Appendix A

2019 Rare Plant Survey Report

HELIX
Environmental Planning

Cottonwood Sand Mine

2019 Rare Plant Survey Report

Prepared for:

New West Investment Group, Inc.
565 N. Magnolia Avenue
El Cajon, CA 92020

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

This page intentionally left blank

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

This report presents the results of the 2019 rare plant survey conducted by HELIX Environmental Planning, Inc. (HELIX) for Cottonwood Sand Mine Project (project) located in the unincorporated communities of Rancho San Diego and Jamul in eastern San Diego County, California. This letter describes the survey methods and results.

2.0 PROJECT LOCATION

The approximately 280-acre project site (site) is located in the unincorporated community of Rancho San Diego in eastern San Diego County, California (Figure 1, *Regional Location*). It is depicted within unsectioned lands of Township 16 South, Ranges 1 west and 1 east of the Jamul Mountains and El Cajon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 2, *USGS Topography*). The site lies north of State Route (SR) 94 and east of SR 54 within the Cottonwood Golf Club. More specifically, the site occurs southeast of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road at 3121 Willow Glen Drive, El Cajon, California (Figure 3, *Aerial Vicinity*). Steele Canyon Road bisects the project site from north to south, near the center of the site.

3.0 SURVEY METHODS

A rare plant was conducted on the project site by HELIX biologists Angelina Bottani and Dan van Tamelen on April 17 and June 20, 2019 (Table 1, *Survey Information*), which also included focused survey for San Diego ambrosia (*Ambrosia pumila*). U.S. Fish and Wildlife Service (USFWS) designated critical habitat for San Diego ambrosia occurs in the southwestern portion of the project site. The surveys were conducted on foot and included 100 percent visual coverage of the project site. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph. Special status plant species were also searched for opportunistically during other surveys.

Special status plant species include species that are: listed as threatened or endangered by the USFWS or the California Department of Fish and Wildlife (CDFW 2021); those with a California Rare Plant Rank (CRPR) 1 through 4 designated by the California Native Plant Society (CNPS 2021); those that are on the County of San Diego's (County's) Sensitive Plant List (County 2010); and those covered by the County's MSCP Subarea Plan (County 1997). Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

Table 1
Survey Information

Date	Survey Number	Personnel[1]	Conditions
April 17, 2019	Spring	Angelia Bottani Dane van Tamelen	--
June 29, 2019	Summer	Angelia Bottani Dane van Tamelen	--

4.0 RESULTS

4.1 FEDERAL OR STATE LISTED SPECIES

No federal or state listed plant species were observed within the project site.

4.2 OTHER SPECIAL STATUS PLANT SPECIES

Four plant species with other special status designations were observed within or adjacent to the project site during the 2018 rare plant survey, as listed below and shown on Figure 4. *2018 Rare Plant Survey Results*.

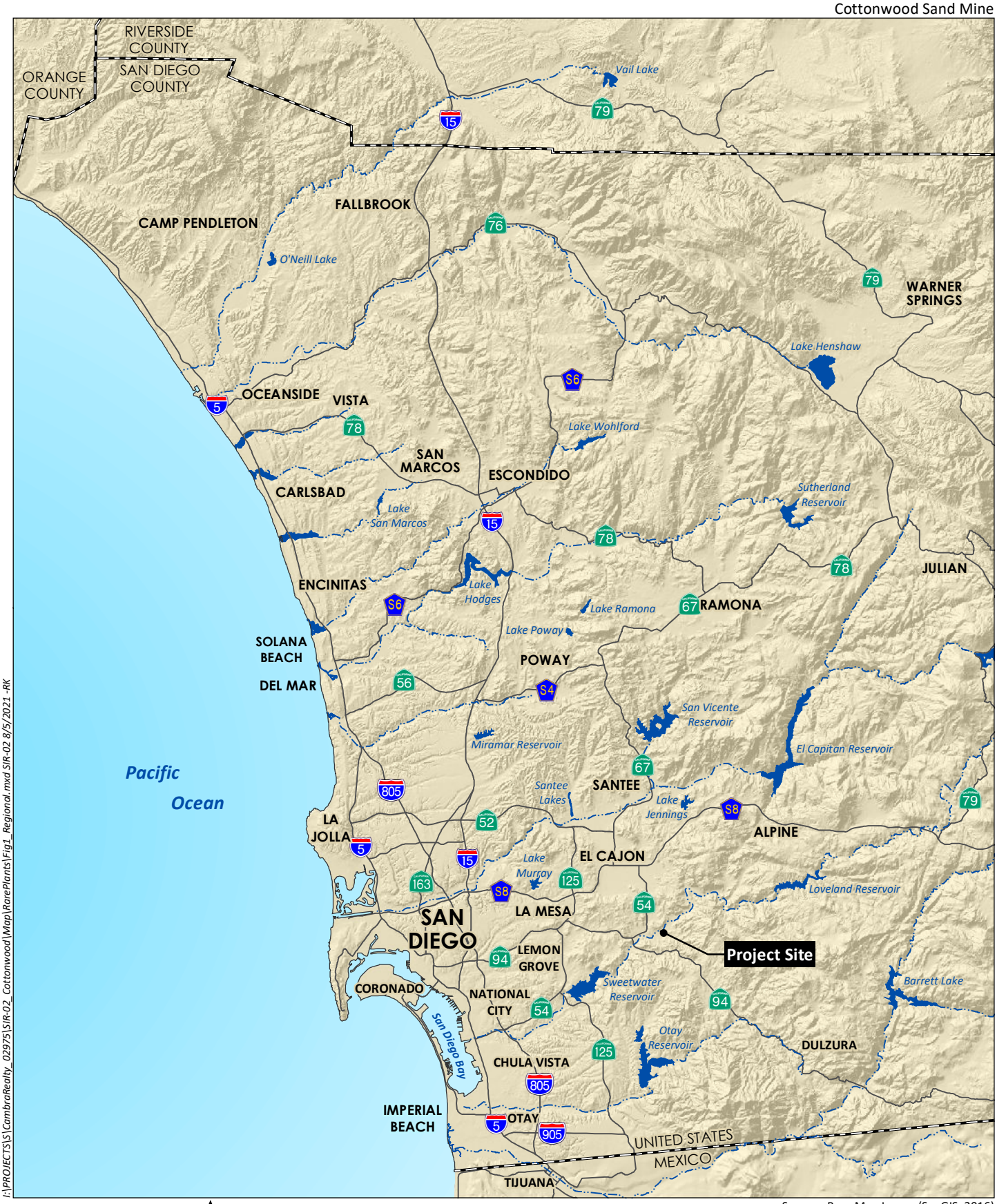
Singlewhorl Burrobrush (*Ambrosia monogyra*)
Sensitivity Status: --/--; CRPR 2B.2
Distribution: Elevations below 1,640 feet in Inyo County and southern California regions.
Habitat(s): Sandy soils of dry riverbeds and washes.
Presence on Site: Approximately 151 individuals were mapped within Diegan coastal sage scrub at the extreme northeastern portion of the site.

San Diego Sagewort (*Artemisia palmeri*)
Sensitivity Status: --/--; CRPR 4.2; County List D
Distribution: Coastal regions of Orange and San Diego Counties at elevations below 1,970 feet.
Habitat(s): Moist drainages and stream courses on sandy and mesic soils.
Presence on Site: Two individuals were observed at the western project boundary at the edge of southern riparian forest along Sweetwater River.

San Diego County Viguiera (*Bahiopsis laciniata*)
Sensitivity Status: --/--; CRPR 4.3, County List D
Distribution: Coastal portions of southern California from Ventura County south to San Diego County and into western Riverside County at elevations below 2,500 feet.
Habitat(s): Grows on a variety of soil types within coastal sage scrub and chaparral.
Presence on Site: Four individuals observed at the northeastern portion of the project site within disturbed coastal sage scrub and disturbed habitat.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)
Sensitivity Status: --/--; CRPR 4.2; County List D
Distribution: Coastal regions of southern California at elevations below 1,000 feet. San Luis Obispo County south to San Diego County, and further east into Riverside and Imperial Counties.
Habitat(s): Moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps.
Presence on Site: Six individuals observed at southwestern portion of project site in wetland habitat at the downstream portion of Sweetwater River.

.



I:\PROJECTS\S\CambraRealty_02975\SIR-02_Cottonwood\Map\RarePlants\Fig1_Regional.mxd SIR-02 8/5/2021 -RK

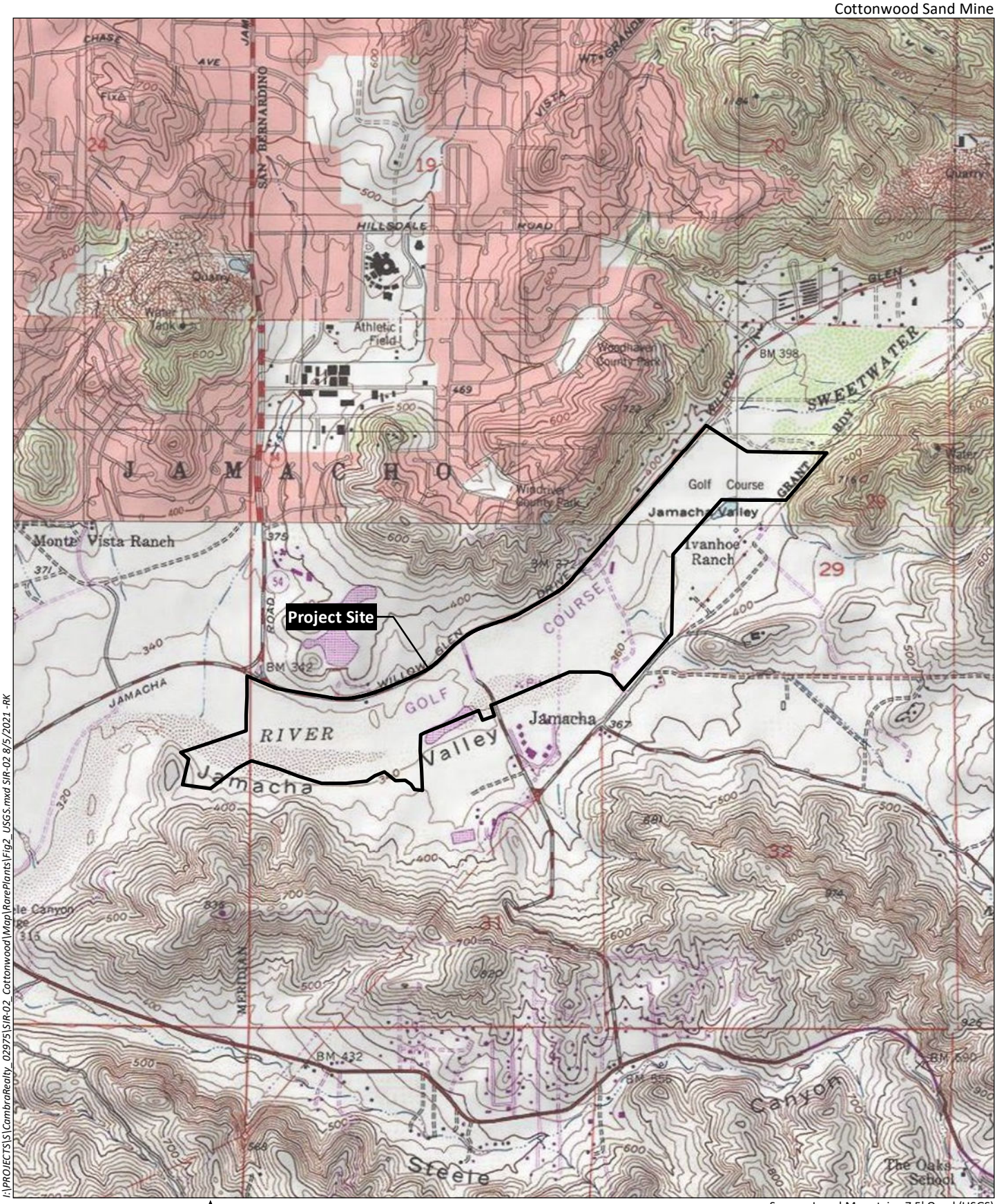
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



