

June 7, 2017

Mr. Driz Cook
High Trails Outdoor Science School
P.O. Box 2640
Big Bear City, CA 92314

Subject: Results of the Southwestern Willow Flycatcher Habitat Assessment for the High Trails Outdoor School Project in the Angelus Oaks area, San Bernardino County, California

Dear Mr. Cook:

FirstCarbon Solutions (FCS) is pleased to provide you with the results of the southwestern willow flycatcher (*Empidonax traillii extimus*, SWWF) habitat assessment conducted for the High Trails Outdoor Science School project site located at 'O' Radford Ranch Road, in the Angelus Oaks area of San Bernardino County, California. This effort was completed in support of California Environmental Quality Act (CEQA) documentation for the project.

SOUTHWESTERN WILLOW FLYCATCHER BIOLOGY

The SWWF is a neotropical migrant passerine that breeds in the southwestern United States, including southern California, Arizona, and portions of Nevada, Utah, Colorado, and New Mexico. It is listed as Endangered under the Federal Endangered Species Act. The SWWF is one of four similar-looking willow flycatcher subspecies that breed within the U.S., some of which may pass through the SWWF's breeding range during migration. This makes positive identification challenging, and the protocol surveys are designed to detect evidence of breeding within the SWWF's known breeding range. SWWF typically reach their breeding grounds in early May and June, and fledge young by the end of July or early August.

Suitable SWWF habitat is generally characterized by expansive riparian forest supported by surface water or at least high soil moisture. Important habitat features include occasional canopy openings, often adjacent to the active streambed, that are dominated by dense herbaceous species. When surface water is present, SWWF often prefer to establish territories along quieter streambed sections and tend to avoid loud rapids. Preferred species composition for habitat at high elevation sites often includes dense willows or native broadleaf species two to seven meters in height with no distinct overstory; a dense, well-developed herbaceous understory (sedges, rushes, nettles, and other herbaceous wetland plants), often up to six feet in height, and a high live foliage density from the ground to the canopy (Sogge et al. 2010). As indicated in Sogge et al. 2010, flycatchers have rarely been found in linear riparian habitat less than 10 meters wide.

SURVEY METHODOLOGY

Senior Biologist Brian Lohstroh conducted the SWWF habitat assessment on May 8, 2107. Mr. Lohstroh maintains a U.S. Fish and Wildlife Service (USFWS) Recovery Permit to survey for SWWF (permit no. TE-063608-5) and has over 16 years of experience conducting surveys and working with the species. He is also familiar with the project area, where he has conducted three consecutive years (2014-2016) of USFWS protocol SWWF surveys along a short segment of the Santa Ana River and Cold Creek, approximately four miles southwest of the project. Suitable SWWF habitat was evaluated within the site and adjacent 500-foot buffer by assessing the width of the riparian habitat, the plant species composition, and the overall canopy structure.

SITE AND PROJECT DESCRIPTION

The approximately 40-acre project site is located near the community of Seven Oaks and Barton Flats in the San Bernardino National Forest north of State Route 38 (SR-38), on the western slopes of Sugar Loaf Mountain (Exhibits 1 & 2). The project site is nearly completely bound by undeveloped land owned by the United States Forest Service (USFS) with the exception of undeveloped private land to the northwest. Elevation on-site ranges from 5,520 feet above mean sea level (AMSL) in the northwest corner to 5,322 AMSL in the Santa Ana River in the southwest corner. The project site contains several small hills and generally slopes moderately from north to south. The parcel is traversed by Radford Camp Road that winds north to south on the western half. The property is generally undeveloped, supporting primarily oak/coniferous woodland and big sagebrush scrub vegetation communities. An expansion tank for a private water well is located on a small concrete pad in the center of the site. The eastern edge of the site contains a dirt access road and gate. The upper Santa Ana River flows through the southwest corner and to the south of the property.

The project proposes to develop approximately 2.55 acres of big sagebrush scrub and oak/coniferous forest in the southeast corner of the 40-acre property as an outdoor science school. The proposed development would include a main lodge, seven separate housing buildings, and a parking lot along with other paved surfaces.

SURVEY RESULTS

Riparian habitat within the project site is not suitable habitat for SWWF. However, there is marginally suitable SWWF habitat to the west of the property along the Santa Ana River. Site photographs in Appendix A are referenced as part of this discussion.

