

## 1.0 ESA-LISTED TERRESTRIAL WILDLIFE SPECIES – CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS STUDY APPROACH

*This preliminary draft study approach is provided to inform of the general methods DWR followed during the study phase under FERC's Traditional Licensing Process.*

### 1.1 PROJECT NEXUS

Continued Project Operation and Maintenance (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 the Endangered Species Act (ESA) as threatened or endangered, or is a candidate for listing. There are no species proposed for listing identified by United States Fish and Wildlife Service (USFWS).

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

#### 1.1.1 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 California Department of Water Resources (DWR) Pre-Application Document (PAD). The PAD identified three species potentially affected by the Project that will be included as part of this study:

- California condor, *Gymnogyps californianus*
- Coastal California gnatcatcher, *Polioptila californica*
- San Bernardino Merriam's kangaroo rat, *Dipodomys merriami parvus*, and designated critical habitat

As a summary, DWR found no records of California condor in the Project vicinity.

There are six California Natural Diversity Data Base (CNDDDB) records of coastal California gnatcatcher in the Project vicinity on the San Bernardino North and Devore quadrangles (CDFW 2015). The nearest critical habitat to the Project is located approximately 16 miles from Silverwood Lake and 13 miles from Devil Canyon Powerplant, along the Santa Ana River in San Bernardino County (USFWS 2015). Available information, including query of the USFWS' online Information for Planning and Conservation (IPaC), indicates that this species does not occur near Silverwood Lake, but could occur in the vicinity of the Devil Canyon Powerplant, if there is suitable habitat.

There are 19 CNDDDB records of San Bernardino Merriam's kangaroo rat in the Project vicinity. These records are from the Devore, San Bernardino North, and Harrison Mountain quadrangles, mostly associated with Lytle and Cajon Creeks (CDFW 2015). The nearest designated critical habitat for the species is Unit 4 (Cable Creek Wash), a disjunct portion of which is located less than 0.5 miles south of the Devil Canyon Powerplant (USFWS 2015). The final rule (73 FR 61936) describes Unit 4 as extending from the mouth of Cable Creek to Interstate 215 and that the alluvial area retains necessary fluvial dynamic processes. The Unit 4 was also described as occupied by a self-sustaining population of the species at the time critical habitat was designated. Available information, including query of the IPaC, indicate that San Bernardino Merriam's kangaroo rat does not occur near Silverwood Lake.

In order to meet the goals of the Study (described in 1.1.1.3 below), DWR has 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.

### **1.1.2 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 proposed Project boundary.

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 proposed Project boundary.

### **1.1.3 Study Methods**

#### **1.1.3.1 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 San Bernardino Tunnel on which DWR does not perform any Project-related activities. The study area for the *ESA-listed Terrestrial Wildlife Species – CWHR Study* is shown below in Figure 1.1-1.

#### **1.1.3.2 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 Approach* does not include the development of requirements for the new license, which will be addressed outside the study.
- The *ESA-listed Terrestrial Wildlife Species – CWHR Study Approach* focuses specifically on special-status terrestrial wildlife within the proposed Project boundary, 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 Approach*, DWR will make a good faith effort to obtain permission to access private property well in advance of initiating the study. DWR will only enter private property if permission has been provided by the landowner.
- DWR will acquire all necessary agency permits and approvals prior to beginning fieldwork for the *ESA-listed Terrestrial Wildlife Species – CWHR Study Approach*.
- Field crews may make variances to the *ESA-listed Terrestrial Wildlife Species – CWHR Study Approach* in the field to accommodate actual field conditions and unforeseen problems. Any variances will be noted in the data resulting from the 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=43333>). 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 State Water Project will be strictly followed (DWR 2010).