I:\PROJECTS\S\CambraRealty_02975\SIR-02_Cottonwood\Map\RarePlants\Fig2_USGS.mxd SIR-02 8/5/2021 -RK

Source: Jamul Mountains 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Aerial (SanGIS 2017); NWR (U.S. Fish and Wildlife Service 2016)

HELIX Environmental Planning

Aerial Vicinity

Figure 3

Project Site

Major Use Permit Boundary

Legend

Special Status Species

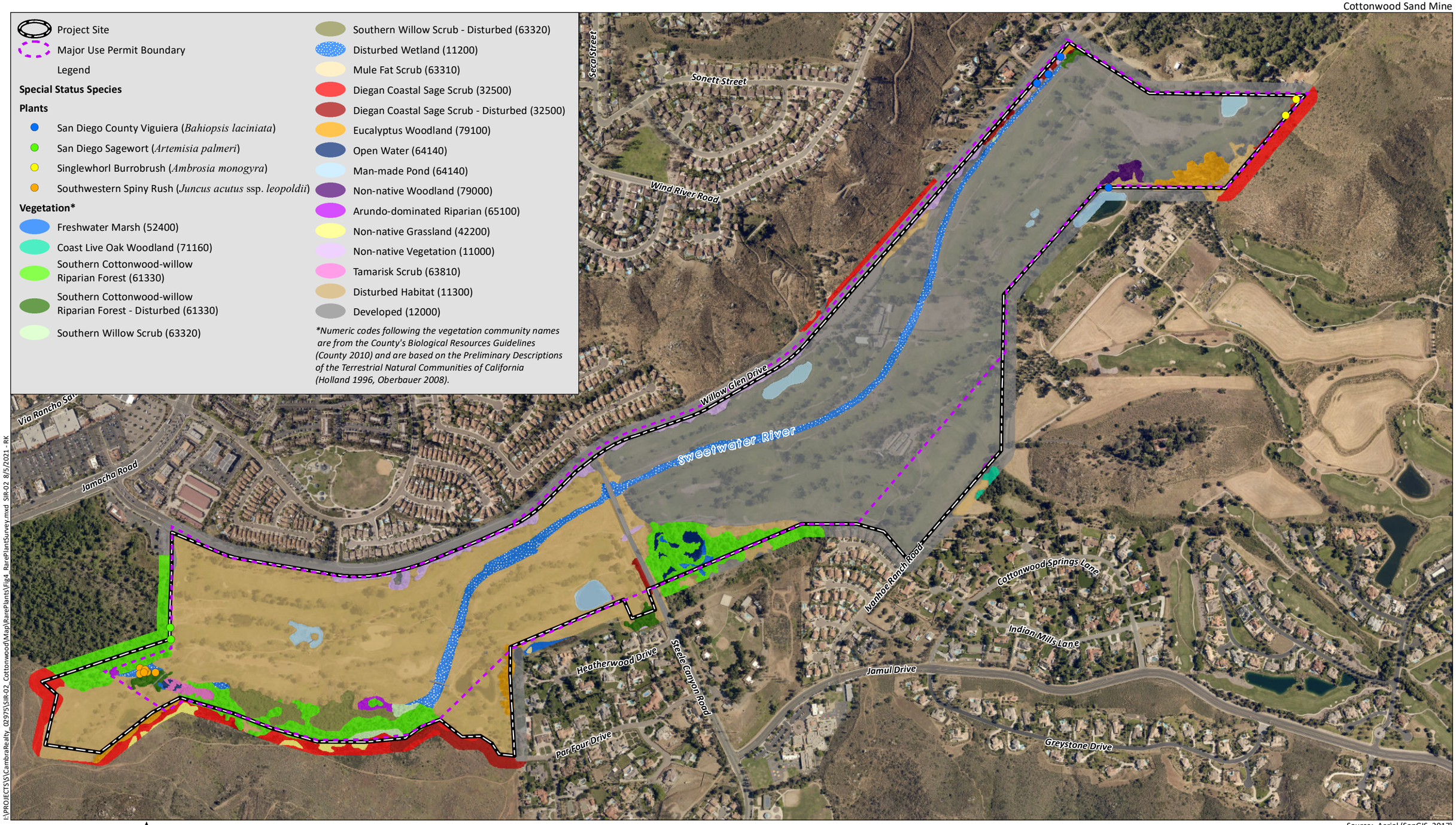
Plants

- San Diego County Viguiera (*Bahiopsis laciniata*)
- San Diego Sagewort (*Artemisia palmeri*)
- Singlewhorl Burrobrush (*Ambrosia monogyra*)
- Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

Vegetation*

- Freshwater Marsh (52400)
- Coast Live Oak Woodland (71160)
- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Cottonwood-willow Riparian Forest - Disturbed (61330)
- Southern Willow Scrub (63320)
- Southern Willow Scrub - Disturbed (63320)
- Disturbed Wetland (11200)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Eucalyptus Woodland (79100)
- Open Water (64140)
- Man-made Pond (64140)
- Non-native Woodland (79000)
- Arundo-dominated Riparian (65100)
- Non-native Grassland (42200)
- Non-native Vegetation (11000)
- Tamarisk Scrub (63810)
- Disturbed Habitat (11300)
- Developed (12000)

**Numeric codes following the vegetation community names are from the County's Biological Resources Guidelines (County 2010) and are based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1996, Oberbauer 2008).*



I:\PROJECTS\S\CambraRealty_02975\SIR-02_Cottonwood\Map\RarePlants\Fig4_RarePlantSurvey.mxd SIR-02 8/5/2021 - RK

0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

2019 Rare Plant Survey Results

Figure 4

5.0 CONCLUSION

No federal or state listed plant species were observed within the project site during the 2018 rare plant surveys. Four special status species with other sensitivity designations by the CNPS and/or County were observed within the project site.

6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2021.California Natural Diversity Database (CNDDB). Special Vascular Plants, Bryophytes, and Lichens List. July. Retrieved from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline.

California Invasive Plant Council. 2020. California Invasive Plant Inventory. Retrieved from: http://www.cal-ipc.org/ip/inventory/index.php.

County of San Diego (County). 2010. Report Format and Content Requirements, Biological Resources. Fourth Revision, September 15.

1997. Multiple Species Conservation Program, County of San Diego Subarea Plan. October 22.

Appendix B

2019 Arroyo Toad Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

July 30, 2019 SIR-02

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2019 Arroyo Toad (*Anaxyrus californicus*) Survey Report for the Cottonwood Sand Mine Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered arroyo toad (*Anaxyrus californicus*; ARTO) conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Cottonwood Sand Mine Project (project). This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 277-acre project site (site) is located in the unincorporated communities of Rancho San Diego and Jamul in eastern San Diego County, California (Figure 1, *Regional Location*). It is depicted within unsectioned lands of Township 16 South, Ranges 1 west and 1 east of the Jamul Mountains and El Cajon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 2, *USGS Topography*). The site lies north of State Route (SR) 94 and east of SR 54 within the Cottonwood Golf Club. More specifically, the site occurs south and southeast of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road (Figure 3, *Aerial Vicinity*). Steele Canyon Road bisects the project site from north to south, near the center of the site. No critical habitat for arroyo toad occurs within or adjacent to the project site.

METHODS

The survey consisted of six site visits conducted by HELIX biologists Benjamin Rosenbaum, Erica Harris, Dane van Tamelen, Samantha Edgley, and Angelia Bottani between April 15 and June 25, 2019 (Table 1,

Survey Information), in accordance with the current USFWS survey protocol[1]. The surveys included both a daytime and nighttime component conducted within the same 24-hour period. Daytime surveys were conducted during the daylight hours prior to sunset and nighttime surveys began one hour after sunset. The surveys were timed to take place outside of the near- and full-moon phases. The primary objective of daytime surveys was to detect and document the presence of any arroyo toads in the immature life stage (egg strings, larvae, metamorphic individuals, or toadlets). Nighttime surveys were conducted to detect any breeding adults.

Daytime surveys were conducted by walking slowly along the stream margin and adjacent riparian habitat visually searching for eggs, larvae, and juveniles. When it was necessary to walk within the stream, care was taken not to disturb or create silt deposits. Biologists crossed the stream in fast-flowing channels to minimize the likelihood of stirring up silt deposits. Extreme caution was used to avoid disturbing arroyo toads that could be burrowed into sandbars and banks or lodged in depressions in the substrate. Potential breeding pools and arroyo toad locations detected during the survey were either marked on an aerial photograph or recorded with a hand-held global positioning system (GPS) unit.

Nighttime surveys were conducted by walking slowly and methodically along stream banks while making repeated stops to listen for calling toads. Surveys were conducted as silently as possible to avoid any observer influence over toad behavior and to facilitate abundance estimates of any toads detected in the survey area. The same precautions used during daytime surveys to avoid potential disturbances to toads were taken during nighttime surveys. Artificial lighting used during the survey was kept to a minimum.

A habitat assessment for arroyo toad was conducted within the project site during the first daytime survey. Habitat within the project site was either determined to be suitable, as described in the USFWS species report[2], or unsuitable and was excluded from the survey area. Suitable habitat was then classified as either marginal, low, moderate, or high-quality breeding habitat for the species. High quality breeding habitat contains the species primary constituent elements[3] including:

- Low-gradient, slower mowing rivers or streams that contain shallow breeding pools that hold water at least two months to allow for larval development;
- Riparian and adjacent upland habitats with sandy or fine gravel substrates that contain shallow pools for breeding or loose soil for burrowing toads; and
- Natural flooding regimes with intermittent or near-perennial flows that maintain open, sparsely vegetated, sandy stream channels and terraces.

Suitable habitat for the species generally consists of habitat located along, or directly adjacent to, the Sweetwater River which flows in a western direction through the project site (Figure 4, *Arroyo Toad*

[1] U.S. Fish and Wildlife Service. 1999. Survey Protocol for the Arroyo Toad. U.S. Department of Interior, Fish and Wildlife Service. May 19.

