

1.0 ESA-LISTED BIRD SPECIES, SOUTHWESTERN WILLOW FLYCATCHER AND LEAST BELL'S VIREO HABITAT EVALUATIONS 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 potential to affect southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii*), both of which are riparian-breeding birds listed as threatened under the federal Endangered Species Act (ESA).

1.1.1 Existing Information and Need for Additional Information

Existing, relevant, and reasonably available information regarding southwestern willow flycatcher and least Bell's vireo within the proposed Project boundary is provided in Section 4.8 of the California Department of Water Resources (DWR) Pre-Application Document. In summary, southwestern willow flycatcher and least Bell's vireo are both closely associated with dense riparian habitats (especially during nesting) dominated by willows (*Salix* spp.) and other deciduous woody vegetation.

Southwestern willow flycatchers breeding habitat requires the presence of dense vegetation cover, usually willows or tamarisk (*Tamarix* spp.), that is sufficiently dense from the ground to 3 meters or more in height, and occur as shrub stands or broadleaf trees with a dense shrub layer 2 to 5 meters in height. Habitats may be associated with either low gradient streams or lentic habitat. Other characteristic species include boxelder (*Acer negundo*), Russian olive (*Eleagnus angustifolia*), cottonwood (*Populus* spp.), ash (*Fraxinus* spp.), alder (*Alnus* spp.), and buttonbush (*Cephalanthus occidentalis*). Breeding territories may be as small as 0.25 acres, but most are at least 0.5 acres in area.

Least Bell's vireo breeding habitat typically exhibits dense cover within 2-3 meters of the ground, and a structurally diverse, dense canopy (USFWS 1998). Nests are often placed in openings or near habitat edges in understory shrubs, including wild rose (*Rosa californica*) and mulefat (*Baccharis salicifolia*) beneath willows and cottonwoods (USFWS 1998). Home ranges of least Bell's vireo during the nesting season may also include adjacent non-riparian habitats such as chaparral and coastal scrub (Kus and Minor 1989).

DWR found no existing information regarding either species within the proposed Project boundary. However, habitat evaluations and surveys for these species in areas outside of the Project boundary north of Silverwood Lake reported suitable habitat for both species and detections of migrating willow flycatchers (subspecies undetermined), but no breeding southwestern willow flycatchers. One singing least Bell's vireo on Horsethief Creek north of the Project was detected in 2013. Although there is critical habitat for southwestern willow flycatcher north of Silverwood Lake along the West Fork

Mojave River and along Deep Creek, neither area is currently known to support breeding populations (78 FR 343).

DWR is unaware of any recent, comprehensive surveys of the Project area for least Bell's vireo and southwestern willow flycatcher.

Additional information that will be provided by this study is needed to determine locations of suitable habitat and to document whether breeding least Bell's vireo or southwestern willow flycatcher occur there.

1.1.2 Study Goals and Objectives

The goals of this study approach are to: (1) identify locations of suitable habitat for least Bell's vireo and southwestern willow flycatcher, and (2) document their presence/absence, which may indicate breeding occurs there. Incidental to the presence/absence surveys, the study will also document any incidental observations of breeding activities of the two target species.

The objective of this study approach is to gather sufficient information necessary to fill recognized gaps in existing information about the likely presence or absence of southwestern willow flycatcher and least Bell's vireo.

1.1.3 Study Methods

1.1.3.1 *Study Area*

The study area consists of riparian shrub and deciduous wooded habitat that is suitable for southwestern willow flycatcher and least Bell's vireo within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project O&M. The study area is shown 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 study approach does not include the development of requirements for the new license, which will be addressed outside the study.
- This study approach focuses on ESA-listed bird species, specifically the southwestern willow flycatcher and least Bell's vireo, within the proposed Project boundary, but the study area is specific to the locations providing suitable habitat for those species.

- If required for the performance of the 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 such permission has been provided by the landowner.
- DWR will acquire all necessary agency permits and approvals prior to beginning fieldwork for the study.
- Field crews may make variances to the study approach in the field to accommodate actual field conditions and unforeseen problems. Any such 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 California Department of Fish and Wildlife's (CDFW) 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).