Within the project site, the riparian habitat exists only in the southwest corner of the property and is separated from the proposed development by a paved San Bernardino County maintained road. It is dominated by tall white alders (*Alnus rhombifolia*) with an understory of non-native grasses (see photos 1 & 2). There is no developed herbaceous component, and no dense live foliage in the middle canopy layer. Live oaks (*Quercus* sp.) are present along the banks of the stream terraces. The alder-dominated riparian habitat is relatively narrow at this location as well, totaling approximately 50 feet in canopy width.

The riparian habitat south and east of the project site (proceeding upstream from the southwest property corner) is generally quite narrow with little in the way of a developed understory (see photos 3-5). The riparian habitat meanders to a maximum of approximately 275 feet from the southern property boundary. Arroyo willows (*Salix lasiolepis*) are present in inconsistent, small patches, well below the tall canopy of alders. Xeric big sagebrush scrub is present on the adjacent stream terrace openings where there is no herbaceous layer, and live oaks/mixed coniferous forest border these terraces in the uplands, 50-100 feet away from the riparian strip. This segment of the Santa Ana River (including the portion that exists within the property boundary) is not considered suitable habitat for SWWF because it is relatively narrow, and it lacks the suitable canopy structure.

Marginally suitable SWWF habitat is present approximately 200 feet west (downstream) of the western property boundary, where the riparian habitat expands to nearly 400 feet in width (see photos 6-8). Tall white alders still dominate this habitat, but the understory is more developed with occasional patches of willow scrub dominated by arroyo willows. The willows are approximately 10 feet in height, often still well below the upper canopy layer of alders. Coffeeberry (*Frangula californica*) also contributes to this scrub understory, especially as the riparian scrub transitions to upland vegetation. A low (two-three feet in height) herbaceous layer of nettles (*Urtica dioica*) and wild rose (*Rosa californica*) also exists in openings and underneath the tall canopy of alders. However, the habitat is considered to be only marginally suitable because the overall foliage density is still somewhat lacking in the middle canopy layer. In addition, the flow of the Santa Ana River is rather noisy throughout the project area, without any of the periodic quiet riffles that SWWF prefer.

DISCUSSION AND RECOMMENDATIONS

The last documented observations of SWWF in the project area were approximately 18 years ago in 1999. The locations of these observations include two detections approximately 0.6 miles south of the project along Barton Creek, one detection approximately three miles upstream (east) of the project, and one detection approximately two miles downstream (west) of the project along the Santa Ana River (Exhibit 3). It is also important to note that this portion of the Santa Ana River is designated Critical Habitat for SWWF (USFWS 2013).

However, USFWS Protocol surveys for SWWF are not warranted for the following reasons:

- The High Trails property and proposed impact area do not support SWWF habitat and no direct impacts on SWWF habitat are expected to result from the project.
- Marginally suitable SWWF habitat is present approximately 200 feet west of the western property boundary, and this is approximately 1,000 feet west of the actual project impact area. Given the ambient noise levels from the Santa Ana River and the fact that SWWF have not been observed in the area for at least 18 years, the likelihood of indirect effects on SWWF are very low.
- To mitigate for the low likelihood of potential noise impacts on SWWF, avoid constructing the project during the SWWF breeding season (May 1-September 1), if possible. If this is not

possible, it is recommended that construction noise levels stay below 65 dBA in the riparian habitat during the SWWF breeding season.

First Carbon Solutions (FCS) appreciates the opportunity to assist you on this project. If we can be of any further assistance, or if you have any questions concerning this letter report, please contact me at (714) 508-4100 or via email at kboystun@fcs-intl.com.