[2] U.S. Fish and Wildlife Service. 2014. Arroyo Toad (*Anaxyrus californicus*) Species Report. U.S. Fish and Wildlife Service Ventura Fish and Wildlife Office, Ventura, California. March 24. Retrieved from: https://www.fws.gov/ventura/docs/species/at/Arroyo%20Toad%20Final%20Species%20Report.pdf

[3] U.S. Fish and Wildlife Service. 2011. Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Arroyo Toad; Final Rule. Federal Register. Volume 26, Number 27. February 9.

Habitat Assessment). Vegetation communities within the arroyo toad survey area consisted of disturbed Diegan coastal sage scrub, eucalyptus woodland, non-native vegetation, disturbed wetland, arundo-dominated riparian, tamarisk scrub, southern willow scrub (including disturbed), and southern cottonwood-willow riparian forest (including disturbed) along with disturbed habitat and developed land associated within the inactive and active portions of the golf course (Figure 5, *2019 Arroyo Toad Survey Results*).

Table 1 details the survey dates, times, and conditions.

Table 1
SURVEY INFORMATION

Site Visit	Date	Biologists	Survey Type	Survey Time (Start/Stop)	Weather Conditions (Start/Stop)	Results
1	4/15/19	Benjamin Rosenbaum Erica Harris	Daytime Survey	1145/1515	71°F, wind 0-2 mph, 15% clouds 73°F, wind 2-4 mph, 5% clouds	No ARTO detected
			Nighttime Survey	1950/2205	60°F, wind 1-3 mph, 60% clouds 62°F, wind 0-1 mph, 90% clouds	No ARTO detected
2	4/24/19	Benjamin Rosenbaum Dane Van Tamelen	Daytime Survey	1130/1330	74°F, wind 2-5 mph, clear sky 79°F, wind 2-5 mph, clear sky	No ARTO detected
			Nighttime Survey	1945/2210	67°F, wind 2-5 mph, clear sky 67°F, wind 2-5 mph, clear sky	No ARTO detected
3	5/1/19	Benjamin Rosenbaum Samantha Edgley	Daytime Survey	1130/1430	66°F, wind 1-3 mph, 5% clouds 72°F, wind 1-3 mph, 5% clouds	No ARTO detected
			Nighttime Survey	2000/2215	60°F, wind 1-3 mph, 80% clouds 59°F, wind 2-5 mph, 80% clouds	No ARTO detected
4	5/23/19	Benjamin Rosenbaum Angelia Bottiani[1]	Daytime Survey	0900/1030	62°F, wind 2-5 mph, 80% clouds 65°F, wind 2-5 mph, 100% clouds	No ARTO detected
			Nighttime Survey	2040/2240	60°F, wind 2-5 mph, clear sky 57°F, wind 2-5 mph, clear sky	No ARTO detected
5	6/13/19	Benjamin Rosenbaum Angelia Bottiani[1]	Daytime Survey	1145/1320	78°F, wind 2-5 mph, clear sky 87°F, wind 2-5 mph, clear sky	No ARTO detected
			Nighttime Survey	2030/2220	62°F, wind 0-2 mph, clear sky 59°F, wind 0-1 mph, clear sky	No ARTO detected
6	6/25/19	Benjamin Rosenbaum Samantha Edgley[1]	Daytime Survey	1130/1315	69°F, wind 2-5 mph, 80% clouds 71°F, wind 1-3 mph, 40% clouds	No ARTO detected
			Nighttime Survey	2045/2235	66°F, wind 0-1 mph, 90% clouds 64°F, wind 0-1 mph, 90% clouds	No ARTO detected

[1] Conducted nighttime survey only.

SURVEY RESULTS

No evidence of the arroyo toad, including eggs, tadpoles, toadlets, or adult toads was detected during the survey effort (Figure 5). Adult toads were not heard calling within, or adjacent to, the project site. Arroyo toads have not been detected south of Sloan Canyon Road, located over five miles upstream of the site, since 1997.[2,4] Focused arroyo toad surveys previously conducted within the San Diego National Wildlife Refuge, which occurs east and immediately west of site, were negative[5]. Furthermore, focused arroyo toad surveys were conducted within the project site by the USGS in 2003, during which no arroyo toads were observed[6]. Arroyo toads are presumed to absent from the project site based on the lack of past detections and previous negative surveys, including the HELIX's 2019 negative survey results.

Potentially suitable habitat within the project site has been heavily degraded by development of the Cottonwood Golf Club in the early 1960s and other past site disturbances such as mining for construction aggregates from the 1950s to 1970s. These disturbances have resulted in the removal and conversion of riparian habitat to turf grass throughout the vast majority of the site, along with the realignment and constriction of the Sweetwater River. Marginal to low-quality habitat for the species was found along the Sweetwater River during the 2019 protocol surveys (Figure 4). Marginal quality habitat consists of an upstream portion of Sweetwater River at the northeastern portion of the project site. This section of Sweetwater River is concrete-bottomed and does not provide suitable sandy substrates for burrowing toads. Low quality habitat consists of open-sandy bottomed portions of Sweetwater River that occur within the upper two-thirds reach of Sweetwater River, and dense riparian vegetation that occurs in the southwestern portion of the site at the downstream reach of Sweetwater River. The upper reach of Sweetwater River is located within the active portion of the golf course that is subject to on-going human disturbances and maintenance activities, such as irrigation, mowing, and extensive golf cart use associated with operation of the Cottonwood Golf Club. The downstream reach of Sweetwater River contains dense riparian habitat that lacks suitable shallow breeding pools for the species.

A patch of riparian habitat associated with a lower-lying area excavated as part of previous mining activities occurs along the project's southern boundary, to the east of Steele Canyon Road. This patch of habitat was excluded from the survey area as it does not contain the species' primary consistent elements such as a naturally flooding regime, shallow breeding pools, and vegetated sand and gravel bars. The area is characterized by large ponded areas and dense riparian habitat that are not suitable for arroyo toad. Furthermore, American bullfrogs (*Lithobates catesbeianus*) were detected within this area, and other artificial ponds within the golf course, which are non-native predators of the species.

Upland vegetation within the project site predominately consists of golf course fairways and greens that are regularly irrigated and mowed. These areas are unsuitable for the species as they are heavily

[4] U.S. Geological Survey. 2005a. Distribution and Status of Arroyo Toad (*Bufo californicus*) and Western Pond Turtle (*Emys marmorata*) in the San Diego MSCP and Surrounding Areas. Final Report. U.S. Geological Survey Western Ecological Research Center. October 5. Retrieved from: https://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/Toad_Turtle_Distribution_and_Status.pdf

[5] Martin, John. 2005. Arroyo Toad (*Bufo californicus*) Surveys on San Diego National Wildlife Refuge Report. August 1.

[6] U.S. Geological Survey. 2005b. Baseline Surveys for the Arroyo Toad (*Bufo californicus*) in the Sweetwater River Channel, San Diego County, San Diego. Draft Final Report. October 5. Retrieved from: https://sdmmp.com/upload/SDMMP_Repository/0/ng809h3vjcfzwbrxsdm51qyk72t4p.pdf

trafficked as part of golf play and would not provide suitable burrowing or foraging habitat for the species.

The hydrological regime of the Sweetwater River has also been substantially altered by the creation of artificial impoundments along its reach including Loveland Reservoir (constructed in 1945) located upstream of the site and Sweetwater Reservoir (constructed in 1888) located downstream of the site. Both dams are operated by the Sweetwater Authority whom conduct controlled releases of water to downstream areas. Controlled releases in 2019 resulted in high flows and swift-moving water through the project site in March and April which caused heavy erosion within portions of the river channel.

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Shelby Howard or us at (619) 462-1515 should you have any questions.

Sincerely,

Benjamin Rosenbaum
Biologist

Erica Harris
Biologist

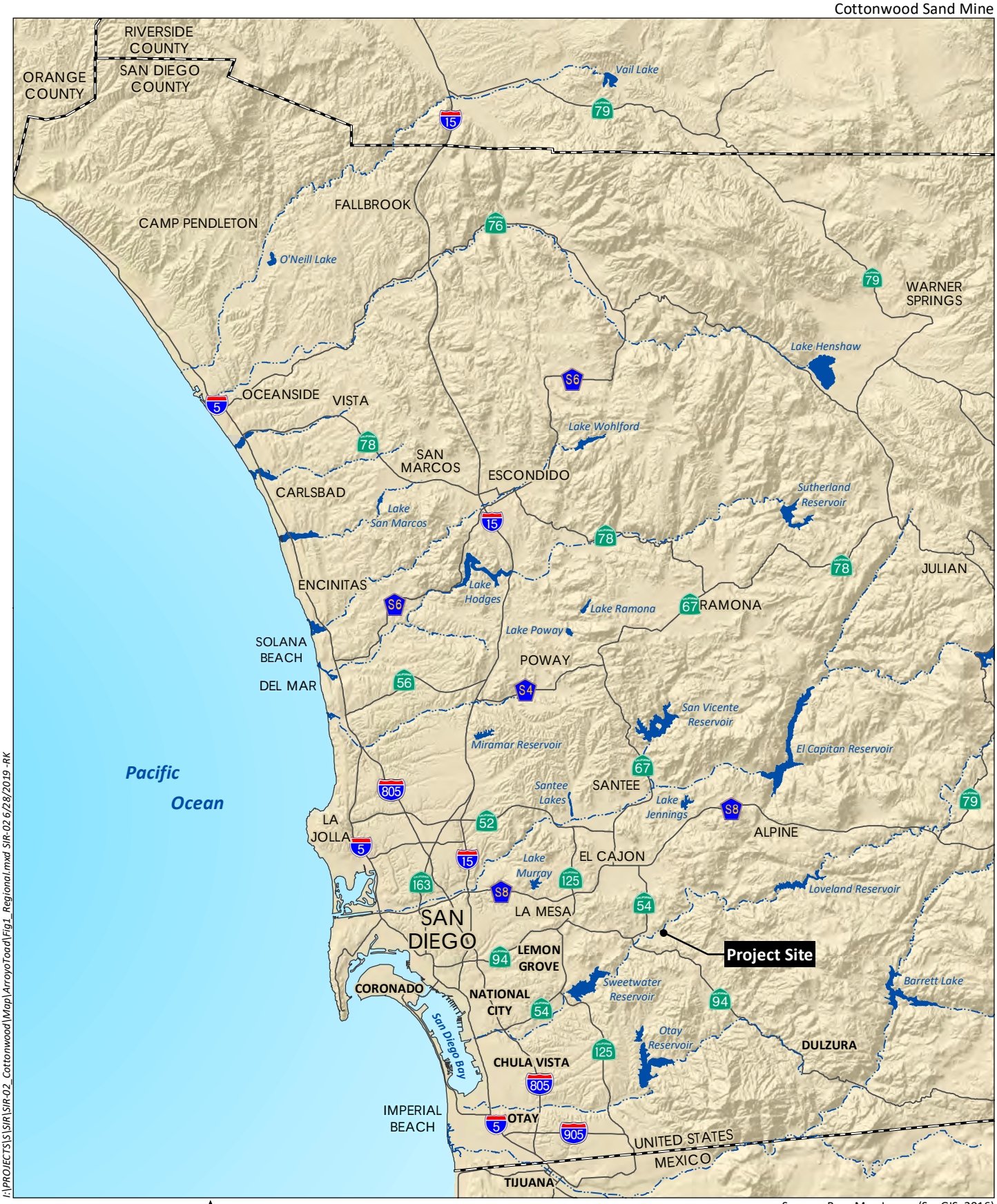
Dane van Tamelen
Biologist

Samantha Edgley
Biologist

Angelia Bottani
Biologist

Attachments:

Figure 1: Project Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: Arroyo Toad Habitat Assessment
Figure 5: 2019 Arroyo Toad Survey Results



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\ArroyoToad\Fig1_Regional.mxd SIR-02 6/28/2019 -RK

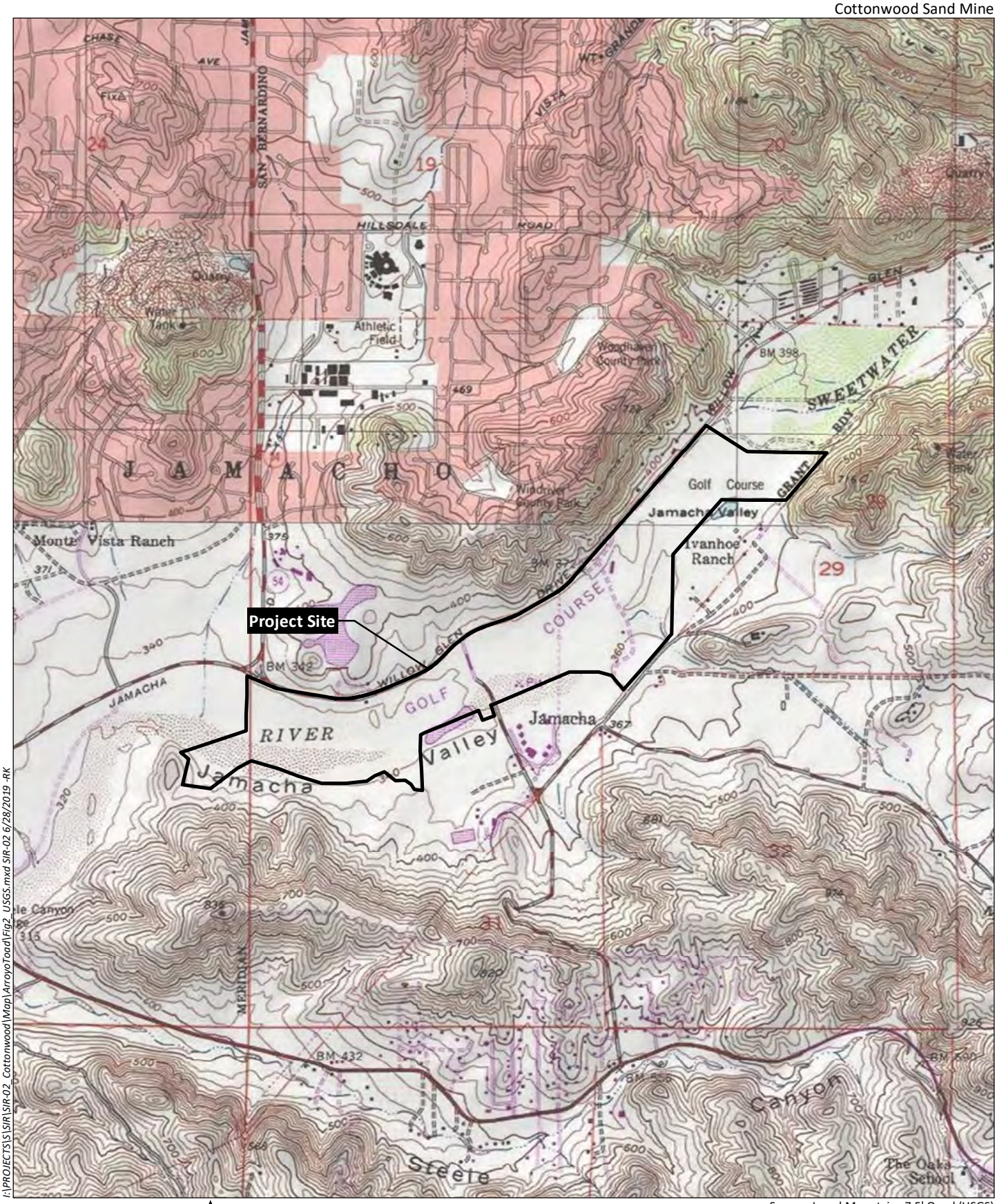
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



Source: Jamul Mountains 7.5' Quad (USGS)

I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\ArroyoToad\Fig2_USGS.mxd SIR-02 6/28/2019 RK

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Aerial (SanGIS 2017); NWR (U.S. Fish and Wildlife Service 2016)

HELIX Environmental Planning

Aerial Vicinity

Figure 3

Cottonwood Sand Mine

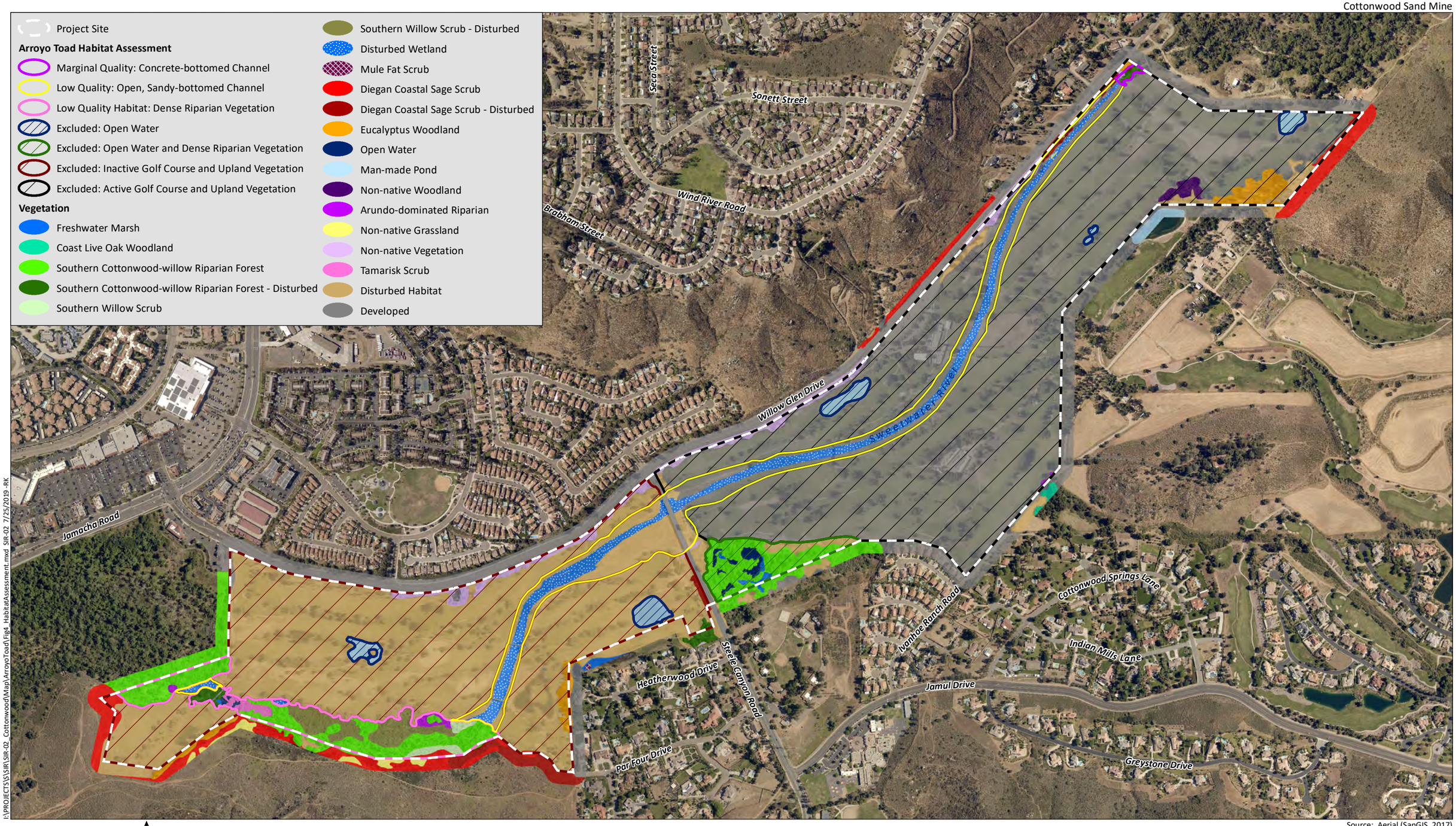
- Project Site

Arroyo Toad Habitat Assessment

- Marginal Quality: Concrete-bottomed Channel
- Low Quality: Open, Sandy-bottomed Channel
- Low Quality Habitat: Dense Riparian Vegetation
- Excluded: Open Water
- Excluded: Open Water and Dense Riparian Vegetation
- Excluded: Inactive Golf Course and Upland Vegetation
- Excluded: Active Golf Course and Upland Vegetation

Vegetation

- Freshwater Marsh
- Coast Live Oak Woodland
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Disturbed Wetland
- Mule Fat Scrub
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Eucalyptus Woodland
- Open Water
- Man-made Pond
- Non-native Woodland
- Arundo-dominated Riparian
- Non-native Grassland
- Non-native Vegetation
- Tamarisk Scrub
- Disturbed Habitat
- Developed



I:\PROJECTS\SIR\SIR-02_Cottonwood\Map\ArroyoToad\Fig4_HabitatAssessment.mxd SIR-02 7/25/2019 -RK

0 700 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Arroyo Toad Habitat Assessment

