

Sycuan-Sloane Canyon Trail Project

Draft Biological Resources Technical Report

April 2020 | CSD-06.09

Prepared for:

County of San Diego, Department of Parks and Recreation 5500 Overland Avenue, Suite 410

San Diego, CA 92123

Prepared by:

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

Beth Ekson

Beth Ehsan County Approved Biologist

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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
APN	Assessor's Parcel Number
BGEPA	Bald and Golden Eagle Protection Act
вмо	Biological Mitigation Ordinance
BRCA	Biological Resource Core Area
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
FESA	Federal Endangered Species Act
ft	feet
НСР	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Communities Conservation Planning
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PAMA	Pre-Approved Mitigation Area
PCE	Primary Constituent Element
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SDNWR	San Diego National Wildlife Refuge
SR	State Route
SSC	Species of Special Concern
SWFL	Southwestern willow flycatcher
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WS	Waters of the State
WL	Watch List

EXECUTIVE SUMMARY

At the request of the County of San Diego (County) Department of Parks and Recreation (DPR; project proponent), HELIX Environmental Planning, Inc. (HELIX) has prepared this biological resources technical report for the Sycuan-Sloane Canyon Trail Project (project), which is proposed in the unincorporated community of Crest-Dehesa in San Diego County, California. The project proposes to implement the Sycuan-Sloane Canyon trail, which upon completion, would include six segments totaling approximately five miles.

In preparing this report, HELIX established a Study Area encompassing the proposed trail segments and a buffer around each segment. The purpose of this report is to document the existing biological conditions within the Study Area and analyze the project's potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act by DPR.

The preferred alignment would affect 2.67 acres of sensitive habitat, including temporary and permanent impacts, out of the approximately 83-acre Study Area. There are no impacts from the project outside of the Study Area. There are multiple options for several of the trail segments, and trail construction will be phased; therefore, this report also analyzes the impacts from each individual segment option and the impacts for the most impactive combination of trail segments. To the extent the project's impacts could result in significant effects on particular biological resources – such as special-status species – they can and will be mitigated to less than significant levels.

HELIX conducted vegetation mapping, species habitat assessment, jurisdictional delineation, rare plant surveys, oak tree mapping, host plant mapping, and protocol-level surveys for the least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Anaxyrus californicus*), Quino checkerspot butterfly (*Euphydryas editha quino*), and Hermes copper butterfly (*Lycaena hermes*) during the period of January 2019 to January 2020. In total, 48 biological surveys were completed in 2019 and 2020. The Study Area supports 15 vegetation communities/habitat types, including 10 sensitive vegetation types: southern coast live oak riparian forest, southern riparian forest, southern willow scrub, mule fat scrub, non-vegetated channel, coast live oak woodland, Diegan coastal sage scrub, scrub oak chaparral, and non-native grassland. The remaining five vegetation types/habitat types are not considered sensitive: eucalyptus woodland, non-native vegetation, disturbed habitat, agriculture – orchards and vineyards, and urban/developed.

Seven special status plant species were confirmed as occurring within the Study Area during rare plant surveys: San Diego sagewort (*Artemisia palmeri*), Dean's milk-vetch (*Astragalus deanei*), San Diego sunflower (*Bahiopsis laciniata*), delicate clarkia (*Clarkia delicata*), small-flowered morning-glory (*Convolvulus simulans*), Dehesa beargrass (*Nolina interrata*), and ashy spike-moss (*Selaginella cinerascens*). The project would avoid impacts to San Diego sagewort. The project would impact relatively low numbers of San Diego sunflower, small-flowered morning glory, and ashy spike-moss. These impacts are considered less than significant because these species occur within similar habitat adjacent to the Study Area and are widespread throughout the South County MSCP Subarea. The project has the potential to impact Dean's milk-vetch, delicate clarkia, and Dehesa beargrass. These impacts are considered significant and would be mitigated to less than significant levels.



A total of 24 special status animal species were detected on or within 500 feet of the Study Area during 2019 surveys: Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), arroyo toad (*Anaxyrus californicus*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), San Diego tiger (Coastal) whiptail (*Aspidoscelis tigris stejnegeri*), oak titmouse (*Baeolophus inornatus*), red-shouldered hawk (*Buteo lineatus*), Costa's hummingbird (*Calypte costae*), turkey vulture (*Cathartes aura*), monarch butterfly (*Danaus plexippus*), Quino checkerspot butterfly, Caspian tern (*Hydroprogne [Sterna] caspia*), yellow-breasted chat (*Icteria virens*), Lewis' woodpecker (*Melanerpes lewis*), mule deer (*Odocoileus hemionus*), American white pelican (*Pelecanus erythrorhynchos*), Blainville's [Coast] horned lizard (*Phrynosoma blainvillii [coronatum*]), coastal California gnatcatcher, mountain lion (*Puma [Felis] concolor*), yellow warbler (*Setophaga petechia*), Lawrence's goldfinch (*Spinus lawrencei*), two-striped garter snake (*Thamnophis hammondii*), and least Bell's vireo.

Impacts to the following special status animal species would be less than significant from all analyzed trail segments: American white pelican, turkey vulture, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, yellow-breasted chat, Lewis' woodpecker, Southern California rufous-crowned sparrow, two-striped gartersnake, Caspian tern, oak titmouse, yellow warbler, Belding's orange-throated whiptail, San Diego tiger (coastal) whiptail, Costa's hummingbird, monarch butterfly, mule deer, mountain lion, Blainville's (coast) horned lizard, and Lawrence's goldfinch.

There would be potential significant impacts to the following species from at least one analyzed trail segment: arroyo toad, Quino checkerspot butterfly, coastal California gnatcatcher, least Bell's vireo, and Hermes copper butterfly. Impacts to special status animal species would be mitigated to less than significant levels.

The Study Area supports the Sweetwater River, Lake Emma, Harbison Canyon Creek, and Beaver Hollow, in addition to multiple unnamed ephemeral drainage features. These features would qualify as wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA; riparian-vegetated and unvegetated streambed subject to the regulatory jurisdiction of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of California Fish and Game Code (CFG Code). The project will use bridges, puncheons, and existing roadways as applicable to avoid impacting these areas.

The project site occurs within the boundaries of the adopted South County Multiple Species Conservation Program (MSCP) Subarea Plan, within the Metro Lakeside-Jamul Segment. Development has been specifically planned to minimize impacts to sensitive habitats and sensitive species by reducing trail widths, rerouting trails, and selecting the least impactive trail segments as the preferred alternative. With the incorporation of the proposed mitigation measures, the project would be consistent with the MSCP and Biological Mitigation Ordinance. The proposed mitigation measures will reduce projectspecific significant effects on biological resources to less than significant and ensure that the project does not make a "cumulatively considerable" contribution to any cumulative impact.



1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

At the request of the County of San Diego (County) Department of Parks and Recreation (DPR; project proponent), HELIX Environmental Planning, Inc. (HELIX) has completed this Biological Resources Technical Report (report) for the Sycuan-Sloane Canyon Trail Project (project). The purpose of this report is to document the existing biological resources identified as present or potentially present within the project Study Area; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, state, and local rules and regulations, including the California Environmental Quality Act (CEQA).

1.2 **PROJECT LOCATION AND DESCRIPTION**

1.2.1 Project Location

The Sycuan-Sloane Canyon Trail Project is located east of State Route 54 and west of Loveland Reservoir within the unincorporated community of Crest-Dehesa in eastern San Diego County (Figure 1). More specifically, the project is located along Dehesa Road and Sloane Canyon Road east of Willow Glen Drive and west of Beaver Hollow Road (Figure 2). The project occurs in public (County of San Diego) right-of-way, National Wildlife Refuge, Sycuan Band of the Kumeyaay Nation land, and Kumeyaay Diegueno Land Conservancy (KDLC) land. The project Study Area includes the proposed trail segments and a varying width buffer on either side. The project Study Area is located in Township 16 South, Range 1 East, Sections 14, 15, 23, and 24 on the U.S. Geological Survey (USGS) 7.5-minute Alpine quadrangle map and Sections 9 and 16 on the USGS 7.5-minute El Cajon quadrangle map (Figure 3). The project Study Area is located in the Metro-Lakeside-Jamul segment of the County's Multiple Species Conservation Program (MSCP) South County Subarea Plan and has MSCP designations of Unincorporated in Metro-Lakeside-Jamul Segment and Pre-Approved Mitigation Area (PAMA, Figure 4).

The proposed trail alignments (Figure 5) are along the Sweetwater River approximately three miles west of the Loveland Reservoir and approximately 9.5 miles northeast of the Sweetwater Reservoir. There are two options of trail alignment on the western portion of the project: Segment 6a or Segment 6b. Segment 6a is located in County ROW and on Sycuan and private ownership land, and is adjacent to or within the ROW on the south side of Dehesa Road Segment Option 6b along the north side of Dehesa Road is maintained by the U.S. Fish and Wildlife Service (USFWS) and private landowners who live adjacent to the Study Area. The first 0.75-mile of Segment 6b traverses the toe slope of the steep foothills north of Dehesa Road. East of and adjacent to USFWS land, Segment 6b continues to the south of a small residential development. The central section of the project area (Trail Segment 1) is located on the south side of Dehesa Road and was previously part of a large sand mine development. Lake Emma, a 75-acre freshwater lake, was the product of these extraction activities. The Sycuan Indian Reservation owns the land surrounding Lake Emma and the majority of the proposed trail alignment (Trail Segments 1, 2, and portions of Segments 3 and 4 and 6a) in the northern portion of the project area, where the alignment is not in County ROW. The KDLC owns the land surrounding the proposed trail alignment (Trail Segment 5 and portions of Segments 3 and 4) in the southern portion of the project where the alignment is not in County ROW. The southernmost proposed trail alignment (Segment 5)



occurs south of the Sweetwater River and Sloane Canyon Road. The following 37 Assessor Parcel Numbers (APNs) intersect the project Study Area: 5121101400, 5121101600, 5121101700, 5150501500, 5150504000, 5150504100, 5150504300, 5151501501-96, 5151501800, 5151510300, 5160105300, 5160105600, 5160110100, 5160110200, 5160110300, 5160110800, 5160110900, 5160111300, 5160111400, 5160111500, 5160111900, 5160112100, 516020300, 5160202100, 5160202200, 5160202300, 5160210600, 5160210700, 5160210800, 5160211000, 5160502300, 5170703100, 5170710300, 5170710800, 5170800900, 7601301500, 7751602001.

1.2.2 Project Description

The project proposes to implement the Sycuan-Sloane Canyon trail, which upon completion, would include six segments totaling approximately five miles. Implementation of the trail would provide a critical regional and community trail connection between the Sweetwater River Loop Trail and the California Riding and Hiking Trail.

The trail alignment is divided into segments, numbered as Segments 1 through 6. Segment 2 is divided into three options, numbered as Segments 2a, 2b, and 2c. Segment 4 is also divided into three options, numbered as Segments 4a, 4b, and 4c. Segment 5 is divided into two options, numbered as Segments 5a and 5b. Segment 6 is divided into two options, numbered as Segment 6b, if chosen as the preferred segment alignment, would replace Segment 6a and Segment 1.

The project's Study Area was chosen to incorporate the potential trail alignments. To the extent feasible, the County has designed the trail alignment to use existing County right-of-way (ROW). Where it is not feasible to use existing County ROW, the County proposes using land outside the existing County ROW for trail use. Where it is not feasible to use existing County ROW, the County proposes using land outside the existing County ROW for trail use. The project would include securing trail easements per the 2015 Option Agreement between Sycuan and the County. Some non-preferred segment options would require securing easements from KDLC. Refer to Figure 5, Sycuan-Sloane Trail Segments, for the trail alignment and trail segment locations.

The proposed project supports the goals and policies outlined by the Community Trails Master Plan (County 2005) which includes objectives, policies, goals, implementation strategies, and guidelines for the management and expansion of the recreational trail network throughout the County. Implementation of the project would provide a critical regional and community trail connection between two regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. This project is within the County's Crest/Dehesa/Granite Hills/Harbison Canyon planning area, which serves as a hub connecting the neighboring communities of El Cajon, Lakeside, Willow Glen/Singing Hills, Valle de Oro, Dulzura, and Jamul. The non-motorized recreational trail would provide increased opportunities for walking, bicycling, and equestrian use, as well as provide safe pedestrian and cyclist access to Dehesa Elementary School. The project is intended to increase and improve connectivity and mobility of non-motorized users within the community and throughout the region.

The topography of the Study Area includes relatively flat areas along Dehesa Road and Sloane Canyon Road, and some areas with steep slopes near the central portion of the project. Elevations along the trail alignment range from 430 feet above mean sea level along Dehesa Road to 1,030 feet along the ridge tops west of Sloane Canyon Road.



Sycuan-Sloane Canyon Trail Project



Figure 1







Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Project Vicinity (Aerial Photograph) Figure 2





Sycuan-Sloane Canyon Trail Project

Project Vicinity (USGS Topography) Figure 3







Source: Aerial (SanGIS, 2017)

South County MSCP Designations

Figure 4



0 1,100 Feet



	Sycuali-Siballe Callyon Itali Fibject
	Study Area
ALL GLAVIENT LIN	Trail Alignment
	Segment 1
Colored .	Segment 2a
CALL S	Segment 2b
	Segment 2c
1 pt	Segment 3
In the	Segment 4a
	Segment 4b
	Segment 4c
A sing the	Segment 5a
- A hale	Segment 5b
The second	Segment 6a
<u>ek</u>	Segment 6b
AND PARA	Parcel Ownership
No. and Andrews	Dehesa School District
and the second	Kumeyaay Diegueno Land Conservancy
	Sycuan Indian Reservation
	US Fish and Wildlife Service
a the second	Non-profit Ownership
North Fork	Private Ownership
1.19	
	a construction and the
the second of the	Sweetwater
Man and	all River
Storm	
SEGANE CANYON RD	
ELSERT A PARTY AND A PARTY AND	

Source: Aerial (SanGIS, 2017).

Sycuan-Sloane Trail Segments Figure 5

The proposed trail alignments would include pathways in County ROW and trails through land owned by the Sycuan Band of the Kumeyaay Nation and the KDLC. Additionally, a very small section of Segment 5b is located on National Wildlife Refuge land managed by the United States Fish and Wildlife Service (USFWS)—however Segment 5a is entirely within the County ROW and KDLC land

- The western portion of Trail Segment 6b along the north side of Dehesa Road would be located within County ROW adjacent to land maintained by USFWS and private landowners.
- Trail Segment 6a along the south side of Dehesa Rd. would be located within County ROW, Sycuan land ownership, and private ownership.
- Trail Segment 1 is located on the south side of Dehesa Road in areas that were previously part of the development footprint of a large sand mine. Lake Emma, a 75-acre freshwater lake, is the product of these extraction activities.
- The land surrounding Lake Emma and the majority of the proposed trail alignment where it is not in County ROW (Trail Segments 1, 2, portions of Segments 3, 4, and 6a) in the northern portion of the Study Area is within the Sycuan Indian Reservation.
- The KDLC owns the land surrounding the proposed trail alignment in the southern portion of the project (Trail Segment 5 and portions of Segments 3 and 4).
- The southernmost proposed trail alignment (Segment 5a and 5b) is located south of the Sweetwater River. Portions of Segment 5a is located within County ROW, and Segment 5b meanders between lands owned by the KDLC and in County ROW. Refer to Figure 3 and Figure 4, *Property Ownership*.

The proposed trail segments have been designed to follow the County's Preserve Trail Guidelines (County 2018) and to support the goals and policies outlined by the Community Trails Master Plan (County 2005) and comply with the MSCP Framework Management Plan.

The project would post signage that would clearly prohibit trail users' access to areas outside of established trails and would clearly prohibit off-leash pets on trails or public areas. Following construction, only non-invasive, native plant species would be included in the landscape plan for the site (defined as species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [2006]). Wildlife-friendly fencing would be installed to protect Quino checkerspot butterfly host plant areas.

The trail may utilize two existing bridges on Sloane Canyon Road (part of Segment 2): the Northern Bridge (which crosses Harbison Canyon Creek) and the Southern Bridge (which crosses the Sweetwater River). The option to place trail infrastructure on each bridge would require narrower lanes for vehicular use. Signage would be provided along the roadway before each bridge to warn drivers of narrowed lanes. On the Southern Bridge, a standalone bridge option for trail users may be constructed to separate pedestrian, bicycle, and equestrian users from vehicles. On Trail Segment Option 5b, a second standalone bridge (Eastern Bridge) is also proposed along Sloane Canyon Road in the southeastern portion of the project. Vehicular use on the Eastern Bridge would be prohibited, with access provided for trail use only. Option 5a would not include the Eastern Bridge.



To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, environmental fencing (including silt fencing, where determined necessary by the Stormwater Pollution Prevention Plan [SWPPP]), would be installed at the edges of the impact limits prior to initiation of grading for each Segment. A qualified biologist will monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space, and report fencing installation to DPR prior to the start of grading for each Segment. The biologist also will conduct a pre-construction environmental training session for construction personnel for each Segment to inform them of the sensitive biological resources on-site and avoidance measures to remain in compliance with project approvals. The biologist also will monitor vegetation clearing, grubbing, and grading activities at least weekly to help ensure compliance with project approvals. All construction.

Preferred Alignment and Project Phasing

This environmental analysis includes an extensive investigation into the various trail alignment options available in the area in order to get a better understanding of the environmental opportunities and constraints on the project. Through this process, a preferred alignment has come to light. The preferred alignment for this project is: Segment 6a to Segment 1, to Segment 2a, to Segment 3, to Segment 4a to Segment 5a. In all cases, the preferred alignment is the one closest to, meandering in and out of, or completely within County ROW.

This project is intended to be built in phases. The first implementation phase will include construction of Segment 1 and 2a. The second implementation phase will likely include Segment 4a and 5a along Sloane Canyon Road. The third implementation phase will likely include Segment 3, which will connect to trails on the National Wildlife Refuge when those trails open to the public. The last implementation phase will likely include the construction of Segment 6a along Dehesa Road.

Segment 6a

Trail Segment 6a would be located in the western portion of the study area along the southern edge of Dehesa Road. The trail alignment would be located within County ROW, prior to connecting to Segment 1 to the east. Segment 6a would provide regional connectivity by connecting the project to the Sweetwater Loop Trail. A portion of Segment 6a would be located on existing sidewalk along Dehesa Road. A portion of Segment 6a would be located on existing private sidewalk along Dehesa Road. A biological open space easement is located north of Segment 6a, north of Dehesa Road on land owned by the National Wildlife Refuge. Segment 6a would be approximately 5 feet wide.