Sincerely,



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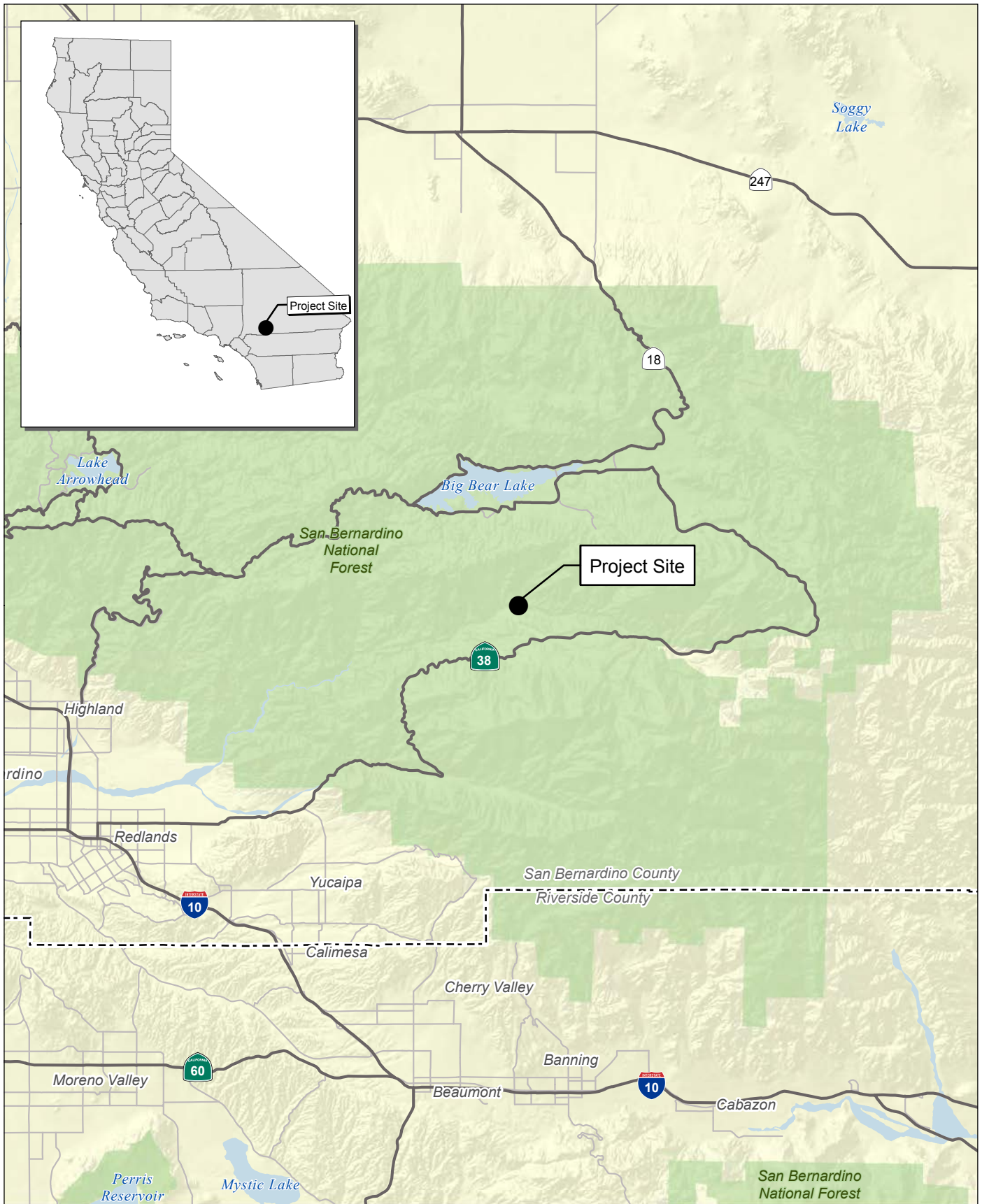
Enc: Exhibit 1: Regional Location Map
Exhibit 2: Local Vicinity Map
Exhibit 3: Historic Southwestern Willow Flycatcher Observations and Critical Habitat

Appendix A: Site Photographs

References

Sogge, M.K., Ahlers, Darrell, and Sferra, S.J., 2010. *A natural history summary and survey protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10*, 38 p. [<http://pubs.usgs.gov/tm/tm2a10/pdf/tm2a10.pdf>]

USFWS, 2013. *Designation of Critical Habitat for Southwestern Willow Flycatcher*; Final Rule. Federal Register Vol. 78; No. 2 January 3, 2013. 50 CFR Part 17.



Source: Census 2000 Data, The CaSIL, FCS GIS 2016.