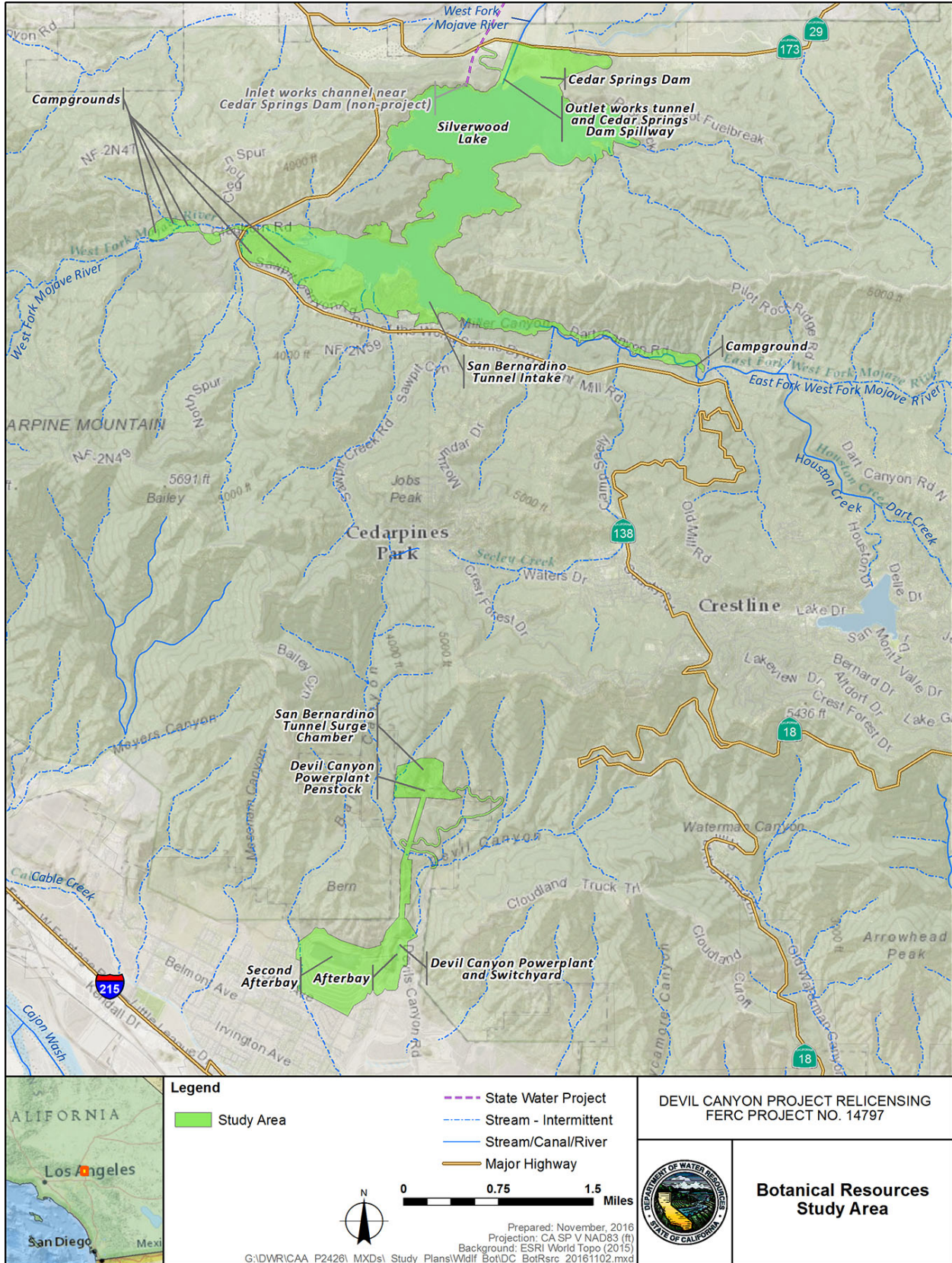


Figure 1.1-1. ESA-listed Terrestrial Wildlife Species – CWHR Study Area

### 1.1.3.3 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. DWR's relicensing *Botanical Resources Study* will be an additional source of information for habitat features, including riparian areas and wetlands, which may be too small to be represented on existing habitat maps.