Figure 4

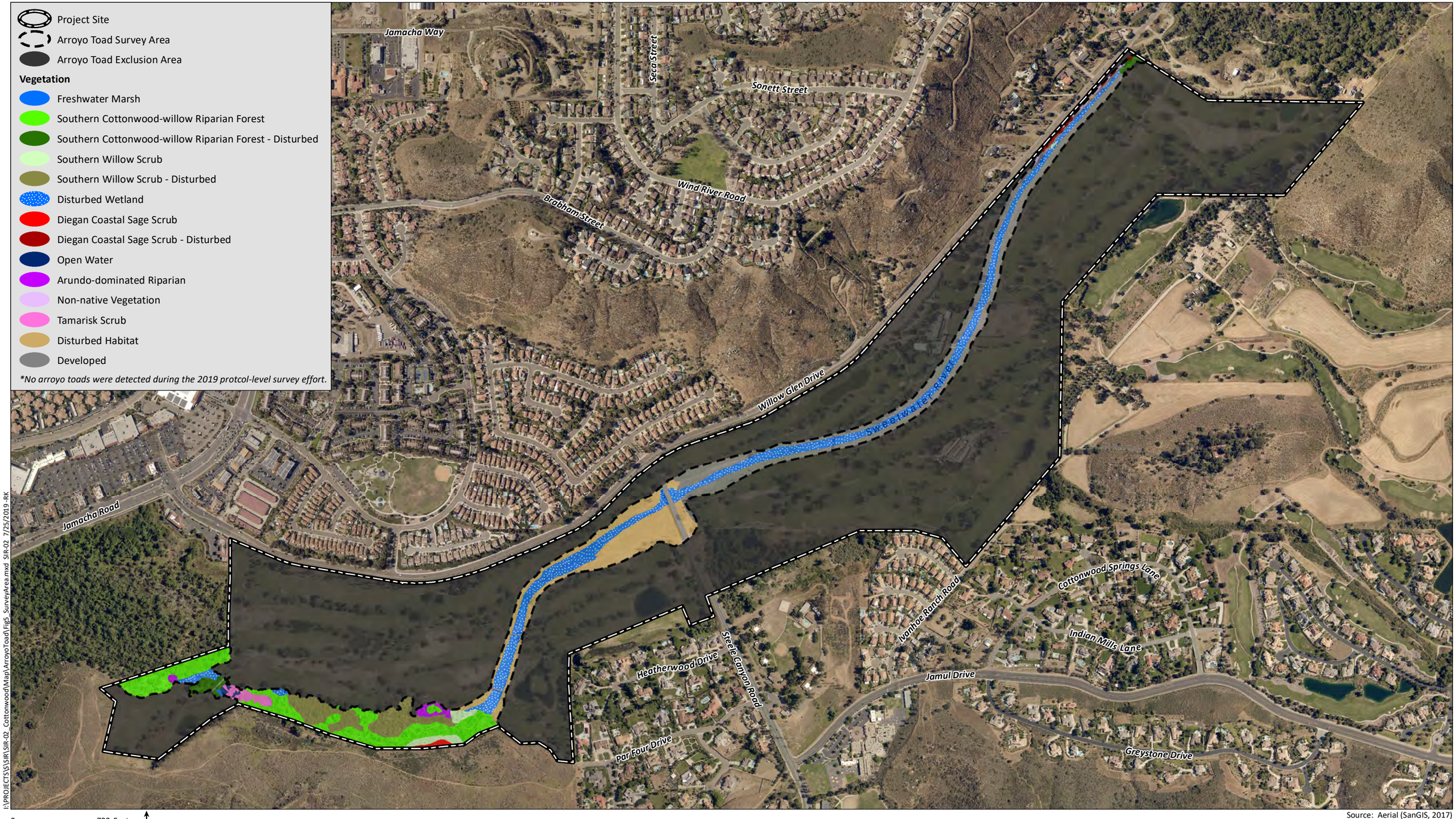
Cottonwood Sand Mine

- Project Site
- Arroyo Toad Survey Area
- Arroyo Toad Exclusion Area

Vegetation

- Freshwater Marsh
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Disturbed Wetland
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Open Water
- Arundo-dominated Riparian
- Non-native Vegetation
- Tamarisk Scrub
- Disturbed Habitat
- Developed

**No arroyo toads were detected during the 2019 protcol-level survey effort.*



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\ArroyoToad\Fig5_SurveyArea.mxd SIR-02 7/25/2019 RK

0 700 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

2019 Arroyo Toad Survey Results

Figure 5

Appendix C

2019 Least Bell's Vireo Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.helixepi.com

August 23, 2019 SIR-02

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2019 Least Bell's Vireo (*Vireo bellii pusillis*) Survey Report for the Cottonwood Sand Mine Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Cottonwood Sand Mine Project (project). This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 277-acre project site (site) is located in the unincorporated communities of Rancho San Diego and Jamul in eastern San Diego County, California (Figure 1, *Regional Location*). It is depicted within unsectioned lands of Township 16 South, Ranges 1 west and 1 east of the Jamul Mountains and El Cajon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 2, *USGS Topography*). The site lies north of State Route (SR) 94 and east of SR 54 within the Cottonwood Golf Club. More specifically, the site is located at the Cottonwood Golf Club to the southeast of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road at 3121 Willow Glen Drive, El Cajon, California (Figure 3, *Aerial Vicinity*). Steele Canyon Road bisects the project site from north to south, near the center of the site.

USFWS-designated critical habitat for the species is present within the project site and further west of the site within the San Diego National Wildlife Refuge (Figure 4, *2019 Least Bell's Vireo Survey Results*).

METHODS

The survey consisted of eight site visits conducted by HELIX biologists Erica Harris, Stacy Nigro, and Dane van Tamelen between May 3 and July 18, 2019 (Table 1, *Survey Information*), in accordance with the

current USFWS survey protocol[1]. The survey area consisted of approximately 20.7 acres of suitable LBVI habitat within the study area composed of open water, freshwater marsh, mule fat scrub, tamarisk scrub, arundo-dominated riparian, southern willow scrub (including disturbed), and southern cottonwood-willow riparian forest (including disturbed) located along Sweetwater River and within a lower-lying depressional area created during previous extraction activities (Figure 4).

The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was designed to ensure complete survey coverage of habitat potentially occupied by LBVI.

A portion of the surveys were conducted on the same days as the protocol surveys for the southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL). The riparian habitat was surveyed sequentially. The surveyor surveyed for SWFL as they walked one direction along/within suitable SWFL habitat, and then surveyed for LBVI as they walked back the other direction. A separate survey report is being submitted for the SWFL survey effort (HELIX in preparation).

Table 1 details the survey dates, times, and conditions.

[1] U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
1	4/16/19	Dane van Tamelen	0700/1100	20.7 ac/ 5.2 ac per hr.	58°F, wind 1-4 mph, 100% clouds 61°F, wind 3-7 mph, 100% clouds	• Male (Male No. 1) heard singing approximately 180 feet south of the northeastern portion of the project site within the Steele Canyon Golf Course. • Male (Male No. 2) heard singing approximately 50 feet east of the project site within the Steele Canyon Golf Course. • Male (later determined to be same male in Pair No. 2) heard singing approximately 200 feet west of the project site within the San Diego National Wildlife Refuge.	0
2	4/30/19	Dane van Tamelen	0745/1100	20.7 ac/ 6.4 ac per hr.	57°F, wind 0-2 mph, 100% clouds 60°F, wind 0-3 mph, 90% clouds	• Male No. 2 heard singing within same general area outside of the project site within the Steele Canyon Golf Course. • Male (Male No. 3) heard singing in the southwestern portion of the project site within riparian habitat along Sweetwater River.	0

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
3	5/15/19	Erica Harris	0730/1030	20.7 ac/ 6.9 ac per hr.	62°F, wind 0-1 mph, 100% clouds 72°F, wind 0-2 mph, 80% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 heard in same general area outside of the project site within the Steele Canyon Golf Course. Male was observed within a small patch of tamarisk (*Tamarix* sp.). • Male (later determined to be same male in Pair No. 1) heard singing within riparian habitat to the east of Steele Canyon Road. • Male No. 3 heard singing within same general area in the southwestern portion of the site along Sweetwater River. • Male (Male No. 4) heard singing approximately 150 feet north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge.	6

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
4	5/30/19	Erica Harris	0645/1045	20.7 ac/ 5.2 ac per hr.	61°F, wind 0-1 mph, 100% clouds 72°F, wind 0-2 mph, 0% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 heard in same general area outside of the project site within the Steele Canyon Golf Course. • Male and female belonging to Pair No. 1 heard singing and observed feeding 3 fledglings within same general to the east of Steele Canyon Road. • Male No. 3 heard singing within same general in the southwestern portion of the site along Sweetwater River. • Male No. 4 heard singing in the same general area north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge.	6

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
5	6/11/19	Erica Harris	0620/1020	20.7 ac/ 5.2 ac per hr.	61°F, wind 0-1 mph, 0% clouds 82°F, wind 0-3 mph, 0% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 heard in same general area outside of the project site within the Steele Canyon Golf Course. • Male from Pair No. 1 heard singing in same general to the east of Steele Canyon Road. • Male No. 4 heard singing within same general in the southwestern portion of the site along Sweetwater River. • Male No. 3 heard singing in the same general area north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge.	4

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
6	6/21/19	Erica Harris	0630/1030	20.7 ac/ 5.2 ac per hr.	62°F, wind 0-1 mph, 100% clouds 71°F, wind 1-3 mph, 100% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 observed singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male belonging to Pair No. 1 heard singing within same general to the east of Steele Canyon Road. Heard countersinging with new male (Male No. 5) located to the east. • New male (Male No. 5) heard singing within riparian habitat to the east of Steele Canyon Road along the project's southern boundary. Male was heard countersinging with male from Pair No. 1. • Male No. 3 heard singing within same general area in the southwestern portion of the site along Sweetwater River. Heard countersinging with new male (Male No. 6) located to the east. • New male (Male No. 6) heard singing within riparian habitat in the southwestern portion of the site along Sweetwater River. Male was heard countersinging with Male No. 3. • Male No. 4 heard singing in the same general area north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge. Presumed female observed foraging near property fence line while male singing nearby.	6

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
7	7/1/19	Erica Harris	0640/1040	20.7 ac/ 5.2 ac per hr.	58°F, wind 0-1 mph, 0% clouds 78°F, wind 1-3 mph, 0% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 observed singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male belonging to Pair No. 1 heard singing within same general to the east of Steele Canyon Road. • Male No. 5 heard singing within the same general area to the east of Steele Canyon Road. Male was heard approximately 700 feet east of male from Pair No. 1. • Male No. 3 heard singing within same general area in the southwestern portion of the site along Sweetwater River. • Male No. 4 heard singing in the same general area north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge.	5

Table 1 (cont.)
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
8	7/15/19	Stacy Nigro	0640/1100	20.7 ac/ 4.8 ac per hr.	59°F, wind 0-1 mph, 0% clouds 86°F, wind 0-1 mph, 0% clouds	• Male No. 1 heard singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male No. 2 observed singing in same general area outside of the project site within the Steele Canyon Golf Course. • Male belonging to Pair No. 1 heard singing within same general to the east of Steele Canyon Road. • Male No. 5 heard singing within the same general area to the east of Steele Canyon Road. Male was heard east of male from Pair No. 1. • Male No. 3 heard singing within same general area in the southwestern portion of the site along Sweetwater River. Heard countersinging with Male No. 6 located to the east. • Male No. 6 heard singing within same general area in the southwestern portion of the site along Sweetwater River. Male was heard approximately 490 feet east of Male No. 3. • Male No. 4 heard singing in the same general area north of the southwestern portion of the project site within the San Diego National Wildlife Refuge. • Male from Pair No. 2 heard singing in the same general area west of the project site within the San Diego National Wildlife Refuge.	2

[1] Number of brown-headed cowbird (*Molothrus ater*) detected during survey.