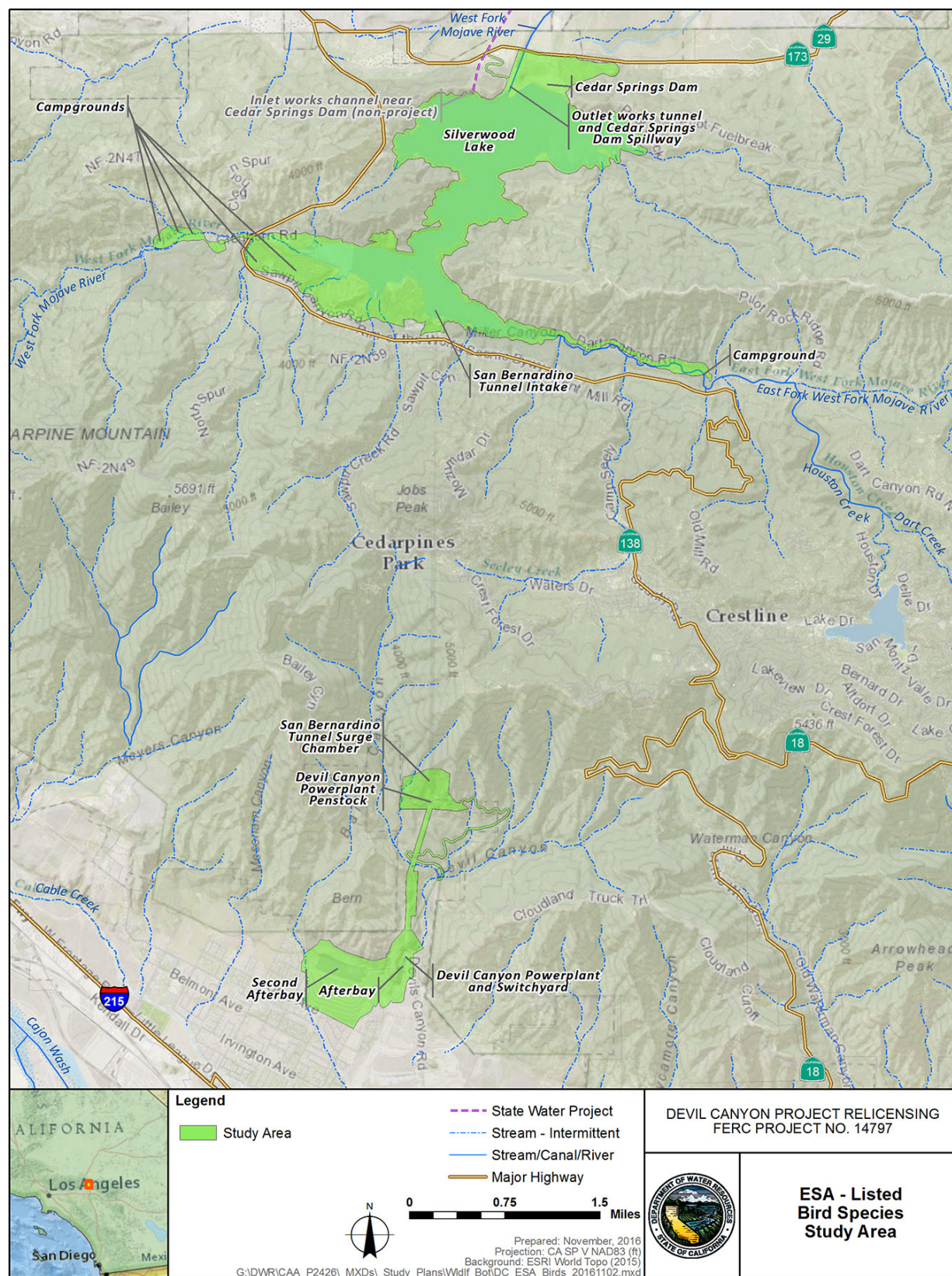


Figure 1.1-1. ESA-listed Bird Species, Southwestern Willow Flycatcher and Least Bell's Vireo Habitat Evaluations Study Area

1.1.3.3 Methods

This study approach will be coordinated with DWR's relicensing *Botanical Resources Study Approach*, which will identify, map, and describe vegetation areas, including riparian habitat, within the study area prior to field surveys for this study. As indicated below, biologists performing the surveys for this study will possess necessary state and/or federal permits, including a United States Department of the Interior, Fish and Wildlife Service (USFWS) Section 10(a)(1)(A) species recovery permit for southwestern willow flycatcher surveys involving the use of pre-recorded willow flycatcher vocalizations. The study will consist of three steps: (1) identify survey areas, (2) conduct field surveys, and (3) prepare data. These steps are described below.

Step 1 – Identify Survey Areas. DWR will use maps and descriptive habitat information from the *Botanical Resources Study Approach* associated with riparian habitat areas to identify specific areas where southwestern willow flycatcher and least Bell's vireo could occur and could potentially be affected by the Project. Using this information, new maps will be created to guide the field teams during the assessments.

Step 2 – Conduct Field Surveys. DWR will visit identified potential riparian habitat within the study area for the *ESA-listed Riparian Bird Species Study Approach* and evaluate its suitability for the two target species based on vegetation species composition, habitat structure, and patch size. Based on this evaluation, locations for surveys will be determined. DWR will then perform presence/absence surveys for southwestern willow flycatcher and least Bell's vireo. These surveys are not intended to locate territories or nests of southwestern willow flycatcher and least Bell's vireo, or to obtain precise information on the number of birds present. Surveys will follow protocols adopted by the USFWS for southwestern willow flycatcher (Sogge et al. 2010) and least Bell's vireo (USFWS 2001).