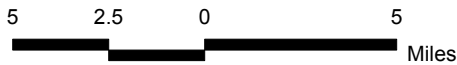
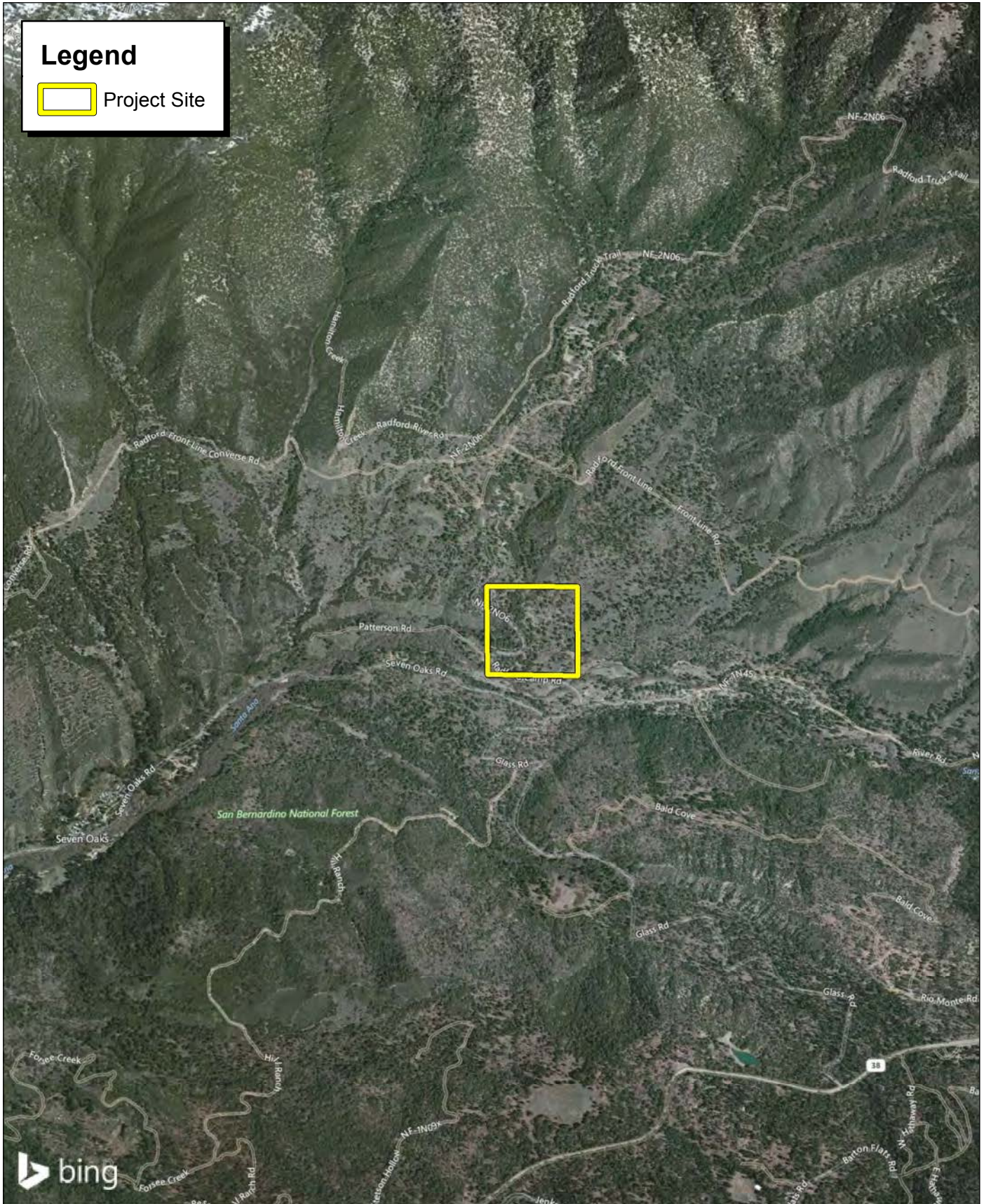


