Powerplants, as shown in Table F-1. Warne Powerplant is the only Project facility where DWR stores hazardous materials, and Castaic Powerplant is the only Project facility where LADWP stores hazardous materials. Neither Warne nor Castaic Powerplants are located on National Forest System (NFS) lands.

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance

Hazardous Materials[1]	Location	O&M Activity	Quantity
WARNE POWERPLANT FACILITIES (DWR)[2]			
76 Firebird HD motor oil, SAE 40	Hazmat/Waste Building, South of Plant	Plant maintenance, Plant & Check Site SEG	> 40 gallons
801 Industrial & marine solvent	Hazmat/Waste Building, South of Plant	Plant maintenance part cleaning (Pink Soap)	> 90 gallons
Chevron RPM universal gear lubricant SAE 80W-90	Hazmat/Waste Building, South of Plant	Lubricate cranes and radial gates	> 90 gallons
Chevron turbine oil GST 68	Hazmat/Waste Building, South of Plant	Lubricates generator and turbine bearings	> 1,000 gallons
Hydraulic oil	Hazmat/Waste Building, South of Plant	Plant maintenance, Plant Hydraulic Equipment	> 400 gallons
K-1 kerosene	Hazmat/Waste Building, South of Plant	Plant maintenance, Used in Steam Cleaner	> 90 gallons
Kano Floway - cleaner degreaser	Hazmat/Waste Building, South of Plant	Plant and equipment maintenance	> 40 gallons
Lubricating grease	Hazmat/Waste Building, South of Plant	Plant maintenance, Pump Grease	> 800 pounds
Oily rags	Hazmat/Waste Building, South of Plant	Transported offsite for recycling @ 55 gallons	> 150 pounds
Shell Diala Oil AX - transformer oil	Hazmat/Waste Building, South of Plant	Plant maintenance, Transformer Oil	> 220 gallons
Used oil / water	Hazmat/Waste Building, South of Plant	Transported offsite for recycling @ 55 gallons	> 110 gallons
Hydraulic oil	Hazmat/Waste Enclosure, South of Plant	Plant maintenance, Plant Hydraulic Equipment	110 gallons
Used oil	Hazmat/Waste Enclosure, South of Plant	Transported offsite for recycling @ 55 gallons	> 220 gallons
Used oil filters	Hazmat/Waste Enclosure, South of Plant	Transported offsite for recycling @ 55 gallons	> 250 pounds

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance (continued)

Hazardous Materials[1]	Location	O&M Activity	Quantity
Chevron turbine oil GST 68	In Plant – Elev. 2582, hydraulic control cabinet reservoir	Lubricates generator and turbine bearings	> 650 gallons
Oily rags	In Plant – Elev. 2582, oil purifier room	Transported offsite for recycling @ 55 gallons	> 70 pounds
Chevron turbine oil GST 68	In Plant – Elev. 2582, oil room	Lubricates generator and turbine bearings	> 3,500 gallons
Carbon dioxide	In Plant – Elev. 2582, South Wall, CO_2 Fire Suppression System Cylinder Bank	Fire Suppression System	> 7,500 cubic feet
Nitrogen	In Plant – Elev. 2582, West Wall Cylinder Storage, West of Unit #1	Plant maintenance, TSV System Nitrogen	> 3,500 cubic feet
Nitrogen	In Plant – Elev. 2582, West Wall, West of Unit #1, Fixed Hydraulic System	Plant maintenance, TSV System Nitrogen	> 8,600 cubic feet
Lead acid batteries	In Plant – Elev. 2598, Battery Room	Essential Buss Emergency Plant Power	420 gallons
Carbon dioxide	In Plant – Elev. 2598, East Side, CO_2 Fire Suppression System Banks	Fire Suppression System	> 30,000 cubic feet
Carbon dioxide	In Plant – Elev. 2582, North Wall, CO_2 Fire Suppression System Cylinders	Fire Suppression System	> 5,000 cubic feet
Carbon dioxide	In Plant – Elev. 2582, South Wall, Fenced Enclosure	Fire Suppression System	> 3,500 cubic feet
Fluorescent tubes	In Plant – Elev. 2598, Tech Shop	Plant Operations	> 75 pounds
Sulfur hexafluoride (SF6)	In Plant – Elev. 2614, Northwest Corner	Plant Maintenance	> 900 cubic feet
Acetylene	Inside Welding Shop, Portable Welding Carts	Plant Maintenance Welding	> 200 cubic feet