Segment 6b

Trail Segment 6b would be located in the western portion of the study area north of Dehesa Road prior to connecting with Segment 2 near the existing staging area. If this alignment is chosen, the trail would require a crossing at Dehesa Road near the intersection with Sloane Canyon Road. This intersection would require a full signalization with crosswalks for safe pedestrian movement in each direction. The trail would then be located within County ROW along the eastern edge of Sloane Canyon Road. The project would then cross Sloane Canyon Road at a non-signalized crossing of the roadway to meet the existing staging area and connect Segment 6b to Segment 2. Like Segment 6a, Segment 6b would provide regional connectivity by connecting the project to the Sweetwater Loop Trail. A biological open space easement is located immediately north of the western half of Segment 6b. If the Segment 6b



alignment is chosen, it would replace Segments 1 and 6a. Segment 6b would be between 4 and 8 feet wide.

Segment 1

Trail Segment 1 would be located along Dehesa Road east of the Singing Hills Golf Resort. This segment would travel through Sycuan land as a connection from the eastern end of Segment 6a to the northern end of Segment 2. The alignment would be located south of Dehesa Road and north of the Sweetwater River and Lake Emma. The project would incorporate two puncheon bridges to traverse existing jurisdictional drainages. The puncheon bridges would be located near the center of Segment 1, north of Lake Emma. The puncheon bridges would span the jurisdictional drainage, with abutments located outside the drainages. Segment 1 would be 8 feet wide

Segment 2a

Trail Segment 2a would be located in the northern portion of the study area along Sloane Canyon Road. As shown on Figure 5, the segment would travel through County ROW and Sycuan land beginning at the existing staging area. Starting at the north, Segment 2a would be a 5-foot-wide trail located within County ROW along the eastern edge of Sloane Canyon Road. The trail would cross Harbison Canyon Creek using the existing Northern Bridge and would require physical separation from vehicular traffic. The trail would cross the Sweetwater River at or adjacent to the existing Southern Bridge. Crossing options include the trail's use of the existing Southern Bridge with physical separation from vehicular traffic, or through the construction of a new non-vehicular bridge parallel to the Southern Bridge. After crossing the Sweetwater River, the trail would require a crosswalk to the southern edge of Sloane Canyon Road.

Segment 2a would continue east along Sloane Canyon Road before ending at the intersection of Segments 2b, 3, 4a, and 4b. Operation of Segment 2a may require the use of safety features to separate the trail from vehicular use of the ROW.

Segment 2b

Trail Segment 2b would be identical to Segment 2a from its beginning at the staging area off Sloane Canyon Road to a point east of the Southern Bridge along Sloane Canyon Road. At this point, Segment 2b would travel up a hillside to the west, ending at the intersection of Segments 2a, 3, 4a, and 4b. Operation of Segment 2b may require the use of safety features to separate the trail from vehicular use of the ROW. Segment 2b would be a 5-foot-wide trail.

Segment 2c

Trail Segment 2c would be identical to Segments 2a and 2b from its beginning at the staging area off Sloane Canyon Road east of the Southern Bridge. At this point, Segment 2c would move out of County ROW to the south as a 4- to 8-foot-wide trail. The alignment would be located within an existing disturbed trail, traveling up a steep gradient to the southwest. Trail Segment 2c would end upon its convergence with Segment 3.



Segment 3

Trail Segment 3 would begin at the intersection of Segments 2a, 2b, 4a, and 4b near Sloane Canyon Road. Segment 3 would be located in the eastern portion of the Study Area and would provide a connection to the SDNWR through Sycuan and KDLC lands. Segment 3 follows an existing dirt road used by vehicles for maintenance of the Refuge. The western end of Segment 3 would not connect to a project trail and would terminate at a point approximately 2,500 feet west of Sloane Canyon Road. Segment 3 would be a 4- to 5-foot-wide trail.

Segment 4a

Trail Segment 4a would start at the intersection of Segments 2a, 2b, 3, and 4b near Sloane Canyon Road. Segment 4a would then travel eastward to County ROW. Segment 4a would then be located entirely within County ROW, traveling southward along Sloane Canyon Road to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Operation of Segment 4a would require the use of design features to separate the trail from vehicular use of the ROW. Segment 4a would be a 5foot-wide trail.

Segment 4b

Trail Segment 4b would start at the intersection of Segments 2a, 2b, 3, and 4b near Sloane Canyon Road. Segment 4b would then travel southward within Sycuan land, parallel to and west of Sloane Canyon Road. Segment 4b would then travel uphill to the west, before descending downhill to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Segment 4b would be located entirely outside County ROW within previously undisturbed areas. Segment 4b would be a 5foot wide trail.

Segment 4c

Trail Segment 4c would start at a location near the approximate midpoint of Segment 3. The alignment would connect Segment 3 to Segments 5a and 5b through Sycuan land and KDLC owned lands. The alignment would traverse a hillside before descending downhill to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Segment 4c would be located entirely outside of existing County ROW in previously undisturbed areas. Segment 4c would be a 5-foot wide trail.

Segment 5a

Trail Segment 5a would be located in the southern portion of the Study Area along Sloane Canyon Road and travel from the intersection of Sloane Canyon Road and Model A Ford Lane to connect with the existing California Riding and Hiking Trail to the east. This segment would be located entirely within County ROW on the southern side of Sloane Canyon Road. No trail infrastructure would be constructed within the portions of roadway crossing a drainage called Beaver Hollow. Operation of Segment 5a would require the use of design features to separate the trail from vehicular use of the ROW. Segment 5a would be a 5- to 8-foot-wide trail.



Segment 5b

Trail Segment 5b would be located in the southern portion of the Study Area along Sloane Canyon Road and travels from the intersection of Sloane Canyon Road and Model A Ford Lane to connect with the existing California Riding and Hiking Trail to the east. This segment would be located both within and outside County ROW on the southern edge of Sloane Canyon Road. Portions of the alignment for Segment 5b, however, would be located outside the existing County ROW on land owned and maintained by the KDLC. No trail infrastructure would be constructed within the portions of roadway crossing a drainage called Beaver Hollow. A non-vehicular bridge would be constructed along the eastern end of Segment 5b to separate trail users and vehicular traffic. This bridge would be required to retain the trail across steep terrain and a drainage. Segment 5b would be a 5- to 8-foot-wide trail.

1.3 METHODS

1.3.1 Literature Review

Prior to conducting biological field surveys, HELIX conducted a search of sensitive species and habitats databases for information regarding sensitive species known to occur within one mile of the Study Area, including the USFWS species records (USFWS 2019), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2019a), SanBIOS (County 2019), and California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2019). Recent aerial imagery, topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2018 and Bowman 1973), and other maps of the Study Area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

1.3.2 Vegetation Mapping, Habitat Assessment, and Focused Species Surveys

Vegetation communities within the Study Area, plus at least a 100-foot buffer (on each side of the trail), were mapped according to Holland (1986), as modified by Oberbauer (2008). This mapping was extended to 500 feet to accommodate the focused species survey areas, and covered the Additional Study Area shown on Figure 6, which was added to accommodate revised trail alignments provided after surveys were completed. Vegetation was mapped on a 1"=200' scale aerial. Surveys were conducted on foot and with the aid of binoculars. Plant and animal species observed or otherwise detected were recorded (Appendices A and B, respectively). Animal identifications were made in the field by direct, visual observation, or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The locations of special status plant and animal species with potential to occur were compiled (Appendices C and D, respectively). Table 1 provides a summary of biological surveys conducted for the project.



 Table 1

 BIOLOGICAL SURVEYS FOR THE SYCUAN-SLOANE CANYON TRAIL

Survey Date	Survey Number	Personnel	Conditions				
Jurisdictional Delineation Field Survey							
January 29-30, 2019	N/A	Larry Sward Jasmine Bakker	50-70 °F; wind 0-3 mph; 10% clouds				
February 18, 2019	N/A	Larry Sward	45 °F; wind 5-10 mph; 20% clouds				
January 10, 2020	N/A	Ben Rosenbaum	50 °F; wind 3-5 mph; 0% clouds				
Vegetation Mapping and	Habitat Assessme	nt					
February 3, 2019	N/A	Korey Klutz	45-60°F; wind 0-12 mph; 0-75% clouds				
May 21-23, 2019	N/A	Erica Harris	54-63°F; wind 0-20 mph; 75-100% clouds				
Rare Plant Focused Surve	eys						
March 28, 2019	1	Korey Klutz Angelia Bottiani	50-68°F; wind 0-15 mph; 0-25% clouds				
April 30, 2019	2	Korey Klutz	50-60°F; wind 5-10 mph; 100% clouds				
Mature Oak Tree Mappin	lg						
May 16-17, 2019	3	Angelia Bottiani	60-65°F; wind 8-15 mph; 0-100% clouds				
Least Bell's Vireo Focused Surveys							
May 15, 2019	1	Ben Rosenbaum Tara Baxter	63.5-70 °F; wind 0-7 mph; 60-100% clouds				
May 28, 2019	2	Laura Moreton Ben Rosenbaum	47-69 °F; wind 0-2 mph; 0-1% clouds				
June 7, 2019	3	Katie Bellon Mandy Mathews	64-68°F; wind 0-3 mph; 0-100% clouds				
June 17, 2019	4	Benjamin Rosenbaum Katie Bellon	60-69°F; wind 1-3 mph; 100% clouds				
June 27, 2019	5	Benjamin Rosenbaum Laura Moreton	57-74°F; wind 0-5 mph; 0-100% clouds				
July 8, 2019	6	Benjamin Rosenbaum Katie Bellon	61-76°F; wind 1-3 mph; 0-100% clouds				
July 18, 2019	7	Benjamin Rosenbaum Mandy Mathews	60-83°F; wind 0-3 mph; 0-100% clouds				
Coastal California Gnatca	Coastal California Gnatcatcher Focused Surveys						
May 31 & June 5, 2019	1	Mandy Mathews ¹ Tara Baxter ²	59-81 °F; wind 0-4 mph; 0-100% clouds				
June 13, 2019	2	Erica Harris ¹ Mandy Mathews ¹	64-78°F; wind 0-4 mph; 0-100% clouds				
June 24, 2019	3	Erica Harris ¹ Mandy Mathews ¹	63-75°F; wind 0-4 mph; 0-100% clouds				
July 29, 2019	8	Benjamin Rosenbaum Mandy Mathews	63-85°F; wind 0-2 mph; 0% clouds				



 Table 1 (cont.)

 BIOLOGICAL SURVEYS FOR THE SYCUAN-SLOANE CANYON TRAIL

Survey Date	Survey Number	Personnel	Conditions				
Southwestern Willow Flycatcher Focused Surveys							
May 21 & 23, 2019	1	Erica Harris ¹	56-61°F; wind 0-6 mph; 90-100% clouds				
June 5-6, 2019	2	Erica Harris ¹	53-74°F; wind 0-2 mph; 0-100% clouds				
June 19 & 22, 2019	3	Erica Harris ¹	57-75°F; wind 0-4 mph; 0-100% clouds				
July 2-3, 2019	4	Erica Harris ¹	58-84°F; wind 0-5 mph; 0-100% clouds				
July 16-17, 2019	5	Erica Harris ¹	56-88°F; wind 0-3 mph; 0-100% clouds				
Arrovo Toad Focused Sur	vevs		, , ,				
		Korev Klutz					
May 23, 2019	1	Jasmine Bakker	51-57°F; wind 0-3 mph; 30-70% clouds				
May 30, 2019	2	Korey Klutz	55-65°F; wind 0-5 mph; 25% clouds				
lune 6, 2019	3	Korey Klutz	64-70°E: wind 0-2 mph: 0% clouds				
Julie 0, 2015	5	Samantha Edgley					
June 13. 2019	4	Korey Klutz	57-67°F: wind 0-1 mph: 0% clouds				
		Dane Van Tamelen					
Quino Checkerspot Butte	rfly Focused Surve	eys					
February 27, 2019	1	Jasmine Bakker ¹	64-71 °F; wind 0-4 mph; 0% clouds				
	-	Erica Harris ¹	68-71 °F; wind 0-2 mph; 0% clouds				
March 5, 2019	2	Jasmine Bakker ¹	62-74 °F; wind 0-8 mph; 0-50% clouds				
	-	Ben Rosenbaum ¹	62-74 °F; wind 0-8 mph; 0-50% clouds				
March 13 2019	3	Korey Klutz ³	62-68 °F; wind 0-8 mph; 40% clouds				
	5	Erica Harris ¹	62-73 °F; wind 0-3 mph; 30-35% clouds				
March 22, 2019	4	Korey Klutz ³	62-68 °F; wind 0-9 mph; 5-40% clouds				
	-	Erica Harris ¹	63-68 °F; wind 2-6 mph; 5% clouds				
March 29, 2019	5	Korey Klutz ³	65-70 °F; wind 0-8 mph; 0% clouds				
	5	Ben Rosenbaum ¹	70-76 °F; wind 0-8 mph; 5-10% clouds				
April 8, 2019	6	Korey Klutz ³	70-92 °F; wind 0-8 mph; 0% clouds				
April 11 2010	7	Korey Klutz ³	64-75 °F; wind 0-10 mph; 0% clouds				
April 11, 2015	,	Ben Rosenbaum ¹	65-74 °F; wind 0-2 mph; 0-30% clouds				
April 18 2019	8	Ben Rosenbaum ¹	69-92 °F; wind 0-7 mph; 15% clouds				
	0	Tara Baxter ²	69-92 °F; wind 1-7 mph; 15% clouds				
April 26, 2019	q	Korey Klutz ³	71-83 °F; wind 0-8 mph; 0% clouds				
		Laura Moreton ¹	76-80 °F; wind 0-10 mph; 0% clouds				
May 3, 2019	10	Korey Klutz ³	70-79 °F; wind 0-8 mph; 0% clouds				
iviay 5, 2019	10	Samantha Edgley ⁴	70-79 °F; wind 0-8 mph; 0% clouds				
December 16, 2019	QCB Host	Ben Rosenbaum ¹	47-67°F; wind 1-2 mph; 0 - 15% cloud				
	Plant Mapping		cover				
January 2, 2020	QCB Host	Ben Rosenbaum ¹	57-76°F; wind 1-2 mph; 10-15% cloud				
January 2, 2020	Plant Mapping		cover				
January 3, 2020	QCB Host	Ben Rosenbaum ¹	55-60°F; wind 1-2 mph; 15% cover				
	Plant Mapping						
January 7. 2020	QCB Host	Ben Rosenbaum ¹	53-59°F; wind 1-2 mph; 10% cloud cover				
	Plant Mapping						
January 8, 2020	QCB Host	Ben Rosenbaum ¹	55-60°F; wind 1-2 mph; clear-50% cloud				



Survey Date	Survey Number	Personnel	Conditions			
	Plant Mapping		cover			
Hermes Copper Butterfly Focused Surveys						
May 29, 2019	1	Korey Klutz	77-78°F; wind 0-5 mph; 0% clouds			
June 10, 2019	2	Korey Klutz	77-78°F; wind 0-10 mph; 0% clouds			
June 20, 2019	3	Korey Klutz	86-88°F; wind 0-12 mph; 0% clouds			
July 1, 2019	4	Korey Klutz	80-82°F; wind 0-5 mph; 0% clouds			
Hermes Copper Butterfly Habitat Assessment						
November 25, 2019	N/A	Ben Rosenbaum	50-68°F; wind 0-10 mph; 75% clouds			

Table 1 (cont.) BIOLOGICAL SURVEYS FOR THE SYCUAN-SLOANE CANYON TRAIL

¹ USFWS Permit TE-778195-13

² USFWS Permit TE 87004B-0

³ USFWS Permit TE-036065-2

⁴ Supervised individual

1.3.3 Focused Species Surveys

Focused surveys for the following special status plant and animal species were conducted during the appropriate survey periods in 2019, in accordance with applicable protocols. Status codes are defined in Appendix E.

Rare Plant Surveys

Rare plant surveys were conducted in Segments 1 through 6 of the Study Area by HELIX biologist Angelia Bottiani and subconsultant Korey Klutz on March 28 and April 30, 2019 (Table 1). Rare plant surveys were scheduled to coincide with blooming periods for other sensitive plant species with the potential to occur within the Study Area. Rare plant surveys did not include the Additional Study Area shown on Figure 6, because it was added after the blooming periods had passed; see Section 3.4 for mitigation measures. Special status plant species include species that are 1) listed as threatened or endangered by the USFWS or the CDFW, 2) contain a Rare Plant Rank 1 through 4 designated by the CNPS, 3) are on the County's Sensitive Plant List (County 2010a), and 4) covered by the County's South County MSCP Subarea Plan (County 1997). The surveys were conducted on foot and included 100 percent visual coverage of the Study Area. 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 encountered during other biological surveys were also recorded.

In compliance with the County's oak tree protection requirements (County 2010a), mature oak trees were also mapped on May 16-17, 2019. Mature oak trees are defined as having a diameter at breast height of 6 inches or more. The County requires that all mature oak trees identified within 100 feet of established oak woodland be mapped as part of the woodland.





HELIX Environmental Planning

Additional Study Area Figure 6

Quino Checkerspot Butterfly

Focused surveys for Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) were conducted in Segments 1 through 6 of the Study Area, except for the area shown on Figure 6, as the project Study Area is in the USFWS Recommended Survey Area (USFWS 2014). The survey protocol requires a habitat assessment and a minimum of five weekly surveys, in order to determine presence/absence of Quino. Surveys were conducted in accordance with USFWS protocol (USFWS, 2014) by HELIX biologists and subconsultant Korey Klutz between February 27 and May 3, 2019 (Table 1). Surveys consisted of walking through appropriate habitat, covering no more than 10 acres per hour per surveyor, and identifying butterflies with the aid of binoculars. Larval host plants (e.g., dwarf plantain [*Plantago erecta*] and purple owl's clover [*Castilleja exserta*]) were mapped, and potential nectaring resources (e.g., common goldfields [*Lasthenia californica*] and popcorn flower [*Cryptantha* spp.]) were documented during surveys. The focused survey report for Quino is included as Appendix J of this report. Additional Quino host plant mapping was conducted in December 2019 and January 2020 (Table 1) and covered a wider area determined in consultation with USFWS, including and surrounding Segments 3, 4, and the portion of Segment 2 south of the Southern Bridge.