SURVEY RESULTS

A total of two pairs of LBVI, and six additional male vireos were detected during the 2019 survey effort, though not all individuals were observed during each survey (Figure 4). One LBVI pair (Pair No. 1) and three male vireos (Male No. 3, Male No. 5, and Male No. 6) were detected within the project site. One LBVI pair (Pair No. 2) was detected outside of the project site (within the San Diego National Wildlife Refuge) and three male vireos, two within the Steele Canyon Golf Course (Males No. 1 and No. 2) and one within the San Diego National Wildlife Refuge (Male No. 4), were detected outside of the project site. No banded individuals were observed during the survey; however, not all individuals were directly observed. A detailed description of LBVI locations and observations is included below.

A single male (Male No. 1) was detected approximately 180 feet south of the northeastern portion of the project site within the Steele Canyon Golf Course (Figure 4). The male was heard singing during the first survey but was not detected during the second survey. The individual was heard singing during the remaining third through eighth survey visits in the same general location.

A single male (Male No. 2) was detected approximately 50 feet east of the project site within the Steele Canyon Golf Course (Figure 4). The male was heard singing during the first and second survey visits. On the third survey visit, a male was observed singing from a tamarisk shrub in the same general area and was determined to be unbanded. The male was heard singing during the fourth and fifth surveys in the same general area outside of the project site. On the sixth survey visit the male was first heard singing to the east of the project site but briefly entered the project site and sang from sycamore (*Platanus racemosa*) present along the dirt golf cart path; the male was not banded. The male was heard singing to the east of the site during the seventh visit and was observed singing and foraging within a tamarisk shrub during the eighth survey (and was confirmed to be unbanded).

A vireo pair (Pair No. 1) was detected along the southern project boundary to the east of Steele Canyon Road within riparian habitat associated within a previously excavated area created during previous mining activities (Figure 4). No vireos were detected in the area during the first or second survey visits, but a male was heard singing from the riparian habitat during the third survey visit. On the fourth survey visit, a male and female were both observed feeding three fledglings. A male was heard singing on the fifth visit in the same general area and was countersinging with a new male (Male No. 5) detected in the area during the sixth survey visit. The male was heard singing during seventh and eight survey visits in the same general area.

A single male (Male No. 3) was detected in the southwestern portion of the site, west of Steele Canyon Road, within riparian habitat located along Sweetwater River (Figure 4). No vireos were detected in this location during the first survey, but a male was heard singing from the area during the second through fifth survey visits. On the sixth survey visit, the male was heard countersinging with a new male (Male No. 6) detected in the area. The male was heard singing on the seventh survey visit and was heard countersinging with Male No. 6 during the eighth survey.

A single male (Male No. 4) was detected approximately150 feet north of the southwestern portion of the project site within the San Diego National Wildlife Refuge, which is also USFWS-designated critical habitat for the species (Figure 4). No vireos were detected in this location during the first or second survey visits, but a male was heard singing in the area during the third through eighth survey visits.

A vireo pair (Pair No. 2) was detected approximately 200 feet west of the project site within the San Diego National Wildlife Refuge, which is also USFWS-designated critical habitat for the species (Figure 4). A male was heard singing in the area during the first survey but was not detected during the second survey. A male was again heard singing in the same general area during the third through fifth survey visits. On the sixth survey, the male was heard singing west of the project site and an unbanded vireo, presumed to be the female, was observed foraging just beyond the property fence line. A male was heard singing within the same general area west of the project site during the seventh and eighth surveys.

A single male (Male No. 5) was detected along the southern project boundary, to the east of Steele Canyon Road, within riparian habitat associated within a previously excavated area created during previous extraction activities (Figure 4). The male was first heard singing during the sixth survey visit within the western portion of the habitat patch and was countersinging with the male from Pair No. 1. The male was detected on the seventh and eighth survey visits singing within the eastern portion of the habitat patch, approximately 700 feet east of where Pair No. 1 was observed. The male was visually identified during the eighth survey visit and did not contain any bands.

A single male (Male No. 6) was detected in the southwestern portion of the project site, within riparian habitat located along Sweetwater River (Figure 4). The male was first heard singing during the sixth survey visit and was countersinging with Male No. 3. The male was not detected during the seventh survey, but was heard singing in the same general area during the eighth survey at the same time Male No. 3 was singing to the west. Male No. 6 was detected approximately 490 feet east of the location where Male No. 3 was detected.

The brown-headed cowbird (*Molothrus ater*; BHCO), a nest parasite of the LBVI, was detected during six of the eight surveys in several locations (Figure 4). Observations of BHCO included singing males, calling females, and multiple individuals observed in courtship displays.

CERTIFICATION

We certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Shelby Howard or us at (619) 462-1515 should you have any questions.

Sincerely,

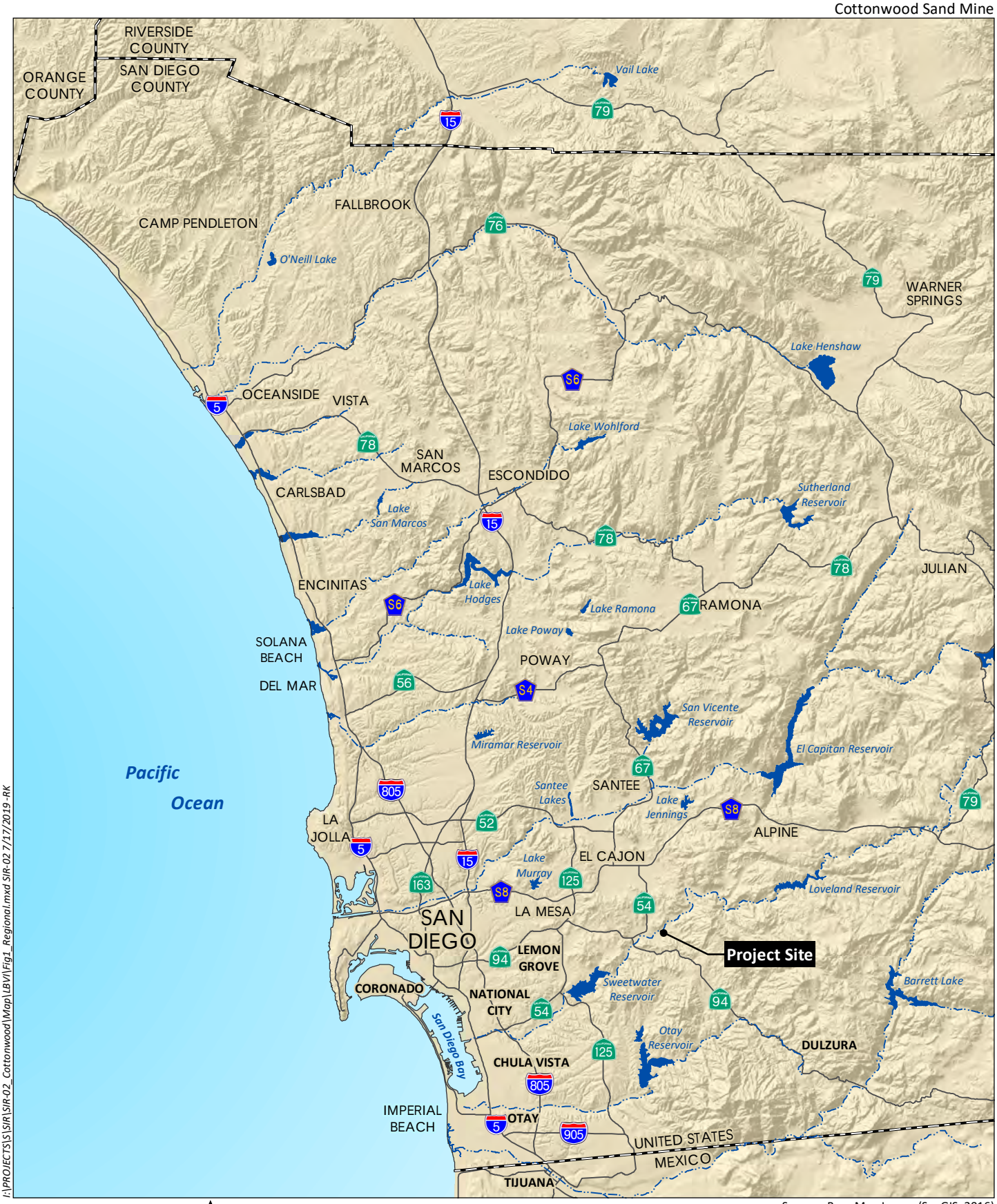
Erica Harris
Biologist

Dane van Tamelen
Biologist

Stacy Nigro
Principal Biologist

Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Vicinity
Figure 4: 2019 Least Bell's Vireo Survey Results



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\LBV\Fig1_RegionalLmxd SIR-02 7/17/2019 -RK

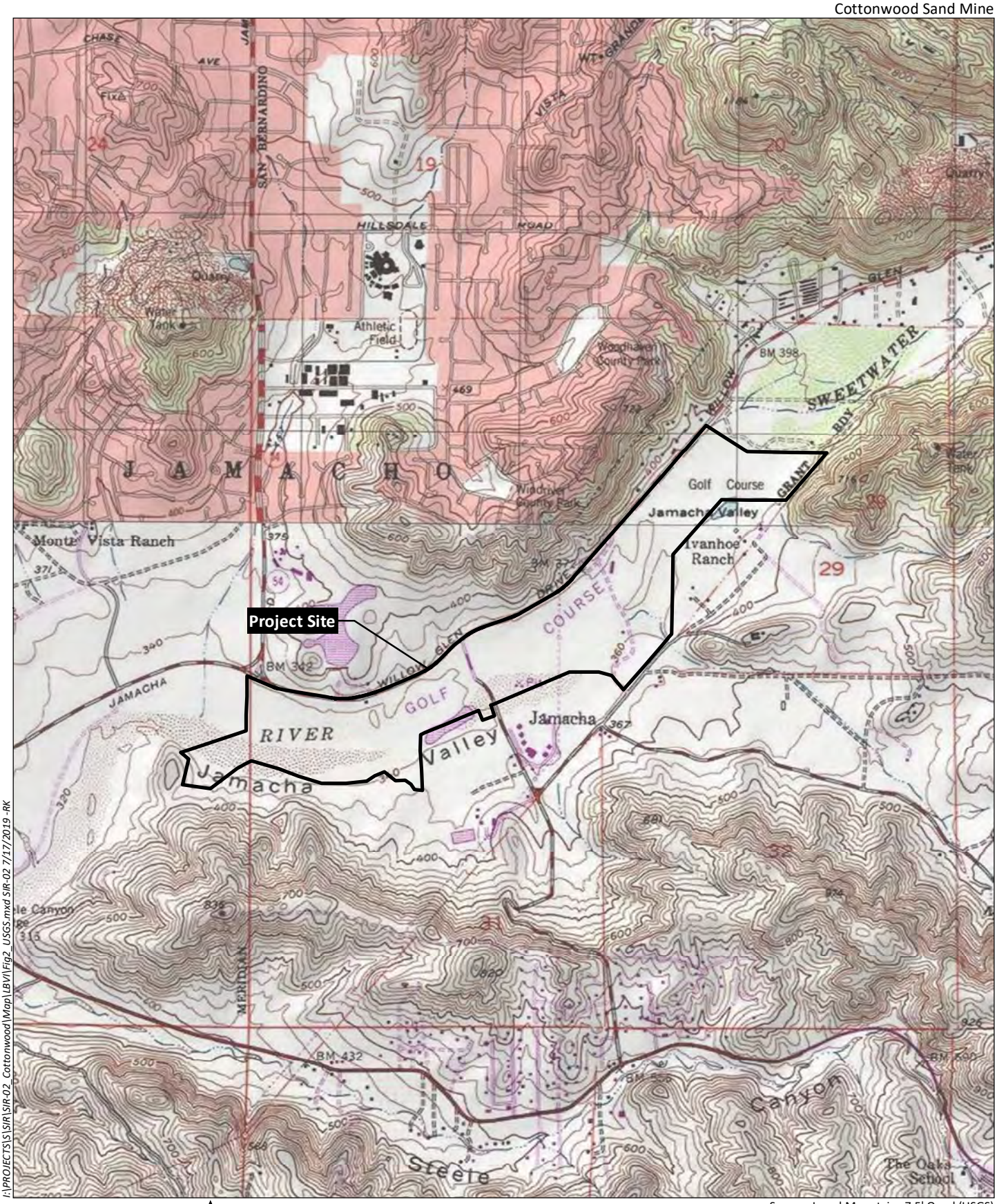
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\LBV\Fig2_USGS.mxd SIR-02 7/17/2019 -RK