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance (continued)

Hazardous Materials[1]	Location	O&M Activity	Quantity
Argon compressed	Inside Welding Shop, Portable Welding Carts	Plant Maintenance Welding	> 250 cubic feet
Oxygen	Inside Welding Shop, Portable Welding Carts	Plant Maintenance Welding	> 500 cubic feet
Propane	South of Plant, Fenced Enclosures	Operation of Standby Emergency Generator	> 2,800 gallons
Acetylene	South Side of Welding Shop, Flammable Gas Cylinder Storage	Plant Maintenance Welding	> 1,000 cubic feet
90% Argon 1-% CO_2 Welding Gas	South Side of Welding Shop, Non-Flammable Gas Cylinder Storage	Plant Maintenance Activity	> 900 cubic feet
Oxygen	South Side of Welding Shop, Non-Flammable Gas Cylinder Storage	Plant Maintenance Welding	> 500 cubic feet
Transformer oil	Transformer Yard, West of Plant, In Power Transformers	Plant maintenance, Electrical Plant Transformers	9,000 gallons
CASTAIC POWERPLANT FACILITIES (LADWP)[3]			
Acetone	Hazardous Waste Storage Facility	Plant Maintenance	55 gallons
Acetylene (Gas)	Auto Mechanic Shop, Building Repair Shop, Main Bldg/Level 1486, Warehouse Tank Area	Plant Maintenance, Welding	5,997 cubic feet
Aerosol Cans	Auto Mechanic Shop, Main Bldg/Level 1557, Warehouse #1, Warehouse #2	Plant Maintenance	3,072 pounds
All Purpose Cleaner	Auto Mechanic Shop, Main Bldg/Level 1445, Level 1464, Level 1562	Plant Maintenance	55 gallons
Ammonium Sulfate	Warehouse #2	Plant Maintenance	2,960 pounds
Antifreeze (Ethylene Glycol)	Auto Mechanic Shop	Vehicle Maintenance	60 gallons

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance (continued)

Hazardous Materials[1]	Location	O&M Activity	Quantity
Argon (Gas)	Main Bldg/Level 1486	Plant Maintenance, Warehouse Tank Area	6,300 cubic feet
Automatic Transmission Fluid	Auto Mechanic Shop	Vehicle Maintenance	55 gallons
Battery Electrolyte Acid - Gel	Auto Mechanic Shop	Vehicle Maintenance	1,500 pounds
Battery Electrolyte Acid - Liquid	Main Bldg/Level 1562, Unit 7 Bldg Battery Room	Plant Maintenance	602 gallons
Bleach	Main Bldg/Level 1445, 1464, 1486, 1562	Plant Maintenance	132 gallons
Carbon Dioxide (Gas)	Main Bldg/Level 1464, Unit 7 Fire Protection Building, Warehouse Tank Area	Plant Maintenance	32,057 cubic feet
Cement	Warehouse #2	Plant Maintenance	940 pounds
Cleaner Degreaser (Water Based)	Main Bldg/Level 1486, Warehouse #1	Plant Maintenance	165 gallons
Compressor Oil	Warehouse #1	Plant Maintenance	72 gallons
Diesel Fuel #2	Hazardous Waste Storage Facility	Plant Maintenance	110 gallons
Electrical Insulating Mineral Oil	Main Bldg/Level 1562, Main Switchrack, Outlet Tower, Spare Transformer Storage Pad, Entry Road	Plant Maintenance	96,788 gallons
Ferric Chloride	Chlorine Cab/Domestic H20 Store	Plant Maintenance	55 gallons
Gasoline Unleaded	Auto Mechanic Shop, Unit 7 Parking Lot	Vehicles	2,015 gallons
Gear Oil	Auto Mechanic Shop	Vehicles	55 gallons
Grease	Auto Mechanic Shop, Main Bldg/Level 1445, Level 1486, Outlet Tower	Plant Maintenance	7,020 pounds
Helium (Gas)	Warehouse Tank Area	Plant Maintenance	1,314 cubic feet

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance (continued)

Hazardous Materials[1]	Location	O&M Activity	Quantity
Helium-Carbon Dioxide-Argon Mixture (Gas)	Auto Mechanic Shop	Vehicle Maintenance	244 cubic feet
Hs 1000	Main Bldg/Level 1486, Warehouse #1	Plant Maintenance	146 gallons
Hydraulic Fluid	Auto Mechanic Shop	Plant Maintenance	190 gallons
Inergen Fire Extinguishing Agent (Gas)	Unit 7 Fire Protection Building	Fire Protection	6,960 cubic feet
Kerosene	Hazardous Waste Storage Facility	Plant Maintenance	55 gallons
Machine or Cutting Oil	Main Bldg/Level 1417, Warehouse #1	Plant Maintenance	171 gallons
Motor Oil	Auto Mechanic Shop	Vehicle Maintenance	165 gallons
Nitrogen (Gas)	Main Bldg/Level 1464, Level 1486, Unit 7 Bldg/1st Level, Unit 7 Fire Protection Building	Plant Maintenance	13,600 cubic feet
Oxygen (Gas)	Auto Mechanic Shop, Main Bldg/Level 1486, Warehouse Tank Area	Plant Maintenance	6,994 cubic feet
Paint (Water Base)	Warehouse Container D, Warehouse Tank Area	Plant Maintenance	265 gallons
Paint Thinner	Hazardous Waste Storage Facility	Plant Maintenance	55 gallons
Polymer	Chlorine Cab/Domestic H20 Store	Plant Maintenance	55 gallons
Propane (Gas)	Warehouse #1, Warehouse Tank Area	Plant Maintenance	966 pounds
Sand Blast Grit	Warehouse #2	Plant Maintenance	650 pounds
Silica Sand	Warehouse #2	Plant Maintenance	10,000 pounds
Sodium Hypochlorite (12.5%)	Chlorine Cab/Domestic H20 Store	Plant Maintenance	55 gallons
Stoddard Solvent	Hazardous Waste Storage Facility	Plant Maintenance	55 gallons
Sulfur Hexaflouride (Gas)	Main Switchrack, Unit 7 Switchrack	Plant Maintenance	10,232 cubic feet

Table F-1. Existing Project Facilities and Hazardous Materials Stored, Used, or Transported for Routine Operation and Maintenance (continued)

Hazardous Materials[1]	Location	O&M Activity	Quantity
Turbine Oil	Compressor House, Main Bldg/Level 1417, Level 1445, South Portal	Plant Maintenance	66,829 gallons
Victor Plastic Cement for Portland Cement	Warehouse #2	Plant Maintenance	1,650 pounds
Waste Antifreeze Ethylene Glycol	Warehouse #2	Recycling	55 gallons
Waste Oil	Auto Mechanic Shop, Hazardous Waste Storage Facility, Main Bldg/Level 1417, Level 1445	Recycling	2,025 gallons
Wheelabrator Steel Shot/Steeletts	Warehouse #2	Plant Maintenance	1,000 pounds

Source:
California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) (Licensees). South SWP Hydropower. Hazardous Materials Management Plan. January 2020.
Notes:
[1]This list represents the products used or on-site during the writing of this Plan. It is not intended to limit the type, volume, or storage location of products used or held during the term of the license.
[2]DWR maintains a Hazardous Materials Business Plan for this facility.
[3]LADWP maintains a Hazardous Materials Business Plan for this facility.
Key:
> = greater than
% = percent
@ = at
Bldg = building
CO_2 = carbon dioxide
O&M = operations and maintenance
SEG = Standby emergency generator
TSV = Turbine shut-off valve

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