Prior to the start of surveys, lead survey staff will familiarize themselves with each site. Southwestern willow flycatcher surveys rely on a call-playback technique in which certain pre-recorded vocalizations (i.e., the "fitz-bew" song and the "whitt" alarm call) are broadcast to elicit a song response from the target species. Determining "presence" of territorial southwestern willow flycatchers requires hearing the "fitz-bew" song during the non-migrant period (generally between June 15 to July 20), which may be supported by signs of breeding activity (e.g., observations of willow flycatchers carrying nesting material). Recordings of these and other vocalizations are available online from the United States Geological Survey Colorado Plateau Research Station (<http://sbsc.wr.usgs.gov/cprs/research/projects/swwf/wiflvocl.asp>). Qualifications to lead the southwestern willow flycatcher surveys include a USFWS species recovery permit allowing for use of call-playback. In addition, the lead surveyor will be familiar with identification of other bird species likely to occur with similar calls and songs, and capable of visually identifying species that could be confused with the southwestern willow flycatcher. Surveys will be distributed across three survey periods related to nesting phenology, with one survey in period 1 (May 15-31), two surveys in period 2 (June 1-24), and two surveys in period 3 (June 25 to July 17). During the third survey period, any willow flycatchers detected are likely to be territorial.

The presence-absence surveys for least Bell's vireo will follow the 2001 USFWS survey protocols for least Bell's vireo, which are based on visual and auditory detection. The surveys will not include call-playbacks and therefore will not require a USFWS species recovery permit. Minimum qualifications of the lead surveyors include familiarity with the characteristic vocalizations and visual identification features of the species, and related demonstrated experience and skills performing bird surveys, particularly surveys of least Bell's vireo. Surveys will be distributed across the April 10 to July 31 survey season with a total of eight surveys conducted at least 10 days apart. Surveyors will note the locations and status of each detection (e.g., age, sex and pairing of birds encountered, and foraging or calling).

Detections of either southwestern willow flycatcher or least Bell's vireo will be reported to the CDFW and USFWS. If the detection is on National Forest System lands, it will be reported to the San Bernardino National Forest. Surveyors will also note any presence and general distribution of brown-headed cowbirds (*Molothrus ater*), in the survey areas.

Step 3 – Prepare Data. Following the surveys, DWR will develop summary text from field notes describing survey results and Geographic Information System (GIS) maps depicting survey locations, southwestern willow flycatcher and least Bell's vireo occurrences, any breeding activities, Project facilities, features, and specific Project-related activities (e.g., recreational trails).

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 Geographic Information System maps with field notes to verify locations of southwestern willow flycatcher and least Bell's vireo occurrences.

1.1.3.5 Analysis

If any locations of southwestern willow flycatcher and least Bell's vireo are determined, DWR will describe all potential Project-related threats to these species at that location, including Project O&M and Project-related recreation activities.

1.1.3.6 Reporting

The data gathered during this study will be compiled and summarized for incorporation into the DLA and FLA. The location of specific detections of southwestern willow flycatcher or least Bell's vireo will be provided in the FLA and DLA as a separate filing with Federal Energy Regulatory Commission designated "Privileged" information.

1.1.4 Consistency of Methodology with Generally Accepted Scientific Practices

This study approach follows survey protocols that are recommended by USFWS. Therefore, the study is consistent with standard methods accepted by the scientific

community and regulatory agencies for assessing the presence and breeding activities of southwestern willow flycatcher and least Bell's vireo.

1.1.5 Schedule

The study approach can begin as early as April 2017, pending required information on riparian habitat to be collected by the *Botanical Resources Study Approach*. The full schedule of bird field surveys will be performed in 2017. DWR anticipates the schedule below will be followed to complete the study.

Fieldwork Preparation	April 2017
Fieldwork Surveys	
least Bell's vireo	April 10, 2017 – July 31, 2017
southwestern willow flycatcher	May 15, 2017 – July 17, 2017
Data QA/QC	August 2017 – October 2017
Data Analysis and Reporting	August 2017 – 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 study will range between \$102,000 and \$137,000.

1.1.7 References

- DWR. 2010. The Quagga and Zebra Mussel Rapid Response Plan for the State Water Project. 93 pp. CONFIDENTIAL/PRIVILEGED – Not for Public Distribution.
- Kus, B.E. and K.L. Minor. 1989. Use of non-riparian habitat by least Bell's vireo. USDA Forest Service General Technical Report, PSW-110.
- Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods 2A-10. U.S. Department of the Interior, U.S. Geological Survey. Reston, Virginia. <https://pubs.usgs.gov/tm/tm2a10/pdf/tm2a10.pdf>
- U.S. Department of the Interior, Fish and Wildlife Service (USFWS). 1998. Draft Recovery Plan for the Least Bell's Vireo (*Vireo bellii pusillus*). Region 1 U.S. Fish and Wildlife Service, Portland, Oregon.
- _____. 2001. Least Bell's vireo survey guidelines. January 19, 2001. USFWS, Ecological Services, Carlsbad Fish and Wildlife Office. Carlsbad, California. <https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/LBVireo.2001.protocol.pdf>