Hermes Copper Butterfly

Surveys for Hermes copper butterfly (*Lycaena hermes*) were conducted by subconsultant Korey Klutz from May 29 through July 1, 2019 (Table 1). Surveys were conducted in accordance with the survey guidelines outlined in Attachment B of the County's Report Format and Content Requirements for Biological Resources (County 2010a). Surveys were conducted in all suitable habitat within the Study Area, which consist of Diegan coastal sage scrub, scrub oak chaparral, and southern coast live oak riparian forest habitat and contain spiny redberry (*Rhamnus crocea*) within 15 feet of California buckwheat (*Eriogonum fasciculatum*) and occurred in Segments 1 through 5 of the Study Area (Figure 7). Each survey was conducted by covering no more than 15 acres per hour per surveyor, in accordance with the species' survey protocol. A subsequent Hermes Copper Butterfly habitat assessment of the Additional Study Area was conducted by HELIX biologist Benjamin Rosenbaum on November 25, 2019.

Coastal California Gnatcatcher Surveys

HELIX biologists Erica Harris, Mandy Mathews, and Tara Baxter conducted surveys for the coastal California gnatcatcher in 2019, in accordance with the Coastal California Gnatcatcher Presence/Absence Survey Protocol (USFWS 1997). The survey consisted of three site visits made from May 31 through June 24, 2019 (Table 1). The survey area consisted of all potential coastal California gnatcatcher habitat occurring within 500 feet of the proposed trail alignment(s), which included Diegan coastal sage scrub (including baccharis dominated) and coastal sage-chaparral transition in Segments 1 through 6. The surveys were conducted by walking through the vegetation or on adjacent paths, and viewing avian species with the aid of binoculars, where necessary. If the coastal California gnatcatcher was not detected passively, a digital coastal California gnatcatcher call prompt was briefly played. Coastal California gnatcatcher locations were mapped on an aerial photograph. The coastal California gnatcatcher survey report is provided in Appendix F of this report.



Least Bell's Vireo Surveys

A focused survey for the least Bell's vireo (*Vireo bellii pusillus*) was conducted in accordance with survey protocol (USFWS 2001). The survey consisted of eight site visits conducted by HELIX biologists Tara Baxter, Katie Bellon, Mandy Mathews, Laura Moreton, and Benjamin Rosenbaum, between May 15 and July 29, 2019 (Table 1). The surveys were conducted by walking along the edges of, as well as within, potential least Bell's vireo habitat within 500 feet of the proposed trail alignment(s), while listening for least Bell's vireo and viewing birds with the aid of binoculars. The least Bell's vireo survey area consisted of southern coast live oak riparian forest, southern riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub associated with the Sweetwater River, manmade ponds associated with Lake Emma, Harbison Canyon Creek, and Beaver Hollow. Focused surveys were also conducted at locations containing coast live oak woodland adjacent to riparian areas. Suitable habitat occurred along portions of Segments 1, 2, 4, and 5. The report of findings for the least Bell's vireo survey is included as Appendix H of this report.

Southern Willow Flycatcher Surveys

HELIX biologist Erica Harris conducted a survey for the southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL), in accordance with USFWS-approved survey protocol (Sogge, et al. 2010). The survey consisted of five site visits from May 21 to July 17, 2019 (Table 1). The surveys were conducted by walking within and along the perimeter of suitable SWFL habitat within 500 feet of the proposed trail alignment(s). Surveys were conducted with binoculars to aid in bird detection. Recorded SWFL vocalizations were played every 20 to 30 meters, followed by a one-minute silent period to listen for a response. The SWFL survey area consisted of the same survey area as described for the least Bell's vireo surveys: southern coast live oak riparian forest, southern riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub associated with the Sweetwater River, manmade ponds associated with Lake Emma, Harbison Canyon Creek, and Beaver Hollow, as well as coast live oak woodland adjacent to riparian areas, in portions of Segments 1, 2, 4, and 5. The report of findings for the SWFL survey is included as Appendix G of this report.

Arroyo Toad Surveys

Focused surveys for arroyo toad (*Anaxyrus californicus*) were conducted in suitable habitat within 500 feet of the proposed trail alignment(s), following the recommended survey guidelines in the current Survey Protocol for Arroyo Toad, aside from the one USFWS-approved exception stated below (USFWS 1999). The recommended survey guidelines in the protocol specify that at least six surveys be conducted between March 15 and July 1, with at least one survey conducted per month during April, May, and June or until arroyo toads are detected and with at least seven days between surveys. HELIX biologists Jasmine Bakker, Samantha Edgley, Dane van Tamelen, and subconsultant Korey Klutz completed surveys from May 23 to June 13, 2019. A survey in April was not completed, which would not be consistent with the USFWS Survey Protocol; however, the USFWS approved the modification because the project area is already known to be occupied by arroyo toad. Surveys were discontinued once arroyo toad breeding had been verified in each of the segments containing potential habitat. The survey area consisted of potential arroyo toad habitat present along the Sweetwater River and associated tributaries in Segments 2, 3, 4, and 5. The survey included both daytime and nighttime components conducted by walking along the edges of, as well as within, potential arroyo toad habitat, while visually searching for the species at all life stages (egg strings, larvae, metamorphic individuals, toadlets, and adults) and listening for







Hermes Copper Butterfly Survey Area Figure 7

vocalizing individuals. All arroyo toad locations, along with other special status species locations encountered during the survey, were mapped on an aerial photograph. The arroyo toad survey report is provided in Appendix I of this report.

1.3.4 Jurisdictional Delineation

HELIX biologists Larry Sward and Jasmine Bakker conducted a field-based jurisdictional delineation of Segments 1 through 6 of the Study Area on January 29 and 30, 2019 and February 18, 2019 to identify and map aquatic resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the Clean Water Act and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game (CFG) Code. Prior to the delineation, recent aerial photographs (1"=100'), topographic maps (1"=100'), soil mapping, National Wetlands Inventory mapping, and USGS topographical maps were reviewed to determine the location of potential jurisdictional areas. The delineations were conducted on foot with the aid of 1"=100' scale aerials and topographic maps. Potential aquatic resources evaluated within the Study Area included drainage features, depressions, and/or wetland vegetation that crossed or were adjacent to the proposed trail alignments. Culverts encountered in the field along Dehesa Road and Sloane Canyon Road were also evaluated. The Segment 4 Additional Study Area was evaluated for jurisdictional waters by a subsequent desktop review, which included a review of high resolution aerial imagery, topographic contours, historical aerial imagery, and National Wetlands Inventory mapping, and determined not to support jurisdictional waters, based on its upland position and lack of defined drainage courses or hydrophytic vegetation. This was confirmed on November 25, 2019, following the Hermes Copper Butterfly habitat assessment. A subsequent visit to confirm CDFW jurisdiction was completed on January 10, 2020. Definitions of USACE and CDFW jurisdictional areas are presented in Appendices K and L of this report, respectively. The jurisdictional delineation datasheets and photographs are provided in Appendix M of this report.

Waters of the U.S.

Potential USACE-jurisdictional waters of the U.S. were determined using the three criteria (vegetation, hydrology, and soils) established for wetland delineations, as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008). Ordinary High Water Mark (OHWM) was identified according to "A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States" (Lichvar and McColley 2010). Mapping of drainage features was performed in the field based on the OHWM and surface indications of hydrology. Sampling points were inspected for primary and secondary wetland hydrology indicators. Areas were determined to be potential wetland waters of the U.S. if there was a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas were determined to be non-wetland waters of the U.S. if there was evidence of regular surface flow within an OHWM, but the vegetation and/or soils criterion were not met.

The Preliminary Jurisdictional Delineation report is included as Appendix M of this report. Twenty-eight (28) locations with potential aquatic resources were evaluated in the Study Area, immediately adjacent to the Study Area, and at locations representative of drainage features located within the Study Area. Standard USACE wetland delineation data forms were completed in the field for ten sampling points and



OHWM Datasheets were completed at four of the ten sampling locations. Drainage features that lacked wetland indicators and a discernable OHWM were considered upland swales and were not delineated as jurisdictional waters. Roadside ditches and erosional features associated with culverts along Dehesa Road that did not drain to an aquatic resource were also not delineated as jurisdictional waters.

Regional Water Quality Control Board Jurisdictional Waters

Potential RWQCB-jurisdictional areas were delineated in the same manner as potential waters of the U.S. All Waters of the U.S. were considered Waters of the U.S./State subject to RWQCB jurisdiction pursuant to CWA Section 401. No wetland features were determined to be geographically isolated and subject to RWQCB jurisdiction pursuant to the Porter-Cologne Act.

California Department of Fish and Wildlife Jurisdictional Areas

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that support riparian vegetation" (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-bank to top-of-bank width for the features within the Study Area. Riparian habitat is not defined in Title 14, but the section refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream.

1.3.5 Survey Limitations

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur on-site, however, are addressed in this report.

1.3.6 Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation, Jepson eFlora (2019) and Baldwin et al. (2012) for plants, North American Butterfly Association (2017) for butterflies, Society for the Study of Amphibians and Reptiles (2019) for reptiles and amphibians, American Ornithological Society (2018) for birds, and Bradley et al. (2014) for mammals. Plant species status is from the CNPS's Rare Plant Inventory (CNPS 2019), CDFW (2019b), and County (2010b). Animal species status is from the CDFW (2018) and County (2010b).



1.4 ENVIRONMENTAL SETTING

1.4.1 Regional Context

The project site is generally located within south San Diego County, within the Crest-Dehesa Community Plan area. A portion of the site occurs within The Conrock/Fenton Specific Plan Area (SPA), which provides for extraction of the aggregate sand resource of the Sweetwater River. Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters. Mean annual precipitation is between 14 and 18 inches, and the mean annual temperature is between 60 and 62 degrees Fahrenheit. The frost-free season is 260 to 300 days.

Important biological resources in the region generally include core blocks of coastal sage scrub and chaparral, open space conserved within the San Diego National Wildlife Refuge (SDNWR), and perennial waters and riparian habitat associated with the Sweetwater River corridor, Sweetwater and Loveland Reservoirs, and Lake Jennings. The site is located within the Sweetwater River Valley and in the floodplain of the Sweetwater River, which flows in a northwest direction along the Study Area. Beaver Hollow, North Fork, and Harbison Canyon Creek feed into the Sweetwater River along the Study Area. The region hosts core populations of sensitive plants, including San Diego thornmint (Acanthomintha ilicifolia), San Diego ambrosia (Ambrosia pumila), Encinitas baccharis (Baccharis vanessae), and willowy monardella (Monardella viminea), in addition to important habitat for several sensitive animals, including Quino, arroyo toad, SWFL, coastal California gnatcatcher, and least Bell's vireo, among others. As shown on Figure 8, USFWS-designated critical habitat for two species occurs within the Study Area: coastal California gnatcatcher (4.78 acres) and arroyo toad (8.60 acres). Additionally, critical habitat for San Diego thornmint occurs approximately 0.90 miles southwest of the Study Area. The coastal California gnatcatcher critical habitat mapped within the Study Area occurs in Segment 6 (northern alternative), within Diegan coastal sage scrub habitat north of Dehesa Road. Critical habitat for arroyo toad is associated with the Sweetwater River, within the Study Area for Segments 4 and 5.

The Study Area occurs within the Metro-Lakeside-Jamul Segment of the adopted South County MSCP Subarea Plan, and most of the Study Area, except for the Singing Hills Golf Resort at Sycuan, is designated as PAMA (Figure 4). Additional MSCP PAMA lands are located to the north, south, and east of the Study Area. PAMA areas are important to the success of the regional preserve system and are areas within the MSCP with high conservation values. The majority of the study area is mapped as very high and high habitat value on Attachment J (Habitat Evaluation Map) of the Biological Mitigation Ordinance (BMO [County 2010c]). None of the project occurs within MSCP Hardline, although this is mapped off-site to the south of the project.

1.4.2 General Land Uses

Most of the land surrounding the project is undeveloped, although part of the undeveloped land includes areas that were previously used for mining activities and Lake Emma, which is man-made. Other land uses in the surrounding area include a memorial park to the northwest; an adjacent golf course to the southwest; residential and rural residential development to the north, south, and west; a school to the northeast; and active orchards to the south and southwest. Open space is present to the north and south of Segment 6. The SDNWR abuts the western end of the site (north of Segment 6) along the Sweetwater River, and a corner of the SDNWR overlaps the Study Area in Sloane Canyon road, below Model A Ford Lane (Segment 5).



1.4.3 Disturbance

The Study Area has been subject to past human disturbances and habitat modification associated with development of Dehesa Road and Sloane Canyon Road, residential and commercial development, mineral extraction activities and creation of Lake Emma, and agriculture. According to aerial imagery, earthwork in Lake Emma was completed prior to 2002. The site's history of disturbance is not completely reflected in the site's current vegetation types. Some of the disturbed areas in the vicinity of Lake Emma have revegetated with riparian vegetation; but eucalyptus woodland occurs along the golf course and Lake Emma.

1.4.4 Topography and Soils

The project Study Area slopes from the east to the west, with elevations ranging from approximately 520 feet above mean sea level (amsl) in the northwestern portion of the site to 960 feet amsl in the eastern portion of the site at the end of Segment 3. The Sweetwater River runs through the length of the site, entering at the southern project boundary, and continuing in a mostly north-west direction to the northwestern boundary, where the river exits the Study Area and continues south towards Sweetwater Reservoir. The Sweetwater River extends from its headwaters in the Cuyamaca Mountains (east of the site), downstream from the Loveland Reservoir and heads to the Pacific Ocean, approximately 15 miles west of the Study Area from the City of Chula Vista.

The most prominent soil types mapped within the project Study Area include Tujunga sand (TuB), 0-5 percent slope; riverwash (Rm); Cieneba very rocky coarse sandy loam (CmrG), 30 to 75 percent slopes; and Vista coarse sandy loam (VsG), 30 to 65 percent slopes (Figure 9). The Tujunga sand and riverwash are associated with the Sweetwater River and North Fork, while the Cieneba and Vista series soils are associated with the adjacent slopes. Other soils within the Study Area include Chino silt loam, saline, 0 to 2 percent slopes (CkA); Cieneba-Fallbrook rocky sandy loam, 30 to 65 percent slopes, eroded (CnG2); Fallbrook sandy loam, 9 to 15 percent slopes, eroded (FaD2); Fallbrook rocky sandy loam (FeE2); Greenfield sandy loam, 5 to 9 percent slopes (GrC); Las Posas fine sandy loam, 15 to 30 percent slopes, eroded (LpE2); Las Posas stony fine sandy loam, 9 to 30 percent slopes (LrE); Ramona gravelly sandy loam, 9 to 15 percent slopes (RcD); Visalia sandy loam, 2 to 5 percent slopes (VaB); and Visalia sandy loam, 5 to 9 percent slopes (RcD).

1.4.5 Vegetation Communities/Land Use Types

Fifteen vegetation communities/land use types occur in the project Study Area (Table 2; Figure 10). One additional vegetation community (coastal sage-chaparral transition) occurs outside, but within 500 feet, of the Study Area. The numeric codes in parentheses following each community/land use type name are from the Holland classification system (Holland 1986), as added to by Oberbauer (2008) and as presented in the County's Biology Guidelines (County 2010b). The communities are presented in Table 2, in order by MSCP Tier.





0 1,500 Feet



Source: Aerial (SanGIS, 2017).

USFWS Critical Habitat

Figure 8




Soils Figure 9

Study Area

Invertebrates

- \bigstar Monarch Butterfly (Danaus plexippus)
- \mathbf{x} Quino Checkerspot Butterfly (Euphydryas editha quino)

Amphibians

Arroyo Toad (Anaxyrus californicus)

Reptiles

- Belding's Orange-throated Whiptail (Aspidoscelis hyperythra beldingi)
- Blainville's (Coast) Horned Lizard (Phrynosoma blainvillii)
- San Diego Tiger (Coastal) Whiptail (Aspidoscelis tigris stejnegeri)
- Two-striped Garter Snake (Thamnophis hammondii)

Birds

- \triangle American White Pelican (Pelecanus erythrorhynchos)
- \triangle Caspian Tern (Hydroprogne caspia)
- \triangle Coastal California Gnatcatcher (Polioptila californica californica)
- \land Cooper's Hawk (Accipiter cooperii)
- Costa's Hummingbird (*Calypte costae*)
- \triangle Lawrence's Goldfinch (Spinus lawrencei)
- Least Bell's Vireo (Vireo bellii pusillus)
- Lewis's Woodpecker (Melanerpes lewis) \triangle
- \triangle Oak Titmouse (Baeolophus inornatus)
- \wedge Red-shouldered Hawk (Buteo lineatus)
- \triangle Sharp-shinned Hawk (Accipiter striatus)
- Southern California Rufous-crowned Sparrow (Aimophila ruficeps canescens)
- \triangle Turkey Vulture (Cathartes aura)
- \triangle Yellow Warbler (Setophaga petechia)
- \triangle Yellow-breasted Chat (Icteria virens)

Mammals

- ٥ Mountain Lion (Puma concolor)
- \diamond Mule Deer (Odocoileus hemionus)

Plants

- Ashy Spike Moss (Selaginella cinerascens)
- Coast Live Oak (Quercus agrifolia)
- \bigcirc Dean's Milk Vetch (Astragalus deanei)
- \bigcirc Dehesa Beargrass (Nolina interrata)
- Delicate Clarkia (Clarkia delicata)
- \bigcirc San Diego Sunflower (Bahiopsis laciniata)
- San Diego Sagewort (Artemisia palmeri)
- \bigcirc Small Flowered Morning Glory (Convolvulus simulans)

Plant Polygons

- San Diego Sunflower
- Dehesa Beargrass
- Small Flowered Morning Glory









Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Vegetation and Sensitive Resources

Figure 10

Vegetation Community ¹	Tier ²	Segment 6a ³	Segment 6b	Segment 1 ³	Segment 2 ³	Segment 3 ³	Segment 4 ³	Segment 5 ³	Total
Wetland Habitats									
Southern coast live oak riparian forest (61310)	Ι				0.25			2.19	2.44
Southern riparian forest (61300)	I				0.13				0.13
Southern willow scrub (63320)	Ι				0.01				0.01
Mule fat scrub (63310)	I				0.14				0.14
Non-vegetated channel (64200)	I				0.10				0.10
Upland Habitats									
Coast live oak woodland (71160)	I				0.24			0.93	1.17
Open coast live oak woodland (71161)	I				1.32				1.32
Diegan coastal sage scrub (32500 and 32530)	Ш		6.69	0.39	5.31	0.89	6.84	0.04	20.16
Scrub oak chaparral (37900)	=					1.58	0.71	1.59	3.88
Non-native grassland (42200)	Ш	0.05	1.80	4.18	1.38			0.22	7.63
Eucalyptus woodland (79100)	IV	0.54	0.21	6.61	0.18				7.54
Non-native vegetation (11000)	IV		0.03	0.15	0.95				1.13
Disturbed habitat (11300)	IV	0.01	0.82	5.00	2.01	0.83	0.08	0.10	8.85
Agriculture - Orchards and Vineyards (18100)	IV							0.22	0.22
Urban/Developed (12000)	IV	8.61	8.80	4.20	3.36		0.25	2.66	27.88
	TOTAL	9.21	18.35	20.53	15.38	3.30	7.88	7.95	82.60

Table 2 EXISTING VEGETATION COMMUNITIES/LAND USE TYPES WITHIN THE PROJECT STUDY AREA

Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
 County Subarea Habitats and Tiers within the South County MSCP Subarea Plan.