**Step 1 – Create Field Study Maps.** There were 14 terrestrial CWHR vegetation types identified within the proposed Project boundary, as shown in Table 1 below. Of these, the most common are Mixed Chaparral (407 acres), Montane Hardwood (150 acres), and Coastal Scrub (99 acres). There are also two riparian and wetland vegetation types identified within the proposed Project boundary: Valley Foothill Riparian (51 acres) and Desert Wash (44 acres) (USFS 2014). Using Geographical Information System (GIS), DWR will select sampling points in representative habitats, with more points in areas with higher potential for ESA-listed wildlife species and larger acreage inside the proposed Project boundary. Table 1.1-1 shows the 14 terrestrial vegetation types and the number of sampling points for each.

**Table 1.1-1. California Wildlife Habitat Relationship Acreages within the Proposed Project Boundary 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>			
Sierran Mixed Conifer (SMC)	13	1	1
Ponderosa Pine (PPN)	1	<1	1
Montane Hardwood (MHW)	150	14	2
Montane Hardwood-Conifer (MHC)	25	2	2
Coastal Oak Woodland (COW)	4	<1	1
Valley Foothill Riparian (VRI)	51	5	3
<b><i>Shrub-Dominated Habitats</i></b>			
Sagebrush (SGB)	6	1	1
Montane Chaparral (MCP)	<1	<1	1
Mixed Chaparral (MCH)	407	38	5
Chamise-Redshank Chaparral (CRC)	58	5	2
Coastal Scrub (CSC)	99	9	2
Desert Wash (DSW)	44	4	2
Desert Scrub (DSC)	24	2	2
<b><i>Herbaceous-Dominated Habitats</i></b>			
Annual Grassland (AGS)	13	1	1
<b><i>Developed Habitats</i></b>			
Urban (URB)	128	12	2
<b><i>Non-vegetated Habitats</i></b>			
Barren (BAR)	58	5	2
<b>Total</b>	<b>1,082</b>	<b>100</b>	<b>30</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.

DWR 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.** Field habitat assessments and characterizations will be conducted at representative sampling points (Table 3.1-8), 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 USFWS. The information will also be provided to the United States Forest Service (USFS) if the occurrence is located on NFS lands.

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

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

#### **1.1.3.5 Analysis**

Field data will be used in conjunction with CWHR to correct and update the maps 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*. DWR 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 Operation & Maintenance activities overlap.

#### **1.1.3.6 Reporting**

DWR 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 into DWR's DLA and FLA.

### **1.1.4 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 Federal Energy Regulatory Commission (FERC) hydropower 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-Spaulling Project (FERC Project No. 2310), and Yuba-Bear Hydroelectric Project (FERC Project No. 2266).

### 1.1.5 Schedule

The *ESA-listed Terrestrial Wildlife Species – CWHR Study* will begin in June 2017. DWR anticipates the schedule below will be followed to complete the *ESA-listed Terrestrial Wildlife Species – CWHR Study*.

Fieldwork Preparation	April 2017 – May 2017
Fieldwork	May 2017 – September 2017
Data QA/QC	October 2017 – December 2017
Data Analysis & Reporting	December 2017

### 1.1.6 Level of Effort and Cost

Based on the work effort described above, DWR estimates the current cost to complete this *ESA-listed Terrestrial Wildlife Species – CWHR Study* will range between \$20,000 and \$30,000.

### 1.1.7 References

- CDFW. 2015. California Natural Diversity Database (CNDDDB). RareFind Version 5. Available online at: <[nrmsecure.dfg.ca.gov/cnddb/view/query.aspx](http://nrmsecure.dfg.ca.gov/cnddb/view/query.aspx)>. Accessed: July 31, 2015. Last updated July 7, 2015. CDFW, Biogeographic Data Branch. Sacramento, CA.
- CDFW. 2016. California Wildlife Habitat Relationships. Available online: <<https://www.wildlife.ca.gov/Data/CWHR>>Accessed December 16, 2016. Last updated 2016. 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.
- USFS. 2014. Classification and Assessment with Landsat of Visible Ecological Groupings (CalVeg) data. Updated in 2014. Available online: <<http://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=stelprdb5347192>>.
- USFWS. 2015. Critical Habitat Portal. Available online: <<http://ecos.fws.gov/crithab/>>. Accessed: August 25, 2015. Last updated August 13, 2015.