

#### **4.1.18 ESA-Listed Terrestrial Wildlife Species – California Wildlife Habitat Relationships Study**

##### **4.1.18.1 Project Nexus**

Continued Project O&M and Project-related recreation activities have the potential to affect federal ESA-listed terrestrial wildlife species. For the purpose of this *ESA-listed Terrestrial Wildlife Species – CWHR Study*, an ESA-listed terrestrial wildlife species is defined as a terrestrial species that is listed under ESA as threatened or endangered, or is a candidate for listing. There are no species proposed for listing identified by USFWS.

Three ESA-listed terrestrial wildlife species are considered under a separate study for the Project and will not be included in this Study. These species are the least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo western DPS. However, information from this study may be used to help inform that study.

##### **4.1.18.2 Existing Information and Need for Additional Information**

Existing, relevant, and reasonably available information regarding ESA-listed terrestrial wildlife species and their habitat within the proposed Project boundary is provided in Section 4.8 of the Licensees' PAD. The PAD identified three species potentially affected by the Project that will be included as part of this study: vernal pool fairy shrimp (*Branchinecta lynchi*), California condor (*Gymnogyps californianus*), and the coastal California gnatcatcher (*Polioptila californica californica*). Additionally, this study addresses two other species not included in the PAD as potentially affected by the Project because the Project is outside of each species' known range: the Mojave desert tortoise (*Gopherus agassizii*) and blunt-nosed leopard lizard (*Gambelia sila*). However, because of the proximity of each species range, more information is needed to validate this conclusion.

As a summary, the Licensees found no records of vernal pool fairy shrimp, coastal California gnatcatcher, Mojave Desert tortoise, or blunt-nosed leopard lizard within the proposed Project boundary. There are records of California condor in the CNDDDB from the Sespe-Piru Condor Area, which is less than one mile from Pyramid Lake (CDFW 2015). Aspen Environmental Group (2007) indicates California condors are "commonly observed" in flight around Pyramid Lake.

To meet the goals of the study (described in 3.1.3 below), the Licensees have identified the following additional information needs: (1) collection of further CWHR habitat data for each potential special-species; and (2) a list of Project O&M activities that includes location and duration of the activity.

##### **4.1.18.3 Study Goals and Objectives**

The goal of this *ESA-listed Terrestrial Wildlife Species – CWHR Study* is to determine the quality and suitability of potential habitat for ESA-listed terrestrial wildlife species within the study area.

The objective of this *ESA-listed Terrestrial Wildlife Species – CWHR Study* is to gather sufficient data necessary to fill recognized gaps in existing information regarding the potential for ESA-listed terrestrial wildlife species to occur within the study area.

#### **4.1.18.4 Study Methods**

##### **Study Area**

The study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study* consists of the area within the proposed Project boundary, excluding lands overlying the Angeles Tunnel on which the Licensees do not perform any Project-related activities. In addition, the study area will extend 1.5 mile from the proposed Project boundary for the sole purpose of identifying potential roosting and nesting habitat for the California condor (species).

The study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study* is shown below in Figure 4.1-26.

##### **General Concepts and Procedures**

- Personal safety is the most important consideration of each fieldwork team. Fieldwork will only occur in safely accessible areas and under conditions deemed safe by the field crews. Locations within the study area that cannot be accessed in a safe manner (e.g., locations containing dense vegetation or unsafe slopes) and areas inundated when the surveys are performed, will not be surveyed; these areas will be identified in the data summary and an explanation for survey exclusion will be provided.
- The *ESA-listed Terrestrial Wildlife Species – CWHR Study* will begin after FERC issues its Study Plan Determination.
- The *ESA-listed Terrestrial Wildlife Species – CWHR Study* does not plan to include the development of requirements for the new license, which will be addressed outside of the study.
- The *ESA-listed Terrestrial Wildlife Species – CWHR Study* focuses specifically on special-status terrestrial wildlife within the study area, but the study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study* is specific to locations that can support those resources.
- If required for the performance of the *ESA-listed Terrestrial Wildlife Species – CWHR Study*, the Licensees will make a good faith effort to obtain permission to access private property well in advance of initiating the study. The Licensees will only enter private property if permission has been provided by the landowner.