³ All habitats are rounded to the nearest 0.01 acre.



Southern Coast Live Oak Riparian Forest (61310, Tier I)

Southern coast live oak riparian forest is an open, to locally dense, evergreen, sclerophyllous, riparian woodland that is dominated by coast live oak (*Quercus agrifolia*). This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forest occurs on fine-grained alluvial soils of the floodplains along large streams in the canyons and valleys of coastal southern California (Holland 1986). Within the Study Area, associated species include toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), and poison oak (*Toxicodendron diversilobum*). A total of approximately 2.44 acres of southern coast live oak riparian forest occurs within Segments 2and 5.

Southern Riparian Forest (61300; Tier 1)

Southern riparian woodlands and forests are composed of winter-deciduous trees that require water near the soil surface. Willow (*Salix* sp.), cottonwood (*Populus* sp.), and western sycamore (*Platanus racemosa*) form a dense, medium height woodland or forest in moist canyons and drainage bottoms. Associated understory species include mule fat (*Baccharis salicifolia*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*; Beauchamp 1986). The differences between woodlands and forests are physiognomic, rather than compositional. Woodlands have less canopy cover than forests. In forests, the canopies of individual tree species do overlap so that a canopy cover exceeding 100 percent may occur in the upper tree stratum. In woodlands, there may be large canopy gaps within the upper tree stratum. Within the Study Area, this vegetation community included willows (*Salix* spp.), Fremont cottonwood (*Populus fremontii*), and western sycamore. Approximately 0.13 acre of southern riparian forest occurs within Segment 2 of the Study Area.

Southern Willow Scrub (63320; Tier I)

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat, and with scattered emergent cottonwood and western sycamores. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest. Within the Study Area, this vegetation community was dominated by Goodding's willow (*Salix gooddingii*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). Approximately 0.01 acre of southern willow scrub occurs within Segment 2 of the Study Area.

Mule Fat Scrub (63310; Tier I)

Mule fat scrub is a shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This community may be maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest (Holland 1986). In other places, the limited hydrology may be unsuitable for anything more mesic than mule fat scrub. Within the Study Area, this vegetation community included mule fat and broom baccharis (*Baccharis sarothroides*). Approximately 0.14 acre of mule fat scrub occurs within Segment 2 of the Study Area.



Non-Vegetated Channel (64200; Tier I)

Non-vegetated channel occurs where streambed is generally lacking plant cover. Scattered plants may be present in this vegetation community. Approximately 0.10 acre of non-vegetated channel occurs within Segment 2 of the Study Area.

Coast Live Oak Woodland (71160; Tier I) And Open Coast Live Oak Woodland (71161; Tier I)

Coast live oak woodland is an open to dense evergreen woodland or forest community, dominated by coast live oak, that may reach a height of 35 to 80 ft. The shrub layer consists of toyon, blue elderberry, laurel sumac (*Malosma laurina*), fuchsia-flowered gooseberry (*Ribes speciosum*), monkeyflower (*Mimulus aurantiacus*), and poison oak. A dense herbaceous understory is often dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), chickweed (*Stellaria media*), and annual grasses. This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986). In the open phase of this vegetation community, the tree canopy is generally sparser. Within the Study Area, this vegetation community included coast live oak, blue elderberry, goldenbush (*Isocoma menziesii*), California buckwheat (*Eriogonum fasciculatum*), and non-native grasses. A total of approximately 1.17 acres of coast live oak woodland occurs within Segment 2 of the Study Area.

Diegan Coastal Sage Scrub (32500; Tier II) and Baccharis-dominated Diegan Coastal Sage Scrub (32530; Tier II)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat, laurel sumac, lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Within the Study Area, this vegetation community included California sagebrush, California buckwheat, white sage, black sage, San Diego County sunflower (*Bahiopsis laciniata*), and California encelia (*Encelia californica*). A portion of the Diegan coastal sage scrub in the Study Area is dominated by broom baccharis. A total of approximately 20.16 acres of Diegan coastal sage scrub, including Diegan coastal sage scrub – baccharis dominated, occurs within Segments 1, 2, 3, 4, 5, and 6b of the Study Area.

Scrub Oak Chaparral (37900; Tier III)

Scrub oak chaparral is a dense, evergreen chaparral up to 20 feet tall, dominated by scrub oak (*Quercus dumosa*) with considerable mountain mahogany (*Cercocarpus betuloides*). Scrub oak chaparral occurs in somewhat more mesic areas than many other chaparrals, such as north facing slopes, and recovers more rapidly from fires than other chaparrals due to resprouting capabilities of scrub oak (Holland 1986; Keeley and Keeley 1988). This vegetation community often occurs at slightly higher elevations (to 5,000 feet) and substantial leaf litter accumulates. Within the Study Area, this vegetation community was dominated by typical chaparral species intermixed with inland scrub oak (*Quercus berberidifolia*). A total of approximately 3.88 acres of scrub oak chaparral occurs within Segments 3, 4, and 5 of the Study Area.



Non-native Grassland (42200; Tier III)

Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Annual species comprise from 50 percent to more than 90 percent of the vegetative cover, and most annuals are non-native species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. Usually, the grasses are less than three ft in height and form a continuous or open cover. Emergent shrubs and trees may be present but do not comprise more than 15 percent of the total cover (County 2010a). Most of the non-native grasses originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. Within the Study Area, this vegetation community was dominated by non-native grasses: wild oat (*Avena barbata*), purple false brome (*Brachypodium distachyon*), ripgut brome (*Bromus diandrus*), foxtail brome (*Bromus madritensis* ssp. *rubens*), fescue (*Festuca myuros*), and Italian rye grass (*Festuca perennis*). A total of approximately 7.63 acres of non-native grassland occurs within Segments 1, 2, 5, 6a, and 6b of the Study Area.

Eucalyptus Woodland (79100; Tier IV)

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the trees, limit the ability of other species to grow in the understory, thereby decreasing floristic diversity. If sufficient moisture is available, eucalyptus becomes naturalized and can reproduce and expand its cover. Within the Study Area, this vegetation community included eucalyptus, blue elderberry, and Peruvian pepper tree (*Schinus molle*). A total of approximately 7.54 acres of eucalyptus woodland occurs within Segments 1, 2, 6a, and 6b of the Study Area.

Non-native Vegetation (11000; Tier IV)

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. Within the Study Area, this vegetation community included Peruvian pepper tree as the dominant species, as well as eucalyptus. A total of approximately 1.13 acres of non-native vegetation occurs within Segments 1, 2, and 6b of the Study Area.

Disturbed Habitat (11300; Tier IV)

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010a). Within the Study Area, this vegetation community included smooth cat's ear (*Hypochaeris glabra*), crown daisy (*Glebionis coronaria*), sow thistle (*Sonchus oleraceus*), black mustard (*Brassica nigra*), and tree tobacco (*Nicotiana glauca*). A total of approximately 8.85 acres of disturbed habitat occurs within Segments 1 through 6b of the Study Area.

Orchards and Vineyards (18100; Tier IV)

Agriculture is defined broadly as land used primarily for production of food and fiber. On satellite imagery, the chief indications of agricultural activity are distinctive geometric field and road patterns on



the landscape and the traces produced by livestock or mechanized equipment. Within the Study Area, this vegetation community consisted of orchard dominated by olive trees (*Olea europaea*). Approximately 0.22 acre of orchard occurs within Segment 5 of the Study Area.

Urban/Developed (12000; Tier IV)

Urban/Developed is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. A total of approximately 27.88 acres of urban/developed occurs within Segments 1, 2, 4, 5, 6a, and 6b of the Study Area.

1.4.6 Oak Root Protection Zone

The oak root protection zone was mapped in Study Area Segments 1 through 6b (Figure 11). This is different from southern coast live oak riparian forest and coast live oak woodland, described above. The oak woodland root protection zone was derived from oak tree mapping and consists of a 50-foot oak root protection zone mapped around the canopy of coast live oak woodland and southern coast live oak riparian forest, as well as around individual mature coast live oak trees. Only two small oak trees were observed in Segment 6a, and oak trees mapped in Segment 1 occurred within the understory of eucalyptus woodland, with smaller associated oak tree canopies no greater than 10 feet.

1.4.7 Flora

A total of 137 plant species were identified within the Study Area, of which 101 (74 percent) are native species and 36 (26 percent) are non-native species (Appendix A).

1.4.8 Fauna

A total of 150 animal species were observed or otherwise detected on the Study Area during the biological surveys, including 34 invertebrate, three amphibian, 10 reptile, 96 bird, and seven mammal species (Appendix B).

1.4.9 Sensitive Vegetation Communities

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants, as defined by Section 15380 of the State CEQA Guidelines. Attachment K of the County's BMO provides a list of vegetation communities and their tier levels within the South County MSCP Subarea Plan, while Attachment M of the County's BMO provides a list of habitat mitigation ratios for each vegetation community type.

A total of 10 sensitive vegetation communities, categorized as Tier I, II, and III, were mapped within the Study Area. Sensitive vegetation communities include coast live oak riparian forest (Tier I), southern riparian forest (Tier I), southern willow scrub (Tier I), mule-fat scrub (Tier I), non-vegetated channel (Tier I), coast live oak woodland (Tier I), open coast live oak woodland (Tier I), Diegan coastal sage scrub (Tier II), scrub oak chaparral (Tier III), and non-native grassland (Tier III). Impacts to sensitive habitats require mitigation.



Vegetation communities categorized as Tier IV within the Study Area do not meet the definition of sensitive habitat under CEQA and include eucalyptus woodland, non-native vegetation, disturbed habitat, orchards and vineyards, and urban/developed. Impacts to these vegetation communities do not require mitigation.

1.4.10 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County and may also be included in the CNPS' Inventory of Rare and Endangered Plants. 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. Designated USFWS critical habitat for the San Diego thornmint occurs south of the Study Area and will not be crossed by the proposed trail alignments (Figure 8).

Special Status Plant Species Observed

Seven special status plant species were observed within the Study Area, as listed below in alphabetical order by scientific name. Each is also described below and shown on Figure 10.

San Diego sagewort (Artemisia palmeri)

Status: --/--; CRPR 4.2; County List D

Distribution: Coastal San Diego County and Baja California, Mexico.

Habitat: Stream courses, often within coastal sage scrub and southern mixed chaparral. **Status on Site**: This species was observed within the riparian habitat along Sweetwater River in the Study Area of Segment 2 and Segment 5, but not observed in Segments 1, 3, 4a, 4b, 6a, and 6b. Species has a low potential to occur in Segment 4c.

Dean's milk-vetch (Astragalus deanei)

Status: --/--; CRPR 1B.1; County List A

Distribution: Southwestern San Diego County, between approximately 805 and 1,126 feet in elevation. **Habitat**: Dry hillsides in open coastal sage scrub, chaparral, or southern oak woodland. Rocky sandy loam is the soil type mapped for the Tecate population.

Status on Site: A critical population of the species is documented to occur along the northern portion of Sweetwater River, Sloane Canyon, and Singing Hills, and the species was observed within the Sycuan Peak Ecological Reserve upstream of the project along Sweetwater River in 2004. Thirty individuals at five locations were observed within the Segment 4 Study Area, as shown on Figure 14e. Another ten individuals were incidentally observed nearby, but are not shown, because they were located outside of the Study Area; however, these ten individuals would be considered as part of the contiguous population when analyzing species impacts. This species has a high potential to occur along the proposed Segment 4c alignment, based on nearby observations in similar habitat. Species was not observed in Segments 1, 2, 3, 5, 6a, and 6b.

San Diego sunflower (Bahiopsis laciniata)

Status: --/--; CRPR 4.3; County List D **Distribution**: San Diego County, Orange County, as well as Baja California, Mexico.







	Sludy Area
Trail Al	ignment
	Segment 1
	Segment 2a
	Segment 2b
	Segment 2c
	Segment 3
	Segment 4a
	Segment 4b
	Segment 4c
	Segment 5a
	Segment 5b
	Segment 6a
	Segment 6b
	Coast Live Oak Woodland (71160)
	Open Coast Live Oak Woodland (71161)
	Southern Coast Live Oak Riparian Forest (61310)
\triangle	Coast Live Oak (Quercus agrifolia)
	50-foot Coast Live Oak Root Protection Buffer

Oak Tree Mapping Figure 11

Habitat: Occurs on a variety of soil types in Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub.

Status on Site: This species is abundant within Diegan coastal sage scrub habitat in the Study Area for Segments 3 and 4, with two observations in Segment 2. Species was not observed in Segments 1, 5, 6a, and 6b.

Delicate clarkia (Clarkia delicata)

Status: --/--; CRPR 1B.2; County List A

Distribution: San Diego County and Baja California, Mexico.

Habitat: Occurs in shaded areas or on the periphery of oak woodlands and cismontane chaparral habitats.

Status on Site: This species was observed at two locations within the Study Area, which are within Segment 2, to the east of Sloane Canyon Road, and within Segment 3, west of Sloane Canyon Road. The species was not observed in Segments 1, 4a 4b, 5, 6a, or 6b. It has moderate potential to occur within Segment 4c, based on the nearby plant observation within Segment 3 in similar Diegan coastal sage scrub habitat.

Small-flowered morning-glory (Convolvulus simulans)

Status: --/--; CRPR 4.2; County List D

Distribution: Scattered locations from the foothills to the coast in southern California and Baja California, Mexico. Species is rare in southern California.

Habitat: Coastal clay areas in openings of chaparral, sage scrub, and grassland habitat types. **Status on Site**: Approximately 1,000-2,000 individuals observed in one area within non-native grassland habitat, to the north of Dehesa Road, within the Study Area of Segment 6b. This species was not observed within Segment 1, 2, 3, 4a, 4b, 5, and 6a, and is not expected to occur in Segment 4c, due to the lack of clay soil.

Dehesa beargrass (Nolina interrata)

Status: --/SE; CRPR 1B.1; County List A; MSCP covered; MSCP NE

Distribution: Known only from a few locations in southern San Diego County.

Habitat: Always associated with gabbro or peridotite soils, open southern mixed chaparral, and chamise chaparral habitats.

Status on Site: Eleven individuals of this species were observed in two locations to the north of Dehesa road, within the Segment 6b Study Area, in an area with suitable Las Posas fine sandy loam. Species was not observed in Segments 1, 2, 3, 4a, 4b, 5, and 6a. The potential to occur in Segment 4c is low, due to the lack of suitable soil: the soil is Vista coarse sandy loam. The potential cannot be ruled out because there is a CNDDB observation within approximately 700 feet in an area mapped as Cieneba very rocky coarse sandy loam.

Ashy spike-moss (Selaginella cinerascens)

Status: --/--; CRPR 4.1; County List D

Distribution: San Diego County, Orange County, as well as northwestern Baja California, Mexico. **Habitat**: Flat mesas in coastal sage scrub and chaparral. A good indicator of site degradation, as it rarely inhabits disturbed soils.

Status on Site: This species was observed within Diegan coastal sage scrub habitat, west of Sloane Canyon Road in Segment 4. Species not observed in Segments 1, 2, 3, 5, 6a, and 6b.



Special Status Plant Species with Potential to Occur

One special status plant species, rush-like bristleweed (*Xanthisma junceum*), a County List D and CRPR 4.3 species, has high potential to occur in the more xeric, exposed areas of Diegan coastal sage scrub within Segments 1 through 6b; however, it is widespread throughout the South County MSCP Subarea, such that the removal of a few individual rush-like bristleweed plants would not impact the local long-term survival of the species and would not be a significant impact. Therefore, it is not discussed further in this report. Special status plant species that do not have a high potential to occur or were not observed within the Study Area, but may have potential to occur on-site, are listed in Appendix C. Status codes are defined in Appendix E.

1.4.11 Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Designated critical habitat for two species occurs within the Study Area: coastal California gnatcatcher (4.78 acres) and arroyo toad (8.60 acres) (Figure 8). Critical habitat lands for coastal California gnatcatcher and arroyo toad within the Study Area are occupied by these species.

Special Status Animal Species Observed or Otherwise Detected

Twenty-four special status animal species have been observed or detected on or within 500 feet of the Study Area, or observed flying over the Study Area, during biological surveys conducted for the project. Each species is listed below in alphabetical order by scientific name. Species are also shown on Figure 10. Status codes are defined in Appendix E.

Cooper's hawk (Accipiter cooperii)

Status: --/WL; County Group 1, MSCP Covered

Distribution: Occurs year-round throughout San Diego County's coastal slope where stands of trees are present.

Habitat: Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests. Increasingly found in suburban and urban areas.

Status on Site: Three individuals were observed within and adjacent to the Study Area. The species was detected within eucalyptus woodland in Segment 1, observed flying overhead north of Segment 2c, as well as the eastern portion of Segment 5. Species was not detected within Segments 2a, 2b, 3, 4, 6a, and 6b. Suitable breeding habitat within the Study Area includes eucalyptus woodland south of Dehesa Road and riparian and woodland habitats along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow in Segments 1, 2, and 5.

Sharp-shinned hawk (Accipiter striatus)

Status: --/WL; County Group 1

Distribution: In San Diego County, the species has widespread distribution, but occurs in small numbers and only during winter.



Habitat: Breeds within most closed-canopy woodlands and forests, including riparian habitats, from sea level to near alpine elevations, generally nesting in trees near openings. Wintering habitat is similar to breeding habitat, but more expansive to include suburban and agricultural areas.

Status on Site: A single individual was observed flying overhead at the intersection of Segment 2c and Segment 3. Suitable wintering and foraging habitat occur within the Study Area in Segments 1, 2a, 2b, 4, 5, 6a, and 6b, but the species would not be expected to breed in the area, based on the known breeding range of the species, which is concentrated in the northern United States and Canada and does not reach southern California, and general lack of confirmed breeding locations within San Diego County.

Southern California rufous-crowned sparrow (Aimophila ruficeps canescens)

Status: --/WL; County Group 1; MSCP Covered

Distribution: Observed throughout coastal lowlands and foothills of San Diego County.

Habitat: Found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral habitat types. This species prefers areas with California sagebrush, but is generally absent from areas with dense stands of coastal sage scrub or chaparral habitat. The species may occur on steep grassy slopes without shrubs, if rock outcrops are present.

