

**FERC Project No. 2426
South SWP Hydropower
ESA-Listed Amphibian Species Study**

FIELD RESULTS AND DATA SUMMARY
February 7, 2019

Consistent with Section 5.0 of the South SWP Hydropower Revised Study Plan and as approved in the Federal Energy Regulatory Commission (FERC) Study Plan Determination dated June 14, 2017, the California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (Licensees) provide the following Field Results and Data Summary for Study 4.1.9 *ESA [Endangered Species Act]-Listed Amphibians, California Red-Legged Frog Study* (Study), which includes work completed to date, key findings, associated data files, variances, and remaining work. The Licensees consider this data to be public.

Completed Work to Date:

The Study is complete. As required by the FERC-approved Study Plan, the Licensees completed Step 1 (Identify Potential Habitat), Step 2 (Conduct Field Reconnaissance and Surveys), and Step 3 (Prepare Results).

Key Accomplishments/Summary of Findings:

Known occurrences of California Red-Legged Frog (CRLF; *Rana draytonii*) and the distribution of potential habitat were identified utilizing California Natural Diversity Database (CNDDDB) records, as well as other known literature and museum sources. Known occurrences of CRLF and National Wetlands Inventory (NWI) surface water features within the Study area (i.e., the area within one mile of the Project boundary being proposed as part of the relicensing) were mapped using Geographic Information System. A desktop site assessment was then performed to characterize mapped aquatic and surrounding upland habitats, as well as additional potential aquatic habitats that may not be included in NWI data. Following the desktop assessment, a supplemental field site assessment was conducted at multiple locations based on access to collect additional information, including observations of amphibians and fish.

A total of 18 stream or pond locations within the Study area were assessed to determine whether they represent potential CRLF breeding habitat, for which the minimum criteria include the presence of standing or slow-moving water for at least 20 consecutive weeks beginning in the spring. If the site does not meet the 20-week criterion, then the site is considered unsuitable for CRLF breeding.

Site Number/ Site Name	Site Type	20-Week Criterion Met?	Additional Notes
1 Gorman Bypass Channel	Stream	Yes	Mostly dry when examined, except for a large, deep pool immediately below spillway, where largemouth bass (<i>Micropterus salmoides</i>), channel catfish (<i>Ictalurus punctatus</i>), and American bullfrogs (<i>Lithobates catesbeianus</i>) were observed.

Site Number/ Site Name	Site Type	20-Week Criterion Met?	Additional Notes
2 Los Alamos Campground	Stream	No	Several shallow swales within a campground; dry when examined, with no hydrophytes or other evidence of persistent water.
3 Los Alamos and Gorman Creek confluence	Stream	Yes	Mostly seasonal or possibly perennial at confluence, with one shallow pool. Adjacent riparian habitat is dense. Young-of-year and adult Baja California chorus frogs (<i>Pseudacris hypochondriaca</i>) were observed.
4 Gorman Creek	Stream	Yes	Perennial (flow-supplemented), with occasional pools up to 4 feet deep. Adjacent riparian habitat is dense. Juvenile western toads observed.
5 Unnamed tributary to Pyramid Lake	Stream	No	Ephemeral drainage (wash) in incised channel and no apparent riparian vegetation (only scrub vegetation and scattered oaks); estimated gradient is less than 1 percent.
6 Piru Creek (above Pyramid Lake)	Stream	Yes	Piru Creek within Project boundary frequently inundated by the lake and mostly comprise non-pool habitat, or seasonally dry at other times. Riparian vegetation well developed, with willows and cattail.
7 Unnamed tributary to Pyramid Lake	Stream	No	Ephemeral drainage (wash) in wide sandy channel and no apparent riparian vegetation except at Pyramid Lake, where willows occur; estimated gradient less than 1 percent.
8 Posey Canyon	Stream	No	Ephemeral drainage (wash) with incised banks and no apparent riparian vegetation; estimated 2 percent gradient.
9 Piru Creek at Road 67	Stream	Yes	Perennial, with a large, separate, 3-foot-deep side channel pool; well-developed riparian vegetation. Numerous American bullfrogs and crayfish were observed, along with largemouth bass and other fish.
10 Castaic Creek	Stream/ Pond	No	Seasonal drainage in wide, sandy channel, likely dry by April, and mostly not vegetated. Also includes three sedimentation basins upstream of Elderberry Forebay.
11 Fish Canyon	Stream	No	Ephemeral drainage (wash), with gravel/cobble substrate, and mostly not vegetated; estimated 2 percent gradient.
12 Tributary to Elderberry Forebay	Stream	No	Ephemeral drainage (wash), with cobble/boulder substrate, and mostly not vegetated, except at Elderberry Forebay; estimated 2 percent gradient.
13 Tributary to Elderberry Forebay	Stream	No	Ephemeral drainage (wash), with cobble/boulder substrate, frequent channel migration, and mostly not vegetated; estimated 1 percent gradient.
14 Tributary to Elderberry Forebay	Stream	No	Ephemeral drainage (wash), with sand/gravel/cobble substrate, and mostly not vegetated; estimated 1 percent gradient.

Site Number/ Site Name	Site Type	20-Week Criterion Met?	Additional Notes
15 Stock pond	Pond	Yes	A 0.65-acre seasonal impoundment on private property. A CNDDDB record indicated that Western spadefoot (<i>Spea hammondi</i>) larvae were found at this location in June 2003.
16 Charlie Canyon	Stream	No	Ephemeral drainage (wash) in incised channel; not vegetated; estimated 4 percent gradient. Off-road vehicle use evident.
17 San Francisquito Creek	Stream	No	Ephemeral drainage (wash) in wide, shallow, sparsely vegetated channel; mostly sand/gravel substrate; estimated gradient less than 1 percent. Downstream of CRLF critical habitat unit LOS-1.
18 Dry Canyon	Stream	No	Ephemeral drainage (wash) in incised channel, not vegetated; estimated gradient less than 1 percent.

The results indicated that five sites within the Project boundary and one site on private property within one mile of the Project boundary met the minimum criteria for potential CRLF habitat. Predatory fish and American bullfrogs were observed at two of these sites: 1) a pool on the Gorman Bypass Channel, and 2) Piru Creek at the Road 67 crossing. Piru Creek downstream of Pyramid Lake outside of the Project boundary includes designated critical habitat, where there was a possible observation of CRLF larvae during a 2005 arroyo toad survey near Agua Blanca Creek; however, annual monitoring in the same area from 2010 through 2018 have resulted in no detections of any CRLF life stage.

Sites 5, 7, 8, 15, and 16 were not assessed in the field because of access issues including vehicle access issues, inability to gain access onto private property, and safety issues.

Associated Data Files (All associated data can be found in the folder with this summary form. Note: confidential CEII/privileged information will not be posted publicly.):

File Name	Data Description	File Type	File Location
20181126_sswp_REP ORT_ESA_CRLF_AqH abitatSiteAssessment_ Combined	Map of surface waters, critical habitat, CNDDDB occurrences, and site habitat assessment locations	PDF	Project website
20181114_SSWP_CRLF F_Photo_appendix	Photo log	PDF	Project website
20181114_SSWP_ESA listed Amphibians_CRLF_Study Habitat Assessment Sheets	CRLF habitat assessment datasheets with photos	PDF	Project website

Key:
CNDDDB = California Natural Diversity Database
CRLF = California red-legged frog

Variances from Study Methods, Schedule, or Approach and Abnormalities in Expected Field Conditions:

There were no variances in Study Methods, Schedule, or Approach from the FERC-approved Study Plan.

Remaining Work:

None. This Study is complete.