0 2,000 Feet

Source: Jamul Mountains 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Aerial (SanGIS 2017); NWR (U.S. Fish and Wildlife Service 2016)

HELIX Environmental Planning

Aerial Vicinity

Figure 3

Cottonwood Sand Mine

Project Site
Least Bell's Vireo Critical Habitat

Least Bell's Vireo (*Vireo bellii pusillus*) Sightings

- Male No. 1
- Male No. 2
- Male No. 3
- Male No. 4
- Male No. 5
- Male No. 6
- Pair No. 1
- Pair No. 2

Brown-headed Cowbird (*Molothrus ater*)

- Location

Least Bell's Vireo Habitat

- Freshwater Marsh
- Mule Fat Scrub
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Open Water
- Arundo-dominated Riparian
- Tamarisk Scrub

Male No. 1
4/16/19 - Male
4/30/19 - Not Detected
5/15/19 - Male
5/30/19 - Male
6/11/19 - Male
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Male No. 2
4/16/19 - Male
4/30/19 - Male
5/15/19 - Male
5/30/19 - Male
6/11/19 - Male
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Male No. 4
4/16/19 - Not Detected
4/30/19 - Not Detected
5/15/19 - Male
5/30/19 - Male
6/11/19 - Male
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Pair No. 2
4/16/19 - Male
4/30/19 - Not Detected
5/15/19 - Male
5/30/19 - Male
6/11/19 - Male
6/21/19 - Pair
7/1/19 - Male
7/15/19 - Male

Pair No. 1
4/16/19 - Not Detected
4/30/19 - Not Detected
5/15/19 - Male
5/30/19 - Pair with 3 fledglings
6/11/19 - Male
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Male No. 5
4/16/19 - Not Detected
4/30/19 - Not Detected
5/15/19 - Not Detected
5/30/19 - Not Detected
6/11/19 - Not Detected
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Male No. 3
4/16/19 - Not Detected
4/30/19 - Male
5/15/19 - Male
5/30/19 - Male
6/11/19 - Male
6/21/19 - Male
7/1/19 - Male
7/15/19 - Male

Male No. 6
4/16/19 - Not Detected
4/30/19 - Not Detected
5/15/19 - Not Detected
5/30/19 - Not Detected
6/11/19 - Not Detected
6/21/19 - Male
7/1/19 - Not Detected
7/15/19 - Male

Seca Street
Sonett Street
Wind River Road
Willow Glen Drive
Jamacha Road
Sweetwater River
Steele Canyon Road
Heatherwood Drive
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

I:\PROJECTS\SIR\SIR-02_Cottonwood\Map\LBVI\Fig4_LBVI.mxd SIR-02 8/15/2019 -RK

0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

2019 Least Bell's Vireo Survey Results

Figure 4

Appendix D

2019 Southwestern Willow Flycatcher Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

August 23, 2019 SIR-02

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2019 Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Survey Report for the Cottonwood Sand Mine Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally listed southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Cottonwood Sand Mine Project (project). This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE-778195-13.

PROJECT LOCATION

The approximately 277-acre project site (site) is located in the unincorporated communities of Rancho San Diego and Jamul in eastern San Diego County, California (Figure 1, *Regional Location*). It is depicted within unsectioned lands of Township 16 South, Ranges 1 west and 1 east of the Jamul Mountains and El Cajon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 2, *USGS Topography*). The site lies north of State Route (SR) 94 and east of SR 54 within the Cottonwood Golf Club. More specifically, the site is located at the Cottonwood Golf Club to the southeast of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road at 3121 Willow Glen Dr., El Cajon, California (Figure 3, *Aerial Vicinity*). Steele Canyon Road bisects the project site from north to south, near the center of the site.

No USFWS-designated critical habitat for the species occurs on site but is present immediately west of the site within the San Diego National Wildlife Refuge (Figure 4, *2019 Southwestern Willow Flycatcher Survey Results*).

METHODS

The survey consisted of five site visits conducted by HELIX biologist Erica Harris (TE-778195-13) in accordance with the current USFWS approved survey protocol[1]. The SWFL survey area consisted of approximately 20.7 acres of potential SWFL habitat composed of open water, freshwater marsh, mule fat scrub, tamarisk scrub, arundo-dominated riparian, southern willow scrub (including disturbed), and southern cottonwood-willow riparian forest (including disturbed) located along Sweetwater River and within a lower-lying depressional area created during previous extraction activities (Figure 4).

Survey protocol requires that five survey visits be conducted at least five days apart, between the hours of sunrise and 10:30 a.m., within the three specified survey periods. One survey was conducted between Survey Period 1 (May 15–31), two surveys were conducted during Survey Period 2 (June 1–24), and one survey was conducted during Survey Period 3 (June 25–July 17).

The surveys were conducted by walking within and along the perimeter of suitable SWFL habitat. Surveys were conducted with binoculars to aid in bird detection. Recorded SWFL vocalizations were played every 20 to 30 meters (65 to 98 feet) followed by a one-minute silent period to listen for a response. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by SWFL. Suitable habitat directly adjacent to the project site was passive surveyed from the edge of the project boundary and was not directly accessed.

The surveys were conducted on the same dates as HELIX's protocol surveys for the least Bell's vireo (*Vireo bellii pusillus*; LBVI). The survey times reflect the same survey times for each species, but the surveys were not conducted concurrently. Larger or linear stretches of riparian habitat were surveyed sequentially. The surveyor surveyed for SWFL as they walked one direction along/within suitable SWFL habitat, and then surveyed for LBVI as they walked back the other direction. For smaller patches of habitat in the eastern portion of the site, Ms. Harris broadcasted SWFL vocalizations during the SWFL surveys and conducted a passive observation period for the SWFL. After the passive observation period for the SWFL was completed, a second passive observation period for the LBVI was conducted. The exception to this was the fifth site visit when a second HELIX biologist (Stacy Nigro) conducted the least Bell's vireo survey while Ms. Harris conducted the SWFL survey. A separate survey report is being submitted for the LBVI survey effort (HELIX in preparation).

Table 1, *Survey Information*, details the survey dates, times, and conditions.

[1] Sogge, Mark K., Ahlers, Darrell, and Sferra, Susan J. 2010. A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10.

Table 1
SURVEY INFORMATION

Survey Period[1]	Site Visit	Survey Date	Biologist	Start/Stop Time	Approx. Acres Surveyed/ Acres Per Hour	Start/Stop Weather Conditions	Survey Results
1	1	5/30/19	Erica Harris	0645/1030	20.7 ac/ 5.4 ac per hr.	61°F, wind 0-1 mph, 100% clouds 72°F, wind 0-2 mph, 0% clouds	No flycatchers observed
2	2	6/11/19	Erica Harris	0620/1020	20.7 ac/ 5.2 ac per hr.	61°F, wind 0-1 mph, 0% clouds 82°F, wind 0-3 mph, 0% clouds	No flycatchers observed
2	3	6/21/19	Erica Harris	0630/1030	20.7 ac/ 5.2 ac per hr.	62°F, wind 0-1 mph, 100% clouds 71°F, wind 1-3 mph, 100% clouds	No flycatchers observed
3	4	7/1/19	Erica Harris	0640/1030	20.7 ac/ 5.4 ac per hr.	58°F, wind 0-1 mph, 0% clouds 78°F, wind 1-3 mph, 0% clouds	No flycatchers observed
3	5	7/15/19	Erica Harris	0640/1030	20.7 ac/ 5.4 ac per hr.	59°F, wind 0-1 mph, 0% clouds 86°F, wind 0-1 mph, 0% clouds	No flycatchers observed

[1] Survey Period 1 (May 15–31), Survey Period 2 (June 1–24), Survey Period 3 (June 25–July 17).

SURVEY RESULTS

No southwestern willow flycatchers were detected during the survey effort (Figure 4). A Willow Flycatcher Survey and Detection Form was completed and is included as Attachment A, *Willow Flycatcher Survey and Detection Form*.

CERTIFICATION

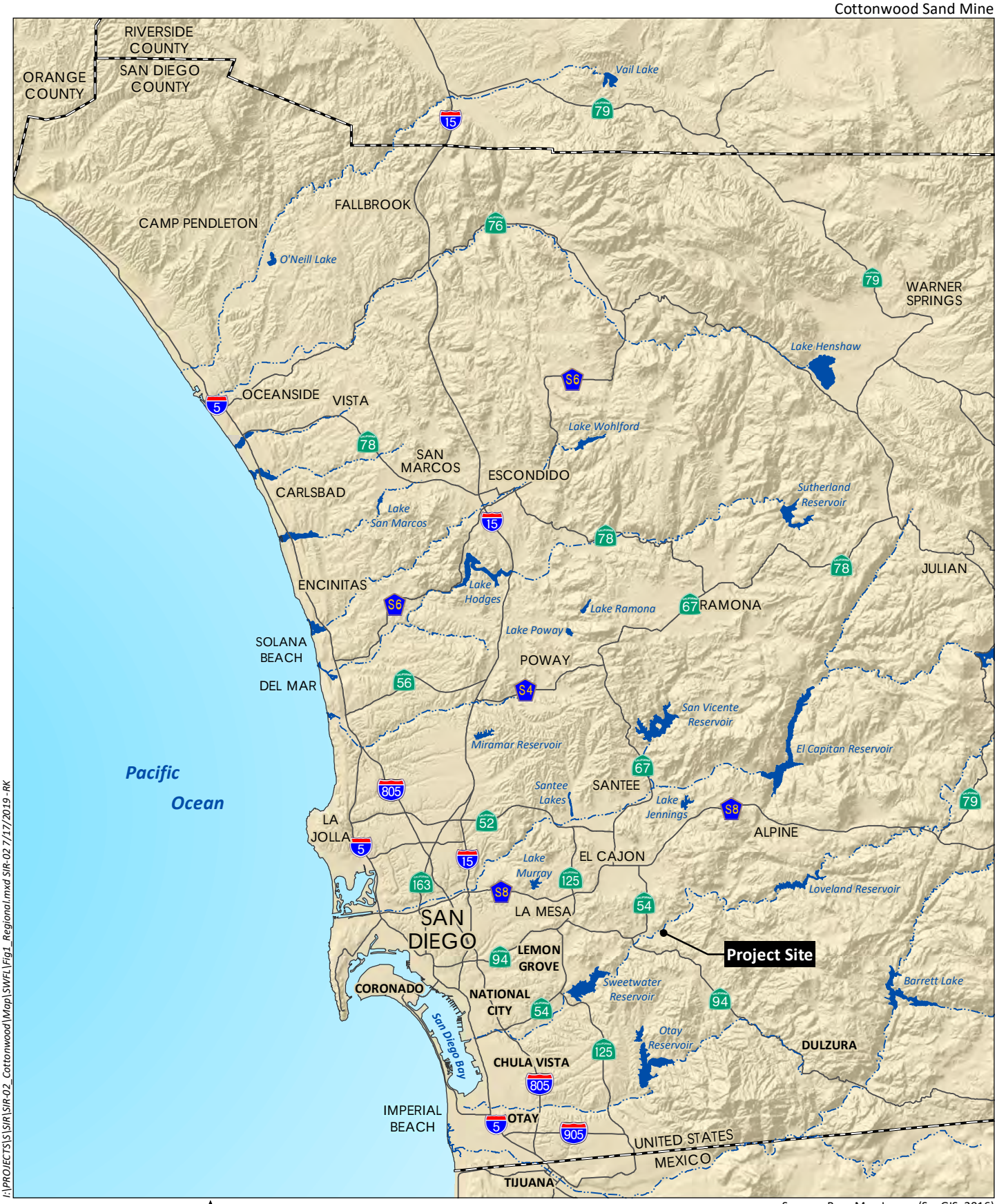
I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Shelby Howard or Erica Harris at (619) 462-1515 should you have any questions.

Sincerely,

Erica Harris
Biologist

Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Vicinity
Figure 4: 2019 Southwestern Willow Flycatcher Survey Results
Attachment A: Willow Flycatcher Survey and Detection Form



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\SWFL\Fig1_Regional.mxd SIR-02 7/17/2019 - RK

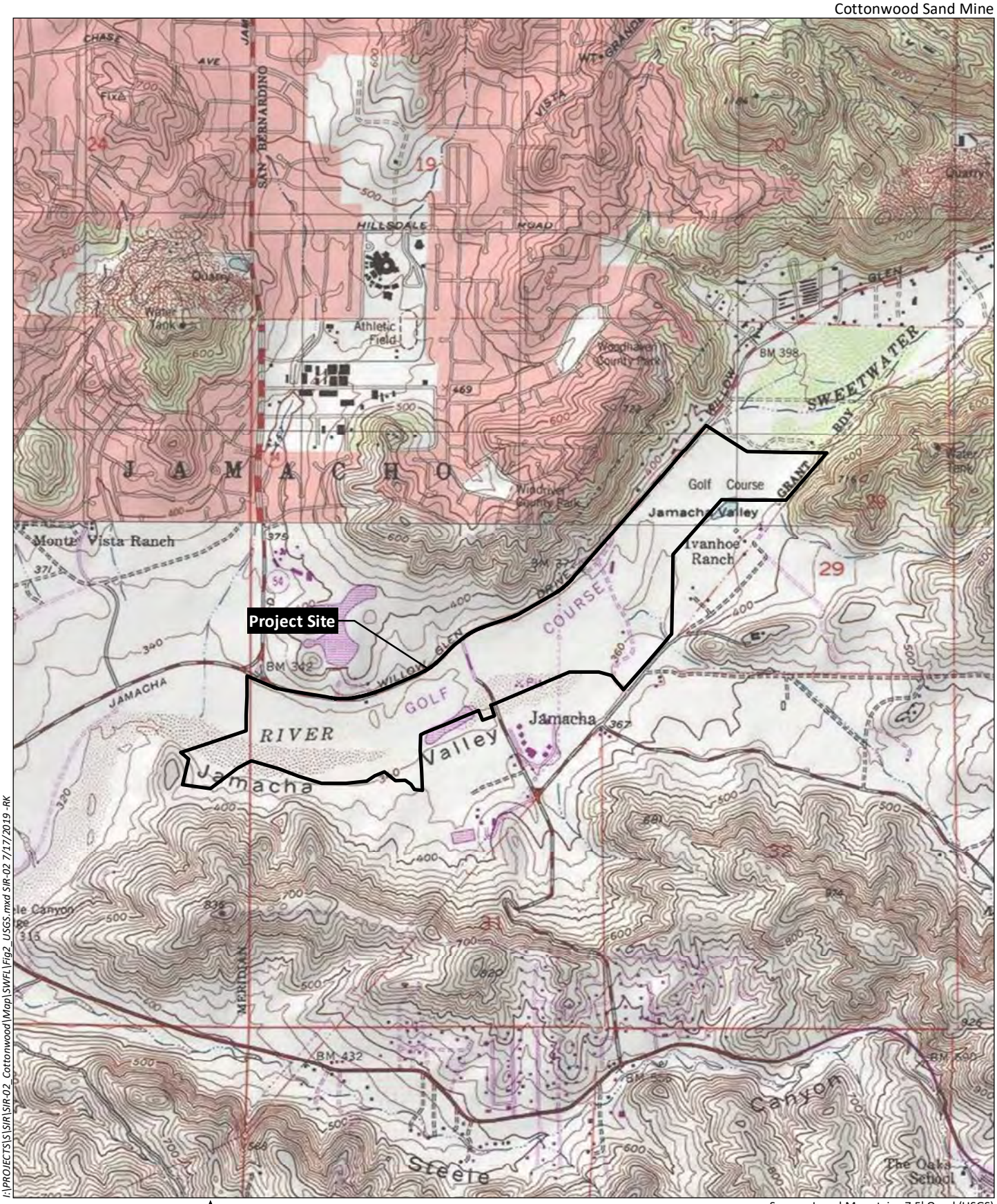
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\SWFL\Fig2_USGS.mxd SIR-02 7/17/2019 -RK

Source: Jamul Mountains 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Aerial (SanGIS 2017); NWR (U.S. Fish and Wildlife Service 2016)

HELIX Environmental Planning

Aerial Vicinity

Figure 3

Cottonwood Sand Mine

- Project Site
- San Diego National Wildlife Refuge
- Southwestern Willow Flycatcher Critical Habitat

Southwestern Willow Flycatcher Habitat*

- Freshwater Marsh
- Mule Fat Scrub
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Open Water
- Arundo-dominated Riparian
- Tamarisk Scrub

**The Southwestern Willow Flycatcher was not detected during the 2019 protocol-level survey effort.*

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Willow Glen Drive
Sweetwater River
Jamacha Road
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\SWFL\Fig4_SWFL.mxd SIR-02 8/15/2019 -RK

0 700 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

2019 Southwestern Willow Flycatcher Survey Results

Figure 4

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010)

Site Name: **Cottonwood Sand Mine** State: **CA** County: **San Diego**

USGS Quad Name: **Jamul Mountains/El Cajon** Elevation: **106** (meters)

Creek, River, or Lake Name: **Sweetwater River**

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ***Yes*** **X** ***No*** ____

Survey Coordinates: Start: E **508880** N **3624008** UTM Datum: **WSG84** (See instructions)

Stop: E **506669** N **3622558** UTM Zone: **11N**

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

*****Fill in additional site information on back of this page*****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;-potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
Survey # 1	Date: 5/30/2019	0	0	0	N	n/a	# Birds	Sex	UTM E	UTM N
Observer(s): Erica Harris	Start: 6:45									
	Stop: 10:30									
	Total hrs: 3.75									
Survey # 2	Date: 6/11/2019	0	0	0	N	n/a	# Birds	Sex	UTM E	UTM N
Observer(s): Erica Harris	Start: 6:20									
	Stop: 10:20									
	Total hrs: 4.0									
Survey # 3	Date: 6/21/2019	0	0	0	N	n/a	# Birds	Sex	UTM E	UTM N
Observer(s): Erica Harris	Start: 6:30									
	Stop: 10:30									
	Total hrs: 4.0									
Survey # 4	Date: 7/1/2019	0	0	0	N	n/a	# Birds	Sex	UTM E	UTM N
Observer(s): Erica Harris	Start: 6:40									
	Stop: 10:30									
	Total hrs: 3.83									
Survey # 5	Date: 7/15/2019	0	0	0	N	n/a	# Birds	Sex	UTM E	UTM N
Observer(s): Erica Harris	Start: 6:40									
	Stop: 10:30									
	Total hrs: 3.83									

Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings.	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded? Yes ____ No ____
Be careful not to double count individuals.	0	0	0	0	If yes, report color combination(s) in the comments section on back of form and report to USFWS.
Total survey hrs: 19.4					

Reporting Individual: **Erica Harris** Date Report Completed: **8/23/2019**

US Fish & Wildlife Service Permit #: **TE-778195-13** State Wildlife Agency Permit #: ____

***Submit** form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.*

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual: **Erica Harris** Phone #: **619-462-1515**

Affiliation: **HELIX Environmental Planning, Inc.** E-mail: EricaH@helixepi.com

Site Name: **Cottonwood Sand Mine** Date report Completed: **8/23/2019**

Was this site surveyed in a previous year? Yes____ No__X__ Unknown____

Did you verify that this site name is consistent with that used in previous yrs? Yes ____ No ____ Not Applicable **X**

If name is different, what name(s) was used in the past? **N/A**

If site was surveyed last year, did you survey the same general area this year? Yes ____ No ____ If no, summarize below.

Did you survey the same general area during each visit to this site this year? Yes **X** No ____ If no, summarize below.

Management Authority for Survey Area: Federal ____ Municipal/County ____ State ____ Tribal ____ Private **X**

Name of Management Entity or Owner (e.g., Tonto National Forest) **Cottonwood Cajon ES, LLC.**

Length of area surveyed: **1.2** (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

____ Native broadleaf plants (entirely or almost entirely, > 90% native)

X Mixed native and exotic plants (mostly native, 50 - 90% native)

____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.

Salix gooddingii, *Populus fremontii*, *Tamarix* sp.

Average height of canopy (Do not include a range): **4.5** (meters)

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;
2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;
3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features. Attach additional sheets if necessary.

Project site is an active golf course (Cottonwood Golf Club). Riparian habitat previously disturbed by previous extraction activities, with portions in the southwest dominated by salt cedar (*Tamarix* sp.).

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

This page intentionally left blank