Status on site: Several individuals were detected within and adjacent to the Study Area. Found at one location within Diegan coastal sage scrub habitat within Segment 2, at two locations north and south of Segment 3, and at two locations north of Segment 6b. This species was not observed in Segments 1, 4, 5, or 6a; however, it has high potential to occur in Segment 4, due to the presence of Diegan coastal sage scrub habitat similar to where the species was detected. This species has low potential to occur in Segments 1, 5, and 6a due to the lack of suitable habitat.

Arroyo toad (Anaxyrus californicus)

Status: FE/SSC; County Group 1; MSCP Covered

Distribution: Coastal southern California to northwestern Baja California.

Habitat: Observed on banks with open-canopy riparian forest characterized by willows, cottonwoods, or sycamores. Breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months.

Status on site: The species has been extensively documented within the vicinity of the project, with numerous observations of arroyo toads reported upstream of the Sweetwater River Bridge crossing. Additional sightings have been reported between Lake Emma and the Sweetwater Bridge crossing, with locations mostly concentrated near the bridge. During the 2019 focused surveys, numerous arroyo toads were observed within 500 feet of the Study Area, although there were no observations within the Study Area itself. The majority of toad observations occurred in the Sweetwater River south of the confluence with the North Fork Sweetwater River, east of Sloane Canyon Road, to the east of Segments 2a and 4a. One individual was observed to the east of the northern portion of Segment 2 along Harbison Canyon Creek, and one was observed north of Segment 5a near Beaver Hollow. No arroyo toad individuals were observed in Segments 1, 3, 6a, and 6b, nor do those segments support suitable habitat. USFWS-designated habitat for the species occurs within Segments 4 and 5.

Belding's orange-throated whiptail (Aspidoscelis hyperythra beldingi)

Status: --/WL; County Group 2; MSCP Covered

Distribution: Southern Orange County and southern San Bernardino County, as well as south through Baja California below 3,500 feet.

Habitat: Occurs in coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).



Status on site: Eight individuals were recorded in multiple areas of the Study Area. The species was detected in four locations within Segment 6b just north of Dehesa Road within Diegan coastal sage scrub and disturbed habitat. One individual was observed along Sloane Canyon Road in Segment 2. Another individual was observed at the eastern end of Segment 3. Another individual was observed along Sloane Canyon Road just east of Segment 4. The species was detected in two locations within Segment 5 just south of Sloane Canyon Road within scrub oak chaparral and Diegan coastal sage scrub. The species was not observed in Segments 1, 6a; however, suitable habitat occurs in each of these segments.

San Diego tiger (Coastal) whiptail (Aspidoscelis tigris stejnegeri)

Status: --/SSC; County Group 2

Distribution: Ventura County south, in cismontane California, to south-central Baja California. **Habitat:** Inhabits open coastal sage scrub, chaparral, and woodland habitats. Frequently found along the edges of dirt roads traversing their habitat. Important habitat components for the species include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.

Status on site: A single individual was observed within Diegan coastal sage scrub located along Sloane Canyon Road. The individual was located outside of the Study Area, east of Segment 4. The species was not observed in Segments 1, 2, 3, 5, 6a, and 6b. Potential to occur in these segments is low given that only one individual was observed in Segment 4 during multiple surveys for this project.

Oak titmouse (Baeolophus inornatus)

Status: BCC/--

Distribution: Oregon to northwestern Baja California.

Habitat: Prefers oak woodland habitat, but may occur in open pine, mixed oak-pine forest, pinyon woodland, juniper woodland, and riparian or chaparral habitats with oaks.

Status on site: Heard singing directly to the east of the Segment 2 Study Area, within southern coast live oak riparian forest and coast live oak woodland habitat along Sweetwater River. The species was not observed in Segments 1, 3, 4, 5, 6a, and 6b. Species is not expected to occur in Segments 6a and 6b, and potential to occur in segments 1, 3, 4, and 5 is low given the species was only observed in one location along Segment 3 during multiple surveys for this project.

Red-shouldered hawk (Buteo lineatus)

Status: --/--; County Group 1

Distribution: In San Diego County, observed throughout coastal slope, often located near a water source, such as a stream or pond.

Habitat: Occurs in riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.

Status on site: Heard calling from riparian habitat located along Sweetwater River to the east of Segment 2 and observed flying overhead in the area. Suitable breeding habitat includes riparian and woodland habitats found along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow along Segments 1 and 5. Species was not observed and suitable breeding habitat does not occur within Segments 3, 4, 6a, and 6b, but species could forage over these segments.

Costa's hummingbird (Calypte costae)

Status: BCC/--

Distribution: Occurs year-round in southern California breeding along the coast in sage scrub and chaparral habitats from Santa Barbara County south to San Diego County, and east to desert regions of Inyo County south to Imperial County.



Habitat: This species inhabits deserts and xeric habitats. Breeding habitats include Sonoran Desert scrub, Mojave Desert scrub, coastal sage scrub, and chaparral.

Status on site: Individual detected within coastal sage scrub habitat to the east of Sweetwater River and west of Sloane Canyon Road and Segment 2. Species was not observed in Segments 1, 3, 4, 5, 6a, and 6b; however, suitable breeding habitat includes coastal sage scrub and chaparral habitats found throughout the Study Area.

Turkey vulture (Cathartes aura)

Status: --/--; County Group 1

Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest.

Habitat: Foraging habitat includes most open habitats, with breeding occurring in crevices among boulders. Roosts communally, preferring stands of large trees or hilly areas, usually away from human disturbance.

Status on site: Individuals observed flying overhead within Segment 3. Suitable foraging and roosting habitat occurs within riparian and woodland habitats along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow in Segments 1, 2, 4, 5, 6a, and 6b, but species is unlikely to nest within the Study Area.

Monarch butterfly (Danaus plexippus)

Status: --/--; County Group 2

Distribution: Winter roost sites extend along the coast from northern Mendocino south to Baja California, Mexico.

Habitat: Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.).

Status on site: Species observed flying within Diegan coastal sage scrub east of Segment 2a, and within non-native grassland north of the western portion of Segment 6b. Species was not observed within Segments 1, 2b, 2c, 3, 4, 5, or 6a, but could potentially fly over these segments; however, no larval host plants or communal roosting sites were observed within the Study Area.

Quino checkerspot butterfly (Euphydryas editha quino)

Status: FE/--; County Group 1

Distribution: Populations are known to exist as several, likely isolated, colonies in southwestern Riverside County, southern San Diego County, and northern Baja California, Mexico. The San Diego populations are mainly limited to areas of Otay Mountain, Brown Field, sections of Otay Mesa, Jamul, Marron Valley and Jacumba.

Habitat: Primary larval host plants in San Diego are dwarf plantain at lower elevations, and woolly plantain (*P. patagonica*) and white snapdragon (*Antirrhinum coulterianum*) at higher elevations. Owl's clover is considered a secondary host plant, if primary host plants have senesced. Potential habitat includes vegetation communities with areas of low-growing and sparse vegetation. These habitats include open stands of sage scrub and chaparral, adjacent open meadows, old foot trails, and dirt roads.
Status on site: A single Quino was observed along the existing trail within Segment 2c on April 8, 2019 during the sixth week of protocol Quino surveys. Additional recorded observations occur in the surrounding area within the SDNWR, within half a mile north of Segment 6b, approximately 500 feet southwest of Segment 3. Besides the single individual observed on April 8, 2019, no other Quino or newly emerged Quino were observed during survey weeks one through five. Therefore, while a single Quino was observed flying through the Study Area, the survey did not document Quino breeding within the Study Area. Quino was not observed along Segments 1, 2a, 2b, 3, 4a, 4b, 5a, 5b, 6a, 6b, or the surveyed portion of Segment 4c during



protocol Quino surveys conducted in 2019, and thus these segments are considered unoccupied by the species. The potential for Quino within the Segment 4c Additional Study Area is expected to be low, based on the thick chaparral in the northern portion, the lack of hilltops or openings, and the lack of larval host plants within Segment 4c.

Caspian tern (Hydroprogne [Sterna] caspia)

Status: BCC/--

Distribution: Occurs in North America along the Pacific coast, central Canada, the west-central U.S., the Gulf Coast, the Atlantic coast, and the Great Lakes.

Habitat: Occurs along coastlines, large rivers, and large inland freshwater lakes. May occur in freshwater marsh, estuaries, saltwater marsh, beaches, and islands. In San Diego County, occurs in areas with fresh to brackish water.

Status on site: This species was observed within the vicinity of Lake Emma, south of the Segment 1 Study Area. This species was not observed and is not expected to occur along Segments 2, 3, 4, 5, 6a, and 6b.

Yellow-breasted chat (Icteria virens)

Status: --/SSC; County Group 1

Distribution: Occurs throughout San Diego County's coastal lowlands during the breeding season. **Habitat**: Inhabits mature riparian woodland.

Status on site: Multiple individuals observed within and adjacent to the Study Area Segments 1, 2, and 5, within riparian habitat present along Sweetwater River. Species was not observed and is not expected along Segments 3, 4, 6a, and 6b.

Lewis' woodpecker (Melanerpes lewis)

Status: BCC/--; County Group 1

Distribution: Uncommon winter visitor to San Diego County, usually observed in foothills and mountains.

Habitat(s): Occurs within open ponderosa pine forest, open riparian woodland dominated by cottonwood, and logged or burned pine forest. Breeding birds are also found in oak woodland, nut and fruit orchards, piñon pine-juniper woodland, pine and fir forests, and agricultural areas.

Status on site: A single individual was observed perched on a Peruvian pepper tree within Segment 2. Suitable wintering habitat occurs within the southern portion of the Study Area where riparian, woodland and orchard habitats are present within and adjacent to Segment 5. Species was not observed and is not expected in Segments 1, 3, 4, 6a, and 6b. The species would not be expected to breed within the Study Area, as the site is located outside of the species' known breeding range and there are no breeding records within San Diego County (Unitt 2004).

Mule deer (Odocoileus hemionus)

Status: --/--; County Group 2; MSCP Covered

Distribution: Riverside County (Tahquitz Valley) south on the coastal slope to the vicinity of San Quintin, Baja California, Mexico.

Habitat: Occurs in coastal sage scrub, riparian and montane forests, chaparral, grasslands, croplands, and open areas if there is at least some scrub cover present. Mule deer activity is crepuscular and movements are along routes that provide the greatest amount of protective cover.

Status on site: Multiple tracks and scat were observed within the Study Area and adjacent areas during surveys. Sign was observed to the west of Segment 2 along Sweetwater River. An individual was



observed within riparian habitat along Sweetwater River to the east of Segment 4. Species was not observed along Segments 1, 3, 5, 6a, and 6b, but could move through those Segments.

American white pelican (Pelecanus erythrorhynchos)

Status: --/SSC

Distribution: Scattered throughout San Diego County in winter.

Habitat(s): Inhabits shallow, coastal wetlands and inland lakes.

Status on site: A single individual was observed on Lake Emma to the south of Segment 1. Species would be expected to utilize overwintering habitat west of Segment 2, mainly Lake Emma and open water along Sweetwater River. However, the species is not anticipated to breed within the Study Area, as the project is located outside of the species' known breeding range and there are no breeding records for the species within San Diego (Unitt 2004). Overwintering habitat for this species does not occur along Segments 3, 4, 5, 6a, and 6b.

Blainville's [Coast] horned lizard (Phrynosoma blainvillii [coronatum])

Status: --/SSC, MSCP Covered, County Group 2

Distribution: Northern California though coastal southern California and into northern Baja California. **Habitat:** Occurs in coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil. This species requires native ants, especially harvester ants (*Pogonomyrmex* sp.), and is generally excluded from areas invaded by Argentine ants (*Linepithema humile*).

Status on site: A single individual was observed along an existing dirt trail within Segment 2c. Species was not observed within Segments 1, 2a, 2b, 3, 4, 5, 6a, and 6b; however, suitable habitat occurs throughout the Study Area and is found within each of the proposed trail segments.

Coastal California gnatcatcher (Polioptila californica californica)

Status: FT/SSC; County Group 1; MSCP Covered

Distribution: In San Diego County, occurs throughout coastal lowland habitats.

Habitat: Occurs in coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub habitat types. **Status on site**: Protocol-level surveys conducted in spring and summer of 2019 detected the species at one location along Segment 2c, two locations along Segment 3, and two locations north of Segment 6b. Critical habitat for the species occurs within the western portion of Segment 6b. Protocol surveys were negative for Segments 1, 2a, 2b, 4, 5, and 6a.

Mountain lion (Puma [Felis] concolor)

Listing: --/--; County Group 2; MSCP Covered

Distribution: Western North America from British Columbia through California and into Mexico. **Habitat**: Occurs in areas that are generally mountainous with semi-arid terrain, as well as subtropical forests, tropical forests, and swamps.

Status on site: Fresh scat was observed along Sweetwater River, upstream of the Sweetwater Bridge crossing and east of the southern end of Segment 2. Furthermore, multiple occurrences of the species have been documented within the project vicinity. Species was not observed along Segments 1, 3, 4, 5, 6a, and 6b, but could move through those Segments.

Yellow warbler (Setophaga petechia)

Status: BCC/SSC; County Group 2

Distribution: Observed throughout California during the breeding season, with rare sightings in winter.



Habitat: Occurs in riparian woodland, riparian forest, mule fat scrub, and southern willow scrub habitat types.

Status on site: Multiple individuals were detected within riparian habitat present along Sweetwater River, as well as adjacent habitats, such as eucalyptus woodland, in or near Study Area Segments 1, 2, and 5. Species was not observed and is not expected to occur in Segments 3, 4, 6a, and 6b.

Lawrence's goldfinch (Spinus lawrencei)

Status: BCC/--

Distribution: Generally occurs in California from Shasta county to northern Baja California, as well as southern Arizona.

Habitat: Breeds solely in arid and open woodlands near brushy areas, fields of tall annual weeds, and a water source. This species may also inhabit pastures, meadows, agricultural fields, disturbed areas, ornamental vegetation, coastal and riparian scrub, desert oases and washes, and mesquite woodland habitat types.

Status on site: Several individuals were observed within the Study Area, perched on top of vegetation at one location within Segment 2. Suitable breeding habitat is present within and adjacent to the Study Area, especially where coast live oak woodland and riparian habitats occur near grassland and open areas within Segments 1and 5. Species was not observed and is not expected to occur in Segments 3, 4, 6a, and 6b.

Two-striped garter snake (Thamnophis hammondii)

Status: --/SSC; County Group 1

Distribution: Monterey County south through the coastal ranges and into northwestern Baja California. **Habitat:** Occurs along permanent and intermittent streams bordered by dense riparian vegetation, and occasionally associated with vernal pools or stock ponds.

Status on site: A single individual was observed in Segment 5, to the south of Sloane Canyon, within scrub oak chaparral habitat near Beaver Hollow. High quality suitable habitat for the species occurs along the Sweetwater River in Study Area Segments 1 and 2. Species was not observed and is not expected to occur in Segments 3, 4, 6a, and 6b.

Least Bell's vireo (Vireo bellii pusillus)

Status: FE/SE; County Group 1; MSCP Covered

Distribution: Observed throughout coastal southern California in the breeding season, south of Santa Barbara, but in smaller numbers in foothills and mountains.

Habitat: Inhabits riparian woodland, riparian forest, mule fat scrub, and southern willow scrub habitat types.

Status on site: Protocol surveys conducted in 2019 detected multiple individuals within 500 feet of the proposed trail alignments, documented within riparian habitat present along Sweetwater River and Lake Emma. Singing males were detected in twelve separate locations downstream of the Sweetwater Bridge crossing to Lake Emma. Least Bell's vireos were located south of Segment 1 and west of Segment 2. Protocol surveys were negative for Segments 3, 4, 5, 6a, and 6b.

Special Status Animal Species with Potential to Occur

Special status animal species present on-site or with potential to occur on-site are included in Appendix D of this report. Refer to Appendix E of this report for an explanation of status codes. There are two County Group 1 species with High potential to occur: southwestern pond turtle (*Actinemys pallida*, County Group 1, MSCP Covered, MSCP NE) and Bell's sparrow (*Artemisiospiza belli*, County Group 1,



BCC/WL). Western pond turtle has high potential to occur in study area Segments 1 and 2 in Lake Emma and ponded areas along the Sweetwater River. No impacts will occur to this species' aquatic habitat, and the species is not discussed further in this report. Bell's sparrow has high potential to occur in study area Segments 2, 3, 4, 5, and 6b. The species' habitat requirements are similar to the coastal California gnatcatcher, and pre-construction nesting bird surveys will also protect the Bell's sparrow; therefore, the species is not discussed further in this report.

There are 13 SSC species with High potential to occur in the following segments: western spadefoot toad (Spea hammondii, County Group 2, SSC, Segments 2, 4, and 5), San Diegan legless lizard (Anniella stebbinsi, County Group 2, SSC, Segments 1, 2, and 5), California glossy snake (Arizona elegans occidentalis, SSC, Segments 1, 2, and 5), red diamond rattlesnake (Crotalus ruber, County Group 2, SSC, Segments 2, 3, 4, 5, and 6b), pallid bat (Antrozous pallidus, County Group 2, SSC, all segments), Dulzura pocket mouse (Chaetodipus californicus femoralis, County Group 2, SSC, Segments 2, 3, 4, 5, and 6b), northwestern San Diego pocket mouse (Chaetodipus fallax fallax, County Group 2, SSC, Segments 2, 3, 4, 5, and 6b), Townsend's big-eared bat (Corynorhinus townsendii pallescens, County Group 2, SSC, Segments 1, 2, and 5), western mastiff bat (Eumops perotis californicus, County Group 2, SSC, all segments), western red bat (Lasiurus blossevillii, County Group 2, SSC, Segments 1, 2, and 5), San Diego desert woodrat (*Neotoma lepida intermedia*, County Group 2, SSC, Segments 2, 3, 4, 5, and 6b), pocketed free-tailed bat (Nyctinomops femorosaccus, County Group 2, SSC, all segments), and American badger (Taxidea taxus, County Group 2, SSC, MSCP Covered, Segments 2, 3, 4, 5, and 6b). All of these species are either County Group 2 species, or not County listed as sensitive. County Group 2 species are relatively common and widespread throughout the South County MSCP Subarea, such that even if these species were confirmed present, removal of a small amount of habitat would not impact the local longterm survival of the species. In addition, impacts to potential habitat would be minimal compared to the amount of habitat present in the project vicinity and not proposed to be impacted. In addition, the American badger is mostly nocturnal, and construction activities, as well as trail use, would occur during daylight hours. Therefore, direct human impacts are not anticipated for this species. Finally, project impacts would be less than significant for these Group 2 species because the underlying habitat these species occur in would be mitigated for, should the habitat be impacted. Therefore, these 13 species are not discussed further in this report.