Exhibit 1 Regional Location Map



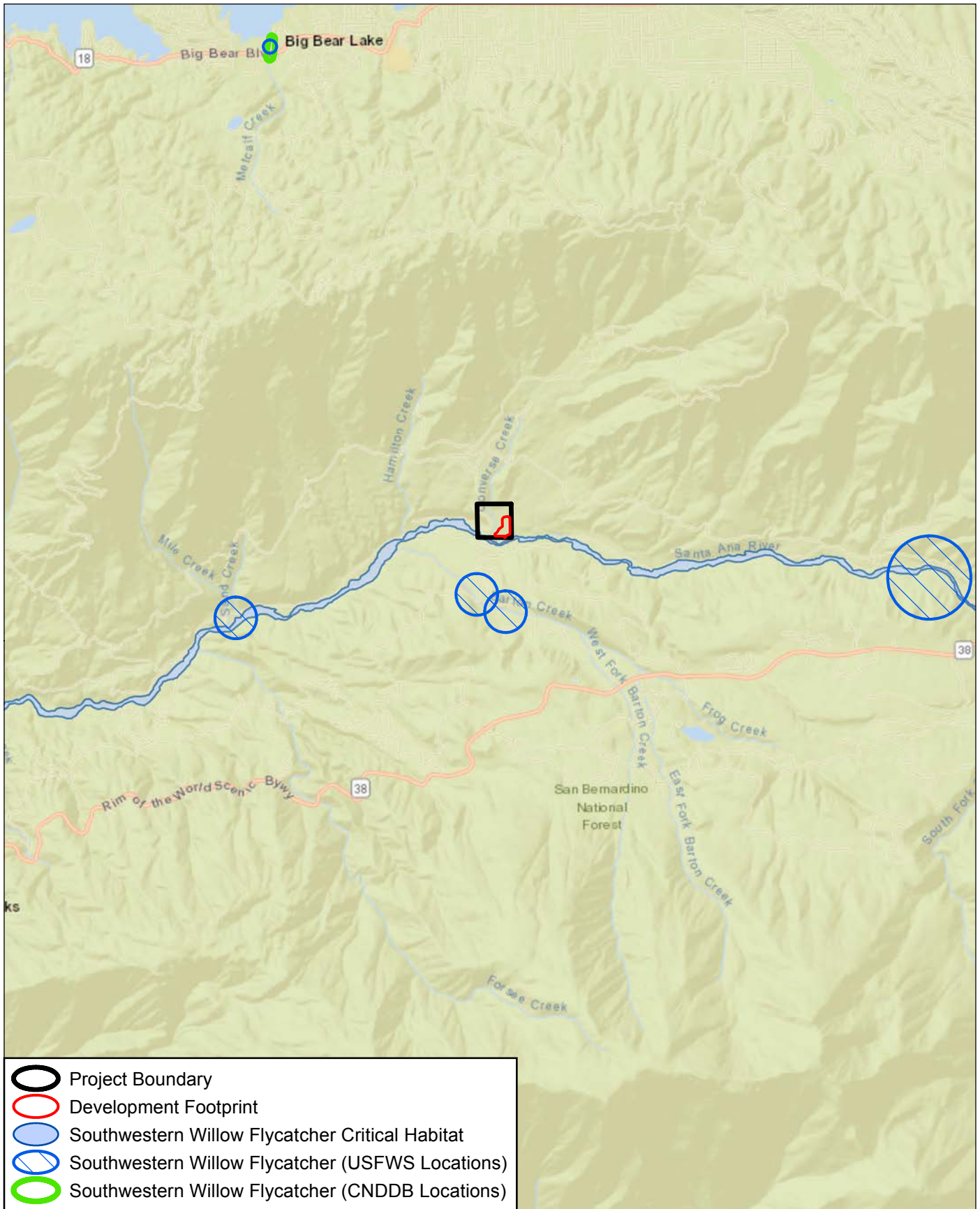
Source: Bing Imagery, 2015

Exhibit 2

Local Vicinity Map

Aerial Base





Source: USFWS; CDFW; Esri



Exhibit 3 Southwestern Willow Flycatcher



Photograph 1: View of the Santa Ana River and white alders within the property boundary. The southwestern property corner is visible in the background in the form of orange flagging at center-left. Live oaks are at right.



Photograph 2: Santa Ana River and white alder-dominated riparian habitat near the southwestern property corner. Note the lack of a dense understory.



Photograph 3: Riparian habitat along the Santa Ana River south of the property. This area is solely composed of a narrow strip of white alders, without any willows or herbaceous species providing a dense understory.



Photograph 4: Typical habitat south of the property, with upland scrub on the stream terraces in the foreground, willow scrub and conifers at left, and white alders associated with the Santa Ana River at right.



Photograph 5: Riparian habitat along the Santa Ana River east of the property. Note the narrow the riparian habitat lacking an understory and a dense herbaceous layer.



Photograph 6: Marginally suitable SWWF habitat west of the property. Dense nettles are visible in the foreground, with willow scrub at center right and tall white alders in the background.



Photograph 7: Marginally suitable SWWF habitat west of the property, with the Santa Ana River and dense nettles in the foreground. Dense willow scrub is visible across the center, below the taller white alders.



Photograph 8: Marginally suitable SWWF habitat west of the property, with the Santa Ana River passing through dense willow scrub. Sedges, mugwort, and non-native grasses are visible in the foreground.