- The Licensees will acquire all necessary agency permits and approvals prior to beginning fieldwork for the *ESA-listed Terrestrial Wildlife Species – CWHR Study*.
- Field crews may make variances to the *ESA-listed Terrestrial Wildlife Species – CWHR Study* in the field to accommodate actual field conditions and unforeseen problems. Any variances from the study will be noted in the data resulting from the *ESA-listed Terrestrial Wildlife Species – CWHR Study*.
- To prevent the introduction and transmittal of amphibian chytrid fungus and invasive aquatic species (e.g., quagga mussels, zebra mussel, and Asian clams), field crews will be trained on, provided with, and use materials (e.g., Quat) for decontaminating their boots, waders, and other equipment when leaving or traveling between water-based study sites. Field crews will follow DWR's Quagga and Zebra Mussel Rapid Response Plan and CDFW's Aquatic Invasive Species Decontamination Protocol which can be found at the following link: (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=433333>). All boats used during the study will follow cleaning protocols, including inspections before and after use. All decontamination requirements in place at Project reservoirs including those of DWR's *Quagga and Zebra Mussel Rapid Response Plan* for the SWP will be strictly followed (DWR 2010).



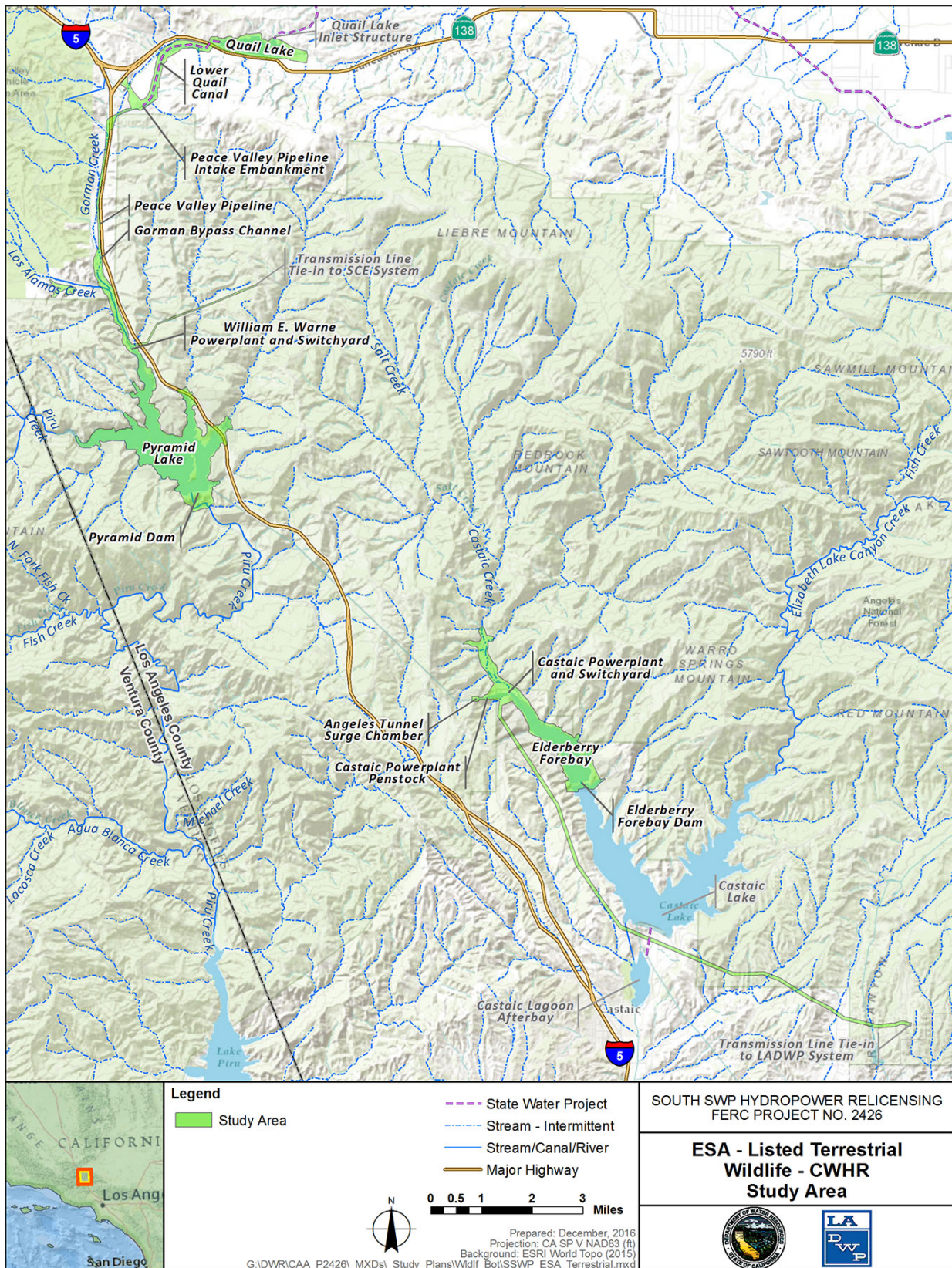


Figure 4.1-26. ESA-listed Terrestrial Wildlife Species – CWHR Study Area

## Methods

This *ESA-listed Terrestrial Wildlife Species – CWHR Study* will consist of two steps: (1) create field study maps; and (2) conduct field habitat assessments at sampling points. These steps are described below. The Licensees' relicensing *Botanical Resources Study* will also be a source of information for habitat features, including vernal pools, which may be too small to be represented on existing habitat maps.

Step 1 – Create Field Study Maps. There were 26 terrestrial CWHR vegetation types identified within the study area, as shown in Table 4.1-13 below. Of these, the most common are Mixed Chaparral (36,562 acres), Coastal Scrub (13,564 acres), Chamise-Redshank Chaparral (8,632 acres) and Sagebrush (4,107 acres). There are also four riparian and wetland vegetation types identified within the study area: Montane Riparian (151 acres), Valley Foothill Riparian (266 acres), Wet Meadow (60 acres), and Freshwater Emergent Wetland (86 acres) (CDFW 2014). Using GIS, the Licensees will select sampling points in representative habitats, with more points in areas with higher potential for ESA-listed species and considered to be sensitive natural communities (e.g., Wet Meadow and Montane Riparian) and larger acreage inside the study area. Table 4.1-13 shows the 26 terrestrial vegetation types and the number of sampling points for each.

**Table 4.1-13. California Wildlife Habitat Relationship Acreages Within the Study Area and Sampling Points**

California Wildlife Habitat Relationship Type	Acreage <sup>1</sup>	Percentage of Study Area	Number of Sampling Points <sup>2</sup>
<b><i>Tree-Dominated Habitats</i></b>			
Blue Oak-Foothill Pine (BOP)	505	<1	3
Blue Oak Woodland (BOW)	406	<1	2
Coastal Oak Woodland (COW)	174	<1	2
Desert Riparian (DRI)	7	<1	1
Joshua Tree (JST)	0.85	<1	1
Montane Hardwood-Conifer (MHC)	19	<1	1
Montane Hardwood (MHW)	426	<1	2
Montane Riparian (MRI)	151	<1	2
Pinyon-Juniper (PJN)	602	<1	3
Sierran Mixed Conifer (SMC)	95	<1	1
Valley Oak Woodland (VOW)	290	<1	2
Valley Foothill Riparian (VRI)	266	<1	2
<b><i>Shrub-Dominated Habitats</i></b>			
Chamise-Redshank Chaparral (CRC)	8,633	11	5
Coastal Scrub (CSC)	13,564	17	5
Desert Wash (DSW)	228	<1	2
Juniper (JUN)	325	<1	2
Mixed Chaparral (MCH)	36,562	47	5
Montane Chaparral (MCP)	87	<1	1
Sagebrush (SGB)	4,107	5	4
<b><i>Herbaceous-Dominated Habitats</i></b>			
Annual Grassland (AGS)	7728	10	3
Freshwater Emergent Wetland (FEW)	86	<1	2

California Wildlife Habitat Relationship Type	Acreage <sup>1</sup>	Percentage of Study Area	Number of Sampling Points <sup>2</sup>
Pasture (PAS)	74	<1	1
Perennial Grassland (PGS)	23	<1	2
Wet Meadow (WTM)	60	<1	2
<b>Developed Habitats</b>			
Urban (URB)	2185	4	2
<b>Non-vegetated Habitats</b>			
Barren (BAR)	1142	1	2
<b>TOTAL</b>	<b>76,745.85</b>	<b>100</b>	<b>60</b>

Notes:

<sup>1</sup>Acreages include underground features.

<sup>2</sup>Sampling points are the same as those in the Special-Status Terrestrial Wildlife Species – CWHR Study and information collected will be used for both studies.

The Licensees will produce field maps that will include CWHR habitat types, sampling points, CNDDDB occurrences, other known locations of ESA-listed species, and Project facilities.

**Step 2 – Conduct Field Habitat Assessments at Sampling Points and Incidentally Document ESA-listed Terrestrial Wildlife.** Field habitat assessments and characterizations will be conducted at representative sampling points (Table 4.1-13), using CDFW’s CWHR System data forms (CDFW 2016). Information collected on these forms will include species composition, stages, structure, percent cover, and habitat elements, as well as diameter at breast height for wooded habitats. Evidence of Project O&M activities and Project-related recreation activities in the vicinity of the sampling points will also be documented. Photographs of all sampling points will be taken in each cardinal direction from the center point of the plot.

If an ESA-listed terrestrial wildlife species is incidentally identified, the survey team will prepare a California Native Species Field Survey Form, which records data required to be submitted to CDFW for addition to the CNDDDB and reported to the CDFW and USFWS. The information will also be provided to the USFS if the occurrence is located on NFS lands.

### **Quality Assurance and Quality Control**

Field data will be collected in a manner that promotes high quality results, and will be subject to appropriate QA/QC procedures, including spot-checks of transcription and comparison of GIS maps with field notes.

### **Analysis**

Field data will be used in conjunction with CWHR to correct and update the map created in Step 1 and refine the list and habitats of ESA-listed terrestrial wildlife potentially occurring in the study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study*. The Licensees will then use the maps created in Step 1 to identify areas within



the study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study* in which ESA-listed wildlife habitat, Project facilities, and O&M activities overlap.

### **Reporting**

The Licensees will compile and summarize results of this *ESA-listed Terrestrial Wildlife Species – CWHR Study*, as well as other existing and relevant information, to the extent completed and ready for incorporation, in the Licensees' ISR, USR, DLA, and FLA.

#### **4.1.18.5 Consistency of Methodology with Generally Accepted Scientific Practices**

This *ESA-listed Terrestrial Wildlife Species – CWHR Study* is consistent with the goals, objectives, and methods outlined for the most recent FERC hydroelectric relicensing efforts in California, including the Yuba River Development Project (FERC Project No. 2246), French Meadows Transmission Line Project (FERC Project No. 2479), Camp Far West Transmission Line Project (FERC Project No. 10821), Drum-Spaulding Project (FERC Project No. 2310), and Yuba-Bear Hydroelectric Project (FERC Project No. 2266).

#### **4.1.18.6 Schedule**

The *ESA-listed Terrestrial Wildlife Species – CWHR Study* will begin after FERC issues its Study Plan Determination. The Licensees anticipate the schedule below will be followed to complete the *ESA-listed Terrestrial Wildlife Species – CWHR Study*.

Fieldwork Preparation	January 2018 – March 2018
Fieldwork	April 2018 – Sept 2018
Data QA/QC	October 2018
Data Analysis & Reporting	October 2018 – December 2018

#### **4.1.18.7 Level of Effort and Cost**

Based on the work effort described above, the Licensees estimate the current cost to complete this *ESA-listed Terrestrial Wildlife Species – CWHR Study* will range between \$30,000 and \$35,000.

#### **4.1.18.8 References**

Aspen Environmental Group. 2007. Biological Assessment and Report of Sensitive Resource Surveys for Castaic Power Plant and Vicinity. Report prepared for LADWP. September 2007.

CDFW. 2016. California Wildlife Habitat Relationships. Available online: <<https://www.wildlife.ca.gov/Data/CWHR>> Accessed December 16, 2016. Last updated 2016. Sacramento, CA.

CDFW. 2014 California Interagency Wildlife Task Group. 2014. California Wildlife Habitat Relationships, version 9.0, personal computer program. Sacramento, CA.

DWR. 2010. The Quagga and Zebra Mussel Rapid Response Plan for the State Water Project. 93 pp. CONFIDENTIAL/PRIVILEGED – Not for Public Distribution.