There are seven County Group 2 species that are not SSC species with High potential to occur in the following segments: San Diego ring-necked snake (*Diadophis punctatus similis*, County Group 2, all segments) rosy boa (*Lichanura orcutti*, County Group 2, all segments), Coronado skink (*Plestiodon skiltonianus interparietalis*, County Group 2, WL, all segments), great blue heron (*Ardea herodias*, County Group 2, Segments 1, 2, 4a, 4b, and 5), green heron (Butorides virescens, County Group 2, Segments 1, 2, and 5), small-footed myotis (*Myotis ciliolabrum*, County Group 2, all segments), and Yuma myotis (*Myotis yumanensis*, County Group 2, Segments 1, 2, and 5). County Group 2 species are relatively common and widespread throughout the South County MSCP Subarea, such that even if these species were confirmed present, removal of a small amount of habitat would not impact the local long-term survival of the species. In addition, impacts to potential habitat would be minimal compared to the amount of habitat present in the project vicinity and not proposed to be impacted. Finally, project impacts would be less than significant for these Group 2 species because the underlying habitat these species occur in would be mitigated for, should the habitat be impacted. Therefore, these seven species are not discussed further in this report.



Raptor Foraging

Five species of raptors were observed flying over the Study Area during the 2019 biological surveys. Raptors observed during these surveys include Cooper's hawk, sharp-shinned hawk, red-tailed hawk, red-shouldered hawk, and turkey vulture.

The County (2010b) defines raptor foraging habitat as, "Land that is a minimum of five acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." The non-native grassland and disturbed habitat within the Study Area could be potential raptor foraging habitat based on this definition, as each occupies greater than five acres and supports burrows of common small mammals, namely California ground squirrel (*Otospermophilus beecheyi*). The overall foraging value of the site is relatively high and is likely functioning as a local or regional foraging resource of importance for raptors.

1.4.12 Jurisdictional Waters and Wetlands

Jurisdictional waters and riparian habitat are present within the Study Area and are further discussed below. The project Study Area is along the Sweetwater River, approximately 3 miles west of the Loveland Reservoir, approximately 9.5 miles northeast of the Sweetwater Reservoir, and is located within the Sweetwater Watershed (230 square miles). The Sweetwater River is an intermittent system that conveys stream flows in a southwesterly direction to San Diego Bay in Chula Vista. The portion of Sweetwater River within the project Study Area receives water from tributaries, as well as runoff from culverts that collect water from drainage swales, roadside ditches, and adjacent development. Influence from manmade water sources includes the runoff from adjacent development and golf course irrigation, as well as the Sweetwater Authority's operation of Loveland Dam for flood control and municipal water storage.

Jurisdictional waters and riparian habitat within the Study Area are primarily associated with ephemeral drainages that are tributary to the Sweetwater River. The Sweetwater River intersects the Study Area at the southern bridge crossing Sloane Canyon Road. Additionally, two intermittent tributaries to the Sweetwater River intersect the Study Area: Harbison Canyon Creek flows west at the northern bridge crossing Sloane Canyon Road and Beaver Hollow flows north at across an Arizona crossing at Sloane Canyon Road.

Waters of the U.S./State

USACE- and RWQCB-jurisdictional waters within the Study Area include 0.15 acre and 594 linear feet of non-wetland waters of the U.S./State (Table 3; Figure 12). No wetland Waters of the U.S./State were mapped within the Study Area.





0 1,100 Feet



Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Waters of the U.S./State

Figure 12

Waters of the	Acreage ¹							
U.S./State	Segment 6a	Segment 6b	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total
Wetland Waters								
Subtotal	0	0	0	0	0	0	0	0
Non-wetland Waters								
Non-vegetated channel/Streambed		0.02	<0.01 (0.004)	0.10			0.03	0.15
Subtotal	0	0.02	<0.01 (0.004)	0.10	0	0	0.03	0.15
TOTAL	0	0.02	<0.01 (0.004)	0.10	0	0	0.03	0.15

Table 3 WATERS OF THE U.S./STATE

¹ Acres rounded to the nearest hundredth.

Five jurisdictional drainage features supporting non-wetland Waters of the U.S./State intersect the Segment 6b Study Area on the north side of Dehesa Road. All five ephemeral drainages either drain into culverts beneath Dehesa Road or into roadside ditches.

Two jurisdictional drainage features supporting non-wetland Waters of the U.S./State intersect the Segment 1 Study Area south of Dehesa Road. Both of these ephemeral drainages flow from culverts through upland vegetation, becoming barely distinguishable where they cross the existing trail.

Segment 2 has two jurisdictional features within the Study Area, both of which are associated with the existing bridges that cross Sloane Canyon Road. The northern bridge crosses Harbison Canyon Creek, an intermittent non-wetland Waters of the U.S./State that drains directly into the Sweetwater River located to the west of the Bridge. The southern bridge crosses the intermittent Sweetwater River and non-wetland Waters of the U.S./State were mapped immediately east and west of the bridge.

No USACE/RWQCB jurisdictional features were mapped within the Segment 3 and Segment 4 Study Areas.

Five jurisdictional drainage features supporting non-wetland Waters of the U.S./State intersect the Segment 5 Study Area. Three of the ephemeral drainages drain into culverts beneath Sloane Canyon Road and a smaller one flows across the road. The largest drainage feature within the Segment 5 Study Area is associated with the intermittent Beaver Hollow that flows north across an Arizona Crossing directly into the Sweetwater River.

California Department of Fish and Wildlife Jurisdiction

CDFW jurisdictional riparian habitat and streambed within the Study Area total 2.74 acres of riparian habitat and 0.16 acre of streambed (Table 4; Figure 13). CDFW riparian habitat within the Study Area consists of southern coast live oak riparian forest, southern riparian forest, southern willow scrub, mule fat scrub, and scrub oak chaparral. The scrub oak chaparral consists of two coast live oak trees that were present within a USACE jurisdictional drainage.



	Acreage ¹							
Habitat Type	Segment 6a	Segment 6b	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total
Riparian Habitat								
Southern coast live oak riparian forest				0.25			2.21	2.46
Southern riparian forest				0.13				0.13
Southern willow scrub				0.01				0.01
Mule fat scrub				0.14				0.14
Scrub oak chaparral							<0.01 (0.006) ²	0.01 ³
Subtotal	0	0	0	0.53	0	0	2.21	2.74
Unvegetated Streambed								
Non-vegetated channel/Streambed		<0.01 (0.004)		0.16				0.16
Subtotal		<0.01 (0.004)	0	0.16	0	0	0	0.16
TOTAL	0	<0.01 (0.004)	0	0.69	0	0	2.21	2.90

Table 4 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

¹ Acres rounded to the nearest hundredth.

² Two coast live oak trees within a USACE jurisdictional drainage.

The locations of the CDFW streambed within the Study Area correspond with the USACE and RWQCB jurisdictional features categorized as non-wetland Waters of the U.S./State. CDFW riparian habitat was mapped on both banks of the Sweetwater River, at the northern and southern bridge crossing within the Segment 2 Study Area, and also within three of the five jurisdictional drainage features supporting non-wetland Waters of the U.S./State and CDFW streambed within the Segment 5 Study Area, including along the banks of the intermittent Beaver Hollow.

1.4.13 Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources, such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas, as well as important functional linkages and movement corridors between them. The Study Area occurs mostly within lands identified as PAMA under the South County MSCP Subarea Plan (Figure 4). The Study Area is shown in the South County MSCP as the McGinty







Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

CDFW Jurisdictional Areas

Figure 13

Mountain/Sequan Peak-Dehesa Biological Resource Core Area (BRCA) and, except for the portion of the Study Area adjacent to the golf course, the majority of habitat within the Preserve is ranked by the MSCP Habitat Evaluation Model as very high and high habitat value, based on the potential to support coastal California gnatcatcher, high biological diversity/species richness, target species, and wildlife corridors. Consequently, the Study Area is expected to be important for the movement of wildlife in the region.

The Study Area is contiguous with large, continuous blocks of undeveloped areas, including the SDNWR in the northwest end of the Study Area, and the SDNWR south of the Study Area. The Sweetwater River and Lake Emma provide permanent water sources and cover for a wide range of species known to the region, including amphibians, birds, and mammals. Large mammals, such as southern mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*), would be expected to travel to and from the Sweetwater River/Sweetwater Reservoir and expansive habitat blocks associated with the SDNWR. Large mammals would also be expected to travel along the Sweetwater River valley and riparian corridor. Birds would be expected to move unobstructed between key habitat blocks of coastal sage scrub and riparian habitat providing important breeding, foraging, and dispersal functions. Key blocks of coastal sage scrub habitat where coastal California gnatcatchers are known to occur include the SDNWR.

1.5 APPLICABLE REGULATIONS

Biological resources in the Study Area are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply include federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), and CFG Code.

With respect to the proposed project, the USFWS will be responsible for reviewing issues related to migratory birds pursuant to the MBTA and project consistency with the adopted South County MSCP Subarea Plan. The USACE and RWQCB will be responsible for reviewing issues related to Waters of the U.S./State pursuant to the CWA. The CDFW will be responsible for reviewing issues related to riparian habitat and streambeds pursuant to CFG Code, nesting birds and raptors pursuant to CFG Code, and project consistency with the adopted South County MSCP Subarea Plan.

The County is the lead agency for the CEQA environmental review process, in accordance with state law and local ordinances. During CEQA review, the County is responsible for reviewing the project, per the Guidelines for Determining Significance for Biological Resources (County 2010b). The County will also be responsible for reviewing the project with respect to consistency with the County BMO and adopted South County MSCP Subarea Plan.

1.5.1 Federal Government

Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue,



hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is a term defined and used in the FESA and refers to specific geographic areas that contain features considered necessary for endangered or threatened species to recover. Critical habitat designations can include areas that are not currently occupied by the species, as the ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. Only activities that involve a federal permit, license, or funding require consultation with the USFWS.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' use of a site and there is an associated federal action for a proposed impact (e.g., the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits. The MSCP is a regional HCP that was developed pursuant to Section 10(a) of the ESA.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to September 15; beginning January 15 for raptors). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments.



1.5.2 State of California

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process, in accordance with existing laws and regulations.

California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species, if specific criteria are met. The MSCP is a regional Natural Communities Conservation Plan that was granted take coverage under Section 2081 of the CESA for specific species.

Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the state legislature's intent to "...preserve, protect, and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.



Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits. The County MSCP Subarea Plan is an NCCP plan adopted for South County.

1.5.3 County of San Diego

The County regulates natural resources (among other resources) via the MSCP and BMO, as discussed below. County guidelines for the oak tree root protection zone are provided in the County Report Format and Content Requirements (County 2010a).

Multiple Species Conservation Program

The California Natural Communities Conservation Planning (NCCP) Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. A Natural Communities Conservation Program initiated by the State of California focuses on conserving coastal sage scrub, and in concert with the USFWS and the federal ESA, is intended to avoid the need for future federal and state listing of coastal sage scrub-dependent species.

The San Diego MSCP Plan for the southwestern portion of San Diego County was approved in August 1998 and covers 85 species (County 1998). The City of San Diego, portions of the unincorporated County, and 10 additional city jurisdictions make up the San Diego MSCP Plan area. It is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve.



County MSCP Subarea Plan

The South County MSCP Subarea Plan (County 1997) implements the MSCP within the unincorporated areas under County jurisdiction. It was adopted by the Board of Supervisors in March 1998. The County Subarea Plan is divided into three Segments: Lake Hodges, Metropolitan-Lakeside-Jamul, and South County. The Plan addresses areas authorized for take and planned for conservation, including portions of the South County Segment that are conserved, subject to agreements with the Wildlife Agencies. Take of covered species and their habitat is authorized for projects that satisfy the requirements of the County's BMO.

The majority of the Study Area is designated in the South County MSCP Subarea Plan as PAMA, which are areas of high conservation values, and are important to the success of the regional preserve system. The rest of the Study Area is unincorporated land in the Metro-Lakeside-Jamul Segment of the South County MSCP Subarea Plan (Figure 4).

Biological Mitigation Ordinance

The BMO is the ordinance by which the County implements the South County MSCP Subarea Plan at the project level within the unincorporated area to attain the goals set forth in the South County MSCP Subarea Plan. The BMO contains design criteria and mitigation standards that, when applied to projects requiring discretionary permits, protect habitats and species and ensure that a project does not preclude the viability of the MSCP Preserve System. In this way, the BMO promotes the preservation of lands that contribute to contiguous habitat core areas or linkages.

2.0 PROJECT EFFECTS

Direct impacts are immediate impacts resulting from permanent habitat removal including impacts from grading, grubbing, clearing, and fuel modification. Direct impacts were quantified by overlaying the limits of project-related impacts on the biological resources map of the site. Indirect impacts are actions that are not direct removal of habitat but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.) or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). Cumulative impacts are those caused by numerous projects in the region and their additive effect of multiple direct and indirect impacts to biological resources over time. It should be noted that although impacts are quantified as a single static number, the project is expected to be implemented in phases by trail segment. The proposed trail segments are based on the Design and Construction Guidelines of the County's Community Trails Master Plan of San Diego Trails Program (County 2005).

Following County Guidelines, 8.00 acres of the approximately 83-acre Study Area would be considered impacted as part of trail construction for the preferred trail alignment, including permanent impacts and temporary impacts (Figures 14a through 14g). Impacts to sensitive habitats from the preferred trail alignment (Segments 6a, 1, 2a, 3, 4a, and 5a) would total 2.67 acres. Several trail segments have multiple alignment options; however, any combination of segment options will not have a greater than 6.96-acre impact to sensitive habitats. Design of the proposed trail segments follow the County's Preserve Trail Guidelines (County 2018) and direct impacts to sensitive habitat, riparian areas, and jurisdictional resources are avoided to the greatest extent practicable.



2.1 SPECIAL STATUS SPECIES

2.1.1 Special Status Plant Species

Seven special status plant species were observed within the Study Area in 2019. None of these are federally listed.

San Diego Sagewort

San Diego sagewort is a CRPR 4.2 species, and County List D. This species was observed within the riparian habitat in the Study Area of Segment 2 and Segment 5 (Figures 14c and 14f). There will be no impact to San Diego sagewort, because neither of the two observed locations would be impacted and the potential for this species to occur in the Additional Study Area portion of Segment 4c is low due to the lack of riparian habitat there.

Dean's Milk-vetch

Dean's milk-vetch is a CRPR 1B.1 species, and County List A. This species was observed in and adjacent to the Segment 4 Study Area (Figure 14e). The thirty individuals observed within the Study Area for Segment 4 would be avoided, as would the ten individuals incidentally observed nearby. However, there is potential for this species to occur within the proposed Segment 4c impact footprint in the Additional Study Area.

San Diego Sunflower

San Diego sunflower is a CRPR 4.3 species and County List D. This species was abundant in Diegan coastal sage scrub habitat in the Segment 3 Study Area and at one location in the Segment 4 Study Area, with two locations in Segment 2. (Figures 14c, 14d, and 14e). Nine of the twelve mapped locations within the Study Area would be impacted, in Segments 2, 3, and 4, including only partial impacts to the large polygon mapped in Segment 4c; however, the species occurs within similar habitat adjacent to the Study Area and is widespread throughout the South County MSCP Subarea. The removal of a few individual plants within the Study Area, is not a significant impact given the abundance of this species across the South County Subarea.

Delicate Clarkia

Delicate clarkia is a CRPR 1B.2 species and County List A. This species was observed at two locations within the Study Area: within Segment 2 to the east of Sloane Canyon Road and within Segment 3 west of Sloane Canyon Road (Figures 14c and 14d). The species was also incidentally observed outside the Study Area just east of Segment 1, and outside the Study Area of Area 5 just south of Sloane Canyon Road, and has moderate potential to occur within the Segment 4c Additional Study Area, based on a nearby plant observation in similar habitat. There are no impacts anticipated to the plants observed in Segments 2 and 3; however, there is a potential for impacts to unmapped plants in Segment 4c.

Small-flowered Morning Glory

Small-flowered morning-glory is a CRPR 4.2 species and County List D. Approximately 1,000-2,000 individuals were observed in one area within the Segment 6b Study Area (Figure 14b). Segment 6b



Study Area

Invertebrates

Monarch Butterfly (*Danaus plexippus*)

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Amphibians

Arroyo Toad (Anaxyrus californicus)

Reptiles

- Belding's Orange-throated Whiptail (Aspidoscelis hyperythra beldingi)
- Blainville's (Coast) Horned Lizard (Phrynosoma blainvillii)
- San Diego Tiger (Coastal) Whiptail (Aspidoscelis tigris stejnegeri)
 Two-striped Garter Snake (Thamnophis hammondii)
- Two-striped Birds
- △ American White Pelican (*Pelecanus erythrorhynchos*)
- **Caspian Tern** (*Hydroprogne caspia*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- △ Cooper's Hawk (Accipiter cooperii)
- Costa's Hummingbird (*Calypte costae*)
- A Lawrence's Goldfinch (*Spinus lawrencei*)
- Least Bell's Vireo (Vireo bellii pusillus)
- △ Lewis's Woodpecker (*Melanerpes lewis*)
- △ Oak Titmouse (*Baeolophus inornatus*)
- A Red-shouldered Hawk (*Buteo lineatus*)
- A Sharp-shinned Hawk (*Accipiter striatus*)
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Turkey Vulture (*Cathartes aura*)
- A Yellow Warbler (*Setophaga petechia*)
- A Yellow-breasted Chat (*Icteria virens*)

Mammals

- Mountain Lion (*Puma concolor*)
- Mule Deer (*Odocoileus hemionus*)

Plants

- Ashy Spike Moss (*Selaginella cinerascens*)
- O Coast Live Oak (Quercus agrifolia)
- O Dean's Milk Vetch (Astragalus deanei)
- O Dehesa Beargrass (Nolina interrata)
- O Delicate Clarkia (*Clarkia delicata*)
- San Diego Sunflower (*Bahiopsis laciniata*)
- San Diego Sagewort (Artemisia palmeri)
- Small Flowered Morning Glory (*Convolvulus simulans*)

Plant Polygons

HELIX

- 😳 Dwarf Plantain
- 💭 San Diego Sunflower
- Dehesa Beargrass
- Small Flowered Morning Glory





Vegetation (Holland/Oberbauer)

Agriculture (18100)
Coast Live Oak Woodland (71160)
Coastal Sage-Chaparral Transition (37G00)
Diegan Coast Sage Scrub-Baccharis Dominated (
Diegan Coastal Sage Scrub (32500)
Disturbed Habitat (11300)
Eucalyptus Woodland (79100)
Mule Fat Scrub (63310)
Non-native Grassland (42200)
Non-native Vegetation (11000)
Non-vegetated Channel (64200)
Open Coast Live Oak Woodland (71161)
Open Water (64140)
Scrub Oak Chaparral (37900)
Southern Coast Live Oak Riparian Forest (61310
Southern Riparian Forest (61300)
Southern Willow Scrub (63320)
Tamarisk Scrub (63810)
Urban/Developed (12000)

Trail Alignment

		Segment 1
		Segment 2a
37G00)		Segment 2b
Dominated (32530)	—	Segment 2c
		Segment 3
		Segment 4a
		Segment 4b
	—	Segment 4c
		Segment 5a
	—	Segment 5b
		Segment 6a
1161)		Segment 6b
		Potential Hermes Copper Butterfly Habitat
	Quino	Checkerspot Butterfly Host Plants
orest (61310)		Chinese Houses (Collinsia heterophylla) Low Density
		Dwarf Plantain (Plantago erecta) Very High Density
		Dwarf Plantain (Plantago erecta) High Density
		Dwarf Plantain (Plantago erecta) Medium Density
		Dwarf Plantain (<i>Plantago erecta</i>) Low Density
		Purple Owl's Clover (Castilleja exserta) Very High Density
		Purple Owl's Clover (Castilleja exserta) High Density
		Purple Owl's Clover (Castilleja exserta) Medium Density
		Purple Owl's Clover (Castilleja exserta) Low Density
		Quino Checkerspot Butterfly Avoidance Area

Vegetation and Sensitive Resources Impacts – Overview

Sycuan-Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

Figure 14a



0 500 Feet



	Vegetation (Holland/Oberbauer)						
		Coast Live Oak Woodland (71160)					
		Diegan Coast Sage Scrub-Baccharis Dominated (32530)					
		Diegan Coastal Sage Scrub (32500)					
		Disturbed Habitat (11300)					
		Eucalyptus Woodland (79100)					
		Non-native Grassland (42200)					
(din ai)		Non-native Vegetation (11000)					
elaingi)		Open Water (64140)					
\		Southern Willow Scrub (63320)					
)		Urban/Developed (12000)					

Source: Aerial (SanGIS, 2017).

Vegetation and Sensitive Resources Impacts – Segment 6a & 6b

Figure 14b

Coast Live Oak Woodland (71160) Diegan Coastal Sage Scrub (32500) Disturbed Habitat (11300)

- Tamarisk Scrub (63810)





4

Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Vegetation and Sensitive Resources Impacts – Segment 1 and 6b

Figure 14c



Permanent Impacts \bigcirc Temporary Impacts Arroyo Toad Exclusion Area 2019 Sensitive Species Observations

Invertebrates

- Monarch Butterfly (Danaus plexippus)
- \mathbf{x} Quino Checkerspot Butterfly (Euphydryas editha quino)

Amphibians

Arroyo Toad (*Anaxyrus californicus*)

Reptiles

- Belding's Orange-throated Whiptail (Aspidoscelis hyperythra beldingi)
- Blainville's (Coast) Horned Lizard (Phrynosoma blainvillii)

Birds

- \triangle Caspian Tern (*Hydroprogne caspia*)
- Coastal California Gnatcatcher (Polioptila californica californica) \triangle
- \land Cooper's Hawk (Accipiter cooperii)
- Costa's Hummingbird (Calypte costae)
- \triangle Lawrence's Goldfinch (*Spinus lawrencei*)
- Least Bell's Vireo (Vireo bellii pusillus)
- \wedge Lewis's Woodpecker (Melanerpes lewis)
- \wedge Oak Titmouse (Baeolophus inornatus)
- \land Red-shouldered Hawk (Buteo lineatus)
- Sharp-shinned Hawk (Accipiter striatus) \wedge
- Southern California Rufous-crowned Sparrow (Aimophila ruficeps canescens)
- Yellow Warbler (*Setophaga petechia*) \triangle
- \triangle Yellow-breasted Chat (Icteria virens)

Mammals

- \diamond Mountain Lion (*Puma concolor*)
- \diamond Mule Deer (Odocoileus hemionus)

Plants

- \bigcirc Delicate Clarkia (Clarkia delicata)
- San Diego Sunflower (Bahiopsis laciniata)
- \bigcirc San Diego Sagewort (Artemisia palmeri)
- Coast Live Oak (Quercus agrifolia)
- 50-foot Coast Live Oak Root Protection Buffer

Plant Polygons

- $\overline{ }$ Dwarf Plantain
- San Diego Sunflower





Vegetation (Holland/Oberbauer)

Coast Live Oak Woodland (71160)

Diegan Coastal Sage Scrub (32500)

Quino Checkerspot Butterfly Avoidance Area

Disturbed Habitat (11300) Eucalyptus Woodland (79100)



Sycuan-Sloane Canyon Trail Project

Vegetation and Sensitive Resources Impacts – Segment 2

Figure 14d







Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017)

Vegetation and Sensitive Resources Impacts – Segment 3

Figure 14e



- Permanent Impacts \oslash
 - Temporary Impacts
- Arroyo Toad Exclusion Area

2019 Sensitive Species Observations

Invertebrates

- \mathbf{x} Monarch Butterfly (Danaus plexippus)
- \bigstar Quino Checkerspot Butterfly (Euphydryas editha quino) Amphibians

Arroyo Toad (Anaxyrus californicus)

Reptiles

- Belding's Orange-throated Whiptail (Aspidoscelis hyperythra beldingi)
- Blainville's (Coast) Horned Lizard (Phrynosoma blainvillii)
- San Diego Tiger (Coastal) Whiptail (Aspidoscelis tigris stejnegeri)

Birds

- \land Coastal California Gnatcatcher (Polioptila californica californica)
- \wedge Sharp-shinned Hawk (Accipiter striatus)
- Southern California Rufous-crowned Sparrow (Aimophila ruficeps canescens)
- \triangle Turkey Vulture (Cathartes aura)
- \triangle Yellow-breasted Chat (Icteria virens)

Mammals

 \diamond Mule Deer (Odocoileus hemionus)

Plants

- Ashy Spike Moss (Selaginella cinerascens) \bigcirc
- \bigcirc Dean's Milk Vetch (Astragalus deanei)
- \bigcirc Delicate Clarkia (Clarkia delicata)
- \bigcirc San Diego Sunflower (Bahiopsis laciniata)
- Coast Live Oak (Quercus agrifolia)
- 50-foot Coast Live Oak Root Protection Buffer

Plant Polygons

- Dwarf Plantain
- San Diego Sunflower

Vegetation (Holland/Oberbauer)

- Coast Live Oak Woodland (71160) Diegan Coastal Sage Scrub (32500) Disturbed Habitat (11300) Non-native Grassland (42200) Open Coast Live Oak Woodland (71161) Scrub Oak Chaparral (37900) Southern Coast Live Oak Riparian Forest (61310) Southern Riparian Forest (61300) Urban/Developed (12000) Potential Hermes Copper Butterfly Habitat Quino Checkerspot Butterfly Host Plants Chinese Houses (Collinsia heterophylla) Low Density Dwarf Plantain (Plantago erecta) High Density Dwarf Plantain (Plantago erecta) Medium Density Dwarf Plantain (Plantago erecta) Low Density
- Quino Checkerspot Butterfly Avoidance Area







Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Vegetation and Sensitive Resources Impacts – Segment 4

Figure 14f



300 Feet

Reptiles

Belding's Orange-throated Whiptail (Aspidoscelis hyperythra beldingi)

- Coast Live Oak (Quercus agrifolia)
- 50-foot Coast Live Oak Root Protection Buffer

- Southern Coast Live Oak Riparian Forest (61310) Southern Riparian Forest (61300)
- - Urban/Developed (12000)

- Purple Owl's Clover (Castilleja exserta) Low Density

HELIX

Vegetation and Sensitive Resources Impacts – Segment 5

Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Figure 14g
would impact a portion of the area where this species was observed. Small-flowered morning glory has high potential to occur in the non-native grassland to the north, outside of the Study Area, such that the removal of a few individuals of small-flowered morning glory by trail segment 6b would not be a significant impact.

Dehesa Beargrass

Dehesa beargrass is state listed endangered, CRPR 1B.1, County List A, MSCP covered, and MSCP Narrow Endemic. Eleven individuals of this species were observed at two locations in the Segment 6b Study Area during HELIX surveys in 2019 (Figure 14b). Trail Segment 6b, as currently designed, would impact one Dehesa beargrass location with 10 individuals, which would be a significant impact (however, the project would be designed to avoid this location if Segment 6b is selected).

Ashy Spike-moss

Ashy spike-moss is a CRPR 4.1 species and County List D. This species was observed within Diegan coastal sage scrub habitat west of Sloane Canyon Road in Segment 4 (Figure 14e). The location observed in Segment 4 will be impacted; however, the species occurs within similar habitat adjacent to the Study Area and is widespread throughout the South County MSCP Subarea. The removal of one location in Segment 4 is not a significant impact, given the abundance of this species across the South County Subarea.

2.1.2 Special Status Animal Species

A total of 24 special status animal species were detected within the Study Area during 2019 surveys, including 12 County Group 1 species, seven County Group 2 species, four species that are not on the County lists, but are federal Bird of Conservation Concern species, and one species that is not on the County lists, but is a state Species of Special Concern. Most project effects on wildlife species would be through reduction in suitable habitat used by that species, but because of the mobility of wildlife and amount of habitat available in the area, most impacts would not be significant. The effects of the project on these species are discussed below.

Arroyo Toad

Arroyo toad is a federally listed endangered, state Species of Special Concern, County Group 1, and South County MSCP Covered species. During the 2019 surveys, numerous arroyo toads were observed within 500 feet of the Study Area, with no observations within the Study Area itself. The majority of toad observations occurred in the Sweetwater River, south of the confluence with the North Fork Sweetwater River, east of Sloane Canyon Road, east of Segments 2 and 4 (Figures 14d and 14e). One individual was observed to the east of the northern portion of Segment 2 along Harbison Canyon Creek, and one was observed north of Segment 5 near Beaver Hollow (Figures 14c and 14f). USFWS-designated habitat for the species occurs within Study Area Segments 4 and 5, and near Segments 2 and 3 (Figure 8).

Primary Constituent Elements (PCEs) are physical and biological features that are essential to the conservation of a species and, within areas currently occupied by that species, that may require special management considerations or protection. According to the Revised Critical Habitat Designation for the arroyo toad, the PCEs of critical habitat for the arroyo toad (USFWS 2011) are the following:



- Rivers or streams with hydrologic regimes that supply water to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads. Breeding pools must persist a minimum of two months for the completion of larval development. However, due to the dynamic nature of southern California riparian systems and flood regimes, the location of suitable breeding pools may vary from year to year. Specifically, the conditions necessary to allow for successful reproduction of arroyo toads are:
 - Breeding pools that are less than six in (15 cm) deep;
 - Areas of flowing water with current velocities less than 1.3 ft per second (40 cm per second); and
 - Surface water that lasts for a minimum of two months during the breeding season (a sufficient wet period in the spring months to allow arroyo toad larvae to hatch, mature, and metamorphose).
- 2) Riparian and adjacent upland habitats, particularly low-gradient (typically less than six percent) stream segments and alluvial streamside terraces with sandy or fine gravel substrates that support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles; and adjacent valley bottomlands that include areas of loose soil where toads can burrow underground, to provide foraging and living areas for juvenile and adult arroyo toads.
- 3) A natural flooding regime or one sufficiently corresponding to a natural regime that (A) is characterized by intermittent or near-perennial flow that contributes to the persistence of shallow pools into at least mid-summer; (B) maintains areas of open, sparsely vegetated, sandy stream channels and terraces by periodically scouring riparian vegetation; and (C) also modifies stream channels and terraces and redistributes sand and sediment, such that breeding pools and terrace habitats with scattered vegetation are maintained.
- 4) Stream channels and adjacent upland habitats that allow for movement to breeding pools, foraging areas, overwintering sites, upstream and downstream dispersal, and connectivity to areas that contain suitable habitat.

Segment 6a is located entirely within uplands and does not contain suitable breeding, foraging, or aestivation habitat for arroyo toad. Segment 6a would not impact arroyo toad breeding habitat, aestivation, and foraging habitat, nor would it impact arroyo toad critical habitat, because Segment 6a does not occur within critical habitat for the species.

Segment 6b is located entirely within uplands and the majority of Segment 6b, located north of Dehesa Road, does not contain suitable breeding, foraging, or aestivation habitat for arroyo toad. The eastern portion of Segment 6b is located within one km of a mapped arroyo toad location, but it is considered unlikely that toads would cross the barrier of the heavily trafficked Dehesa Road. The easternmost portion of Segment 6b, south of Dehesa Road, has marginally suitable arroyo toad foraging/aestivation habitat. Segment 6b would not impact arroyo toad critical habitat, because Segment 6b does not occur within critical habitat for the species.

Segment 1 does not contain suitable breeding habitat, because it lacks the species' primary consistent elements (USFWS 2011), such as a naturally flooding regime, shallow breeding pools, and vegetated



sand and gravel bars. However, portions of the Segment 1 Study Area near Segment 2 have marginally suitable arroyo toad foraging/aestivation habitat. The rest of Segment 1 does not contain areas considered suitable for foraging, aestivation, or for breeding. The southeastern portion of Segment 1 is within one km of arroyo toad location(s). Segment 1 would not impact arroyo toad critical habitat, because Segment 1 does not occur within critical habitat for the species.

A single, foraging adult toad was observed approximately 200 feet east of Segment 2, along Harbison Canyon Creek; however, sufficient hydrology to support breeding activities (i.e., flowing water and the presence of shallow breeding pools) was not observed during biological surveys conducted for the project between February and June 2019. Therefore, it is unlikely that Harbison Canyon Creek, and the northern portion of Segment 2, supports breeding habitat for the species. The portion of Sweetwater River west of Segment 2 contains low quality suitable breeding habitat for arroyo toad. Segment 2 was designed on the east side of Sloane Canyon Road in order to separate it from potential arroyo toad habitat on the west side, and the trail footprint hugs the existing road in order to minimize impacts to the extent practicable, in compliance with the BMO. Riparian habitat along this portion of Sweetwater River is dense and contains large ponded areas that are unsuitable breeding pools for arroyo toad, and arroyo toad was not detected in this area during 2019 protocol surveys. Therefore, the northern portion of Segment 2 would not impact arroyo toad breeding habitat, but could impact aestivation and foraging habitat.

Multiple adult toads and toadlets were detected within 500 feet east of the southern portion of Segment 2a, in high-quality arroyo toad habitat, along the Sweetwater River, east of Sloane Canyon Road. Segment 2a was designed on the west side of Sloane Canyon Road in order to separate it from arroyo toad habitat and minimize impacts to the extent practicable, in compliance with the BMO. Arroyo toad breeding habitat is limited to the east side of Sloane Canyon Road, but toads could cross the road to forage and aestivate in the relatively flat, open habitat in the lower elevations of trail Segment 2b and 2c. The remainder of Segment 2c does not contain suitable arroyo toad breeding habitat and most likely would not be used for foraging or aestivation activities, due to its steeper slope, higher position on the landscape, and distance from riparian habitat. Segment 2 would not impact arroyo toad critical habitat, because Segment 2 does not occur within critical habitat for the species.

Segment 3 rises steeply away from Sloane Canyon Road and does not support suitable breeding, foraging, or aestivation habitat. Segment 3 would not impact arroyo toad critical habitat, because Segment 3 does not occur within critical habitat for the species.

Multiple adult toads and toadlets were detected east of the northern portion of Segment 4a, in high-quality arroyo toad habitat along the Sweetwater River, east of Sloane Canyon Road. Toads were observed within 500 feet of the Study Area, and within 200 feet from the proposed Segment 4a trail alignment. Arroyo toad breeding habitat is limited to the east side of Sloane Canyon Road. Trail Segment 4a will be routed along the paved road to minimize impacts to the extent practicable, in compliance with the BMO. Trail Segment 4b was shifted to the west side of Sloane Canyon Road, while Trail Segment 4c was shifted farther west and uphill from Sloane Canyon Road, in order to separate the trail from arroyo toad habitat and minimize impacts to the extent practicable, in compliance with the BMO. Trail Segment 4c does not contain suitable arroyo toad breeding habitat and most likely would not be used for foraging or aestivation activities, due to its steeper slope, higher position on the landscape, and distance from riparian habitat. Arroyo toad critical habitat occurs within the Segment 4 Study Area. Segment 4a would impact 0.23 acre of arroyo toad critical habitat, but the area to be impacted within critical habitat is entirely paved road surface and does not have PCEs. Segment 4b would impact 0.35 acre of arroyo toad



critical habitat and Segment 4c would impact 0.01 acre, but the area of critical habitat to be impacted for these segments is separated from arroyo toad breeding habitat by a steep hillside that would preclude arroyo toad access for foraging or aestivating.

A single toadlet was detected within 500 feet to the north of Segment 5, in suitable breeding, aestivation, and foraging habitat, north of Sloane Canyon Road. Trail Segments 5a and 5b were designed on the south side of Sloane Canyon Road in order to separate it from arroyo toad habitat, and the trail footprint is reduced by hugging the existing road (Segment 5b) or staying within the existing road (Segment 5a), in order to minimize impacts to the extent practicable, in compliance with the BMO. The trail alignment is located on the south side of Sloane Canyon Road, and would not likely be used for breeding, except potentially where Beaver Hollow comes in from the south. The trail alignment is located close enough to breeding habitat that it could potentially be used for arroyo toad aestivation and foraging. Segment 5 is located entirely within arroyo toad critical habitat. Segment 5a would have impacts to 0.84 acre of arroyo toad critical habitat; however, Segment 5a would be placed entirely within the existing roadway and would not impact critical habitat with PCEs. Segment 5b would impact 1.05 acre of arroyo toad critical habitat. The area to be impacted in Segment 5b is located on the edge of Sloane Canyon Road, and primarily impacts scrub oak chaparral, which is an upland habitat lacking PCEs for breeding, although toads could forage in that area. The only area that could be considered to support the PCEs for arroyo toad would be the area of southern coast live oak riparian forest associated with Beaver Hollow, and no trail improvements will be constructed within the Beaver Hollow crossing. Segment 5b does not impact southern coast live oak riparian forest or any other arroyo toad critical habitat containing PCEs.

Quino Checkerspot Butterfly

Quino is a federally listed endangered and County Group 1 species. One Quino was observed during the 2019 survey within the Segment 2c Study Area (Figure 14d). Besides the single individual observed on April 8, 2019, no other Quino or newly emerged Quino had been observed during survey weeks one through five. Therefore, while Quino was observed flying through the Study Area, the survey did not document Quino breeding within the Study Area. Larval host plants including dwarf plantain, purple owl's clover, and Chinese houses (*Collinsia heterophylla*) were mapped within the Study Area of Segments 2a, 2c, 3, 4b, and 5b, including low, medium, and high density host plant locations along Segment 2c. Impacts to host plant locations in the Quino Avoidance Area along Segment 2c would be considered significant because Quino was observed along Segment 2c.

There were only two host plant locations observed in the Segment 4b Study Area, both in the northeastern portion of the Study Area, and no host plant locations in Segment 4c. It should be noted that Segment 4c does not have independent utility without either Segment 2c or Segment 3. If Segment 4c were constructed before Segment 2c and Segment 3 it could lead to additional foot traffic through the high host plant areas along Segment 2c. This issue would be avoided with the preferred alignment and phasing plan, which is for Segments 1 and 2a to be built first, connecting to an existing staging area near the intersection of Segments 1 and 2 on Sycuan land (not a part) and avoiding impacts to host plant locations on Segment 2c. The second implementation phase will likely include Segment 4a and 5a along Sloane Canyon Road, which would avoid directing foot traffic onto Segment 2c. The third implementation phase will likely include Segment 3, which will connect to trails on the SDNWR when those trails open to the public. The last implementation phase will likely include the construction of Segment 6a along Dehesa Road. Segments 3 and 4 are considered unoccupied and will not impact Quino.



Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened, state Species of Special Concern, County Group 1, and South County MSCP covered species. Coastal California gnatcatcher were observed in the vicinities of Study Area Segments 2c, 3 and 6b during the 2019 protocol survey (Figures 14d, 14e, and 14b).

Segment 6a would not impact Diegan coastal sage scrub. Trail construction would occur within 500 feet of an observed gnatcatcher location, such that breeding season noise impacts could occur to coastal California gnatcatcher.

Segment 6b would permanently impact 1.67 acres of Diegan coastal sage scrub, a portion of which is occupied by coastal California gnatcatcher, based on the 2019 protocol survey results. Trail construction would occur within 500 feet of an observed coastal California gnatcatcher location, such that breeding season noise impacts could occur to the species.

Segment 6b is the only trail segment that would impact designated critical habitat for the coastal California gnatcatcher. Segment 6b would impact 0.93 acre of coastal California gnatcatcher critical habitat.

Segment 1 would not impact Diegan coastal sage scrub and would not pass within 500 feet of an observed coastal California gnatcatcher location documented during the 2019 protocol survey.

Segment 2a would impact 1.61 acres of Diegan coastal sage scrub. There were no coastal California gnatcatchers observed within 500 feet of Segment 2a during the 2019 protocol survey and the habitat along Segment 2a is considered unoccupied by the species.

Segment 2b would impact 1.69 acres of Diegan coastal sage scrub. There were no coastal California gnatcatchers observed within 500 feet of Segment 2b during the 2019 protocol survey and the habitat along Segment 2b is considered unoccupied by the species.

Segment 2c would impact 0.71 acre of Diegan coastal sage scrub. There was one coastal California gnatcatcher observed within 500 feet of Segment 2c during the 2019 protocol surveys and the Diegan coastal sage scrub along Segment 2c is considered occupied by the species

Segment 3 would impact 0.02 acre of Diegan coastal sage scrub. There were three coastal California gnatcatchers observed within 500 feet of Segment 3 during the 2019 protocol surveys and the Diegan coastal sage scrub along Segment 3 is considered occupied by the species. Segment 3 will impact 0.02 acre of occupied Diegan coastal sage scrub and has the potential for breeding season impacts to coastal California gnatcatcher.

Segment 4a would impact 0.06 acre of Diegan coastal sage scrub. There were no coastal California gnatcatchers observed within 500 feet of Segment 4 during the 2019 protocol survey and the habitat along Segment 4 is considered unoccupied by the species.

Segment 4b would 1.95 acres of Diegan coastal sage scrub. There were no coastal California gnatcatchers observed within 500 feet of Segment 4b during the 2019 protocol survey and the habitat along Segment 4b is considered unoccupied by the species.



Segment 5b would permanently impact 0.02 acre of Diegan coastal sage scrub. There were no coastal California gnatcatchers observed within 500 feet of Segment 5b during the 2019 protocol survey and the habitat along Segment 5 is considered unoccupied by the species.

Least Bell's Vireo

Least Bell's vireo is a federally and state listed endangered, County Group 1, and South County MSCP covered species. The species was observed along the Sweetwater River riparian corridor south of Segment 1 and west of Segment 2 (Figures 14b and 14c). The project would avoid impacts to riparian habitat occupied by Least Bell's vireo. Breeding season noise impacts to least Bell's vireo could occur from Segments 1, 2, and 6b.**Hermes Copper Butterfly**

Although potentially suitable habitat is present, including the species' host plant spiny redberry within 15 feet of California buckwheat, Hermes copper butterfly was not observed during focused species surveys in 2019. However, Segment 5 is located within a core occurrence area, according to the Species Status Assessment (USFWS 2018). Therefore, Segment 5 of the Study Area is considered to be occupied by Hermes copper butterfly, while the other segments are not. Impacts to Potential Hermes Copper Butterfly Habitat (shown as Hermes Copper Survey Areas on Figure 7) are considered significant, as are impacts to Occupied Hermes Copper Butterfly Habitat. Impacts are detailed in Table 5 below. Additional Potential Hermes Copper Butterfly Habitat (shown as Additional Hermes Copper Survey Areas on Figure 7) occurs within Segment 4c (Table 5). Impacts to Potential Hermes Copper Butterfly Habitat are considered significant, and impacts to occupied Hermes copper butterfly habitat in Segment 4c would be significant if protocol surveys conducted before construction were positive for this species (see Section 3.4 for mitigation measures for these impacts).



 Table 5

 SUMMARY OF HERMES COPPER BUTTERFLY HABITAT IMPACTS AND MITIGATION

Habitat	Mitigation Ratio	Segment 6a ^{1,2}		Segment 6b ^{1,2}		Segment 1 ^{1,2}		Segment 2 ²		Segment 3 ²		Segment 4 ²		Segment 5 ²		Preferred Alignment Total ^{1,2}	
		Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp. ³	Exist.	Imp.
Occupied Hermes Copper																	
Butterfly Habitat (Hermes	2:1 to 3:1 ⁴													0.14	0.07 ⁵	0.14	
Copper Survey Areas)																	
Occupied Hermes Copper																	
Butterfly Habitat (Additional	2:1 to 3:1 ⁴													0.03		0.03	
Hermes Copper Survey Areas)																	
Potential Hermes Copper																	
Butterfly Habitat (Hermes	1:1			0.02	0.01			0.05	0.01 ⁶	0.05	0.01					0.10	0.02
Copper Survey Areas)																	
Potential Hermes Copper																	
Butterfly Habitat (Additional	1:17											0.17	0.05 ⁸			0.17	
Hermes Copper Survey Area)																	
	TOTAL	0	0	0.02	0.01	0	0	0.05	0.01	0.05	0.01	0.17	0.05	0.17	0.07	0.44	0.0.02

1 If Segment 6b were built, Segments 6a and 1 would not be built and their impacts would not occur. If Segments 6a and 1 were built, Segment 6b would not be built and its impacts would not occur. Total is calculated assuming the preferred alignment: Segments 6a, 1, 2a, 3, 4a, 5a.

2 All impacts and mitigation are in acres rounded to the nearest 0.01.

3 Because the mitigation ratio is 1:1, the impact acreage is also the mitigation acreage.

4 The mitigation ratio is 2:1 or 3:1 for occupied Hermes copper butterfly habitat, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat.

5 Impacts within Segment 5 are associated with Segment 5b.

6 Impacts within Segment 2 are associated with all three trail alignments: Segment 2a, 2b, and 2c.

7 Mitigation ratio assumes protocol surveys are negative. The ratio would be 2:1 or 3:1 for occupied Hermes copper butterfly habitat, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat.

8 Impacts within Segment 4 are associated with Segment 4c.



Remaining Sensitive Animal Species

No removal of suitable habitat (open water in Lake Emma) would occur in any of the segments for Caspian tern and American white pelican.

Suitable foraging and/or roosting habitat for the turkey vulture would be impacted in all the trail segments, but suitable nesting habitat would not be impacted. Turkey vulture is a wide-ranging species that flies over large territories, and suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

No removal of suitable habitat (e.g., riparian vegetation, coast live oak forest, and aquatic areas) for the following seven special status animal species would occur in Segments 1, 2, 4, 6a, and 6b: Cooper's hawk, sharp-shinned hawk, oak titmouse, red-shouldered hawk, yellow warbler, yellow-breasted chat, and Lewis' woodpecker. However, indirect impacts to these species could occur. Segment 5b would impact 0.08 acre of coast live oak woodland that could support Cooper's hawk, sharp-shinned hawk, oak titmouse, red-shouldered hawk, yellow warbler, yellow-breasted chat, and Lewis' woodpecker. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided in this area; therefore, impacts to these species would be less than significant.

Removal of suitable habitat for the southern California rufous-crowned sparrow would occur in Segments 2, 3, 4, 5b, and 6b; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

Removal of suitable habitat for Belding's orange-throated whiptail would occur in Segments 1, 2, 3, 4, 5b, and 6b; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

Removal of suitable habitat for San Diego tiger (coastal) whiptail would occur in Segment 4; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

Removal of suitable habitat for Costa's hummingbird would occur in all Segments; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

No removal of known roosting habitat or larval host plants for the monarch butterfly would occur. Nectar sources are assumed to occur within the Study Area; however, their removal would not significantly affect the monarch, as it is a wide-ranging species that moves through the area briefly during migration.

While mule deer and mountain lion were detected in the Study Area during the 2019 surveys, both species have high mobility and any individuals potentially present would likely disperse away from the project area during project-related activities. Suitable habitat within the project footprint comprises a small fraction of the habitat for the local large mammal populations, and is contiguous, with habitat throughout the Study Area and SDNWR. The project does not include substantial barriers, such as a large block of development or paved road, and the proposed project is not expected to reduce the populations of these species to below a self-sustaining level.



Removal of suitable habitat for Blainville's [Coast] horned lizard would occur in Segments 1, 2, 3, 4, 5b, and 6b; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

Removal of suitable habitat for Lawrence's goldfinch would occur in Segments 1, 2, and 5; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

Removal of suitable habitat for two-striped gartersnake would occur in Segments 1, 2, and 5; however, suitable habitat occurs in the surrounding area, such that impacts would be less than significant.

2.2 **RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES**

Table 6 provides a summary of project impacts to vegetation communities/habitat types, including sensitive habitats. Total impacts for the preferred alignment total 8.00 acres: 2.67 acres of sensitive vegetation communities and 5.33 acres of non-sensitive vegetation communities. Impacts would include coast live oak woodland, Diegan coastal sage scrub, scrub oak chaparral, and non-native grassland (Table 6). Impacts to these habitats would require mitigation.

To protect oak woodland, the County requires that mature oak trees within 100 feet of established oak woodland and a 50-foot oak root protection zone are mapped as oak woodland. For this project, the oak woodland and root protection zone were mapped separately from vegetation communities, on Figure 11. The proposed trails in each segment are proposed to cross the 50-foot oak root protection zone; therefore, mitigation is proposed to avoid impacting oak trees and oak roots.



 Table 6

 PROJECT IMPACTS TO VEGETATION COMMUNITIES/HABITAT TYPES

Segment													
Vegetation Community ^{1,2}	6a ^{3,4}	6b ^{3,4}	1 ^{3,4}	2a ³	2b ³	2c ³	3 ³	4a ³	4b ³	4c ³	5a ³	5b ³	Preferred Alignment Total ⁴
Sensitive Vegetation Communities													
Tier I													
Southern coast live oak riparian forest (61310)													
Southern riparian forest (61300)													
Southern willow scrub (63320)													
Mule fat scrub (63310)													
Non-vegetated channel (64200)													
Coast live oak woodland (71160)												0.08	
Open coast live oak woodland (71161)													
Tier II													
Diegan coastal sage scrub, including baccharis- dominated (32500)		1.67		1.61	1.69	0.71	0.02	0.06	1.95	0.70		0.02	1.69
Tier III													
Scrub oak chaparral (37900)							0.18			0.16		0.51	0.18
Non-native grassland (42200)		0.41	0.46	0.34	0.34	0.31						0.09	0.80
Subtotal Sensitive Communities	0	2.08	0.46	1.95	2.03	1.02	0.2	0.06	1.95	0.86	0	0.70	2.67
Non-Sensitive Vegetation Communities													
Tier IV							T	r				, and the second se	
Eucalyptus woodland (79100)	0.01	0.03	0.46	0.03	0.03	0.03							0.50
Non-native vegetation (11000)		0.01		0.10	0.10	0.01							0.10
Disturbed habitat (11300)		0.16	1.00	0.10	0.11	0.30	0.58	0.01	0.02	0.01	0.01	0.04	1.70
Agriculture- Orchards and Vineyards (18100)												0.05	
N/A							1						
Urban/Developed (12000)	1.37	0.71	0.02	0.36	0.26	0.22		0.44			0.84	0.24	3.03
Subtotal Non-Sensitive Communities	1.38	0.91	1.48	0.59	0.50	0.56	0.58	0.45	0.02	0.01	0.85	0.33	5.33
1 Vegetation categories and numerical code	1.38 es are from l	2.99 Holland (1986	1.94	2.54	2.53	1.58	0.78	0.51	1.97	0.87	0.85	1.03	8.00

2 County Subarea Habitats and Tiers within the MSCP.

3 All habitats are rounded to the nearest 0.01 acre.

⁴ If Segment 6b were built, Segments 6a and 1 would not be built and their impacts would not occur. If Segments 6a and 1 were built, Segment 6b would not be built and its impacts would not occur. Total is for preferred alignment: Segments 6a, 1, 2a, 3, 4a, and 5a.

2.3 JURISDICTIONAL WETLANDS AND WATERWAYS

Although jurisdictional waters occur within several trail segments, the final trail design will avoid impacts to jurisdictional waters and wetlands. Puncheon bridges will be used to bridge the non-wetland waters of the U.S. and CDFW streambed along Segment 6b (Figures 15a, 15b, 16a, and 16b). Trail crossings for Segments 2 and 3 at the Northern Bridge and Southern Bridge will likewise be designed to avoid impacts (Figures 15c and 16c). Trail Segment 5b will move onto the existing roadway where needed to avoid impacts to Waters of the U.S./State and CDFW riparian habitat (Figures 15d and 16d).

2.4 WILDLIFE MOVEMENT AND NURSERY SITES

The open and relatively undisturbed canyons, ridges, slopes, and riparian corridor within the Study Area contain native habitat that provides functional wildlife habitat and movement capability. Although a variety of animals are expected to use the Study Area, wildlife movement is not expected to be substantially constrained by the construction of new trails as (1) trail construction would not substantially change topography, (2) wildlife movement is likely concentrated along the Sweetwater River where impacts are not proposed, (3) the project would not impact existing Waters of the U.S./State at trail crossings, (4) trails would not be so wide or heavily-trafficked as to prevent animals from moving across them, (5) risk of mortality is reduced by limiting vehicular use of trails to park staff, and (6) existing lines-of-sight are maintained across trails. Thus, biological connectivity between areas on either side of the trail would be maintained. Impacts would be less than significant.

2.5 INDIRECT IMPACTS

Potential significant indirect impacts may occur as a result of project implementation, as described further below.

2.5.1 Noise

Construction-related noise from sources related to clearing, grubbing, and/or grading to establish trails in undeveloped areas would potentially impact wildlife. Construction of trails in undeveloped areas may require the daily use of heavy equipment that would elevate existing noise levels on-site. Breeding birds and mammals may temporarily or permanently leave their territories to avoid disturbances from construction activities, which could lead to reduced reproductive success and increased mortality. Potential short-term noise impacts could result from grading to establish trails in undeveloped areas. Noise effects would be considered potentially significant if grading to establish trails in undeveloped areas were to occur within 300 feet of sensitive nesting bird species, such as coastal California gnatcatcher, least Bell's vireo, and 500 feet for raptors. Noise impacts are not expected during project operation, because all trails will be non-motorized.

2.5.2 Lighting

Night lighting that extends from a developed area onto adjacent wildlife habitat can discourage use of the habitat by nocturnal wildlife and can also provide nocturnal predators with an unnatural advantage over their prey, resulting in a potentially significant impact. Night lighting is not anticipated for construction of this project; however, if utilized, the project is required to direct all necessary lighting in a downward direction with appropriate shield and illumination technology to prevent adverse spillover of light. Night lighting will not result from project operation, because the trail is not lit at night.



2.5.3 Fugitive Dust

Fugitive dust produced by trail construction has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants. Fugitive dust also may make plants unsuitable as habitat for insects and birds. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction, which could lead to reduced reproductive success and increased mortality. As part of the proposed project, active construction areas, as well as unpaved surfaces, would be watered, if needed, to minimize dust generation. Fugitive dust from project operation is expected to be minimal, as motorized vehicles are prohibited from using the trail.

2.5.4 Human Activity

Increases in human activity in the area could result in degradation of open space habitat and associated indirect impacts on sensitive species through the creation of unauthorized trails, dispersal of weed seeds, horse manure, erosion along trails, litter, collection of flowers and animals, and trampling or removal of vegetation. Human disturbance is expected to be minimal and constrained to trails. Signage will be provided to direct visitors onto the trail, help dissuade trespassing into closed areas, and provide further protections for sensitive habitat areas. Signage and trash removal is recommended by the County's Preserve Trail Guidelines (County 2018) and is required along conservation areas and in the Bureau of Indian Affairs Lands, per the Natural and Cultural Resources Management Plan (Analytical Environmental Services 2011).

2.5.5 Domestic Predators

Domestic predators (e.g., dogs and cats) have potential to harm native wildlife species. For example, free-roaming cats are known to injure and/or kill native wildlife, and are of particular threat to small animals, including lizards, birds, and small rodents, while off-leash dogs can be a nuisance to wildlife, resulting in changes in wildlife behavior such as alteration in patterns of habitat utilization, or damage to burrows of ground-dwelling animals. Implementation of the proposed project would not result in increased potential for encounters between domestic predators and native wildlife. Dogs will be required to be on-leash within the trail system, and effects of off-leash dogs on wildlife would be further minimized through installation of signage along the trail reminding hikers that off-leash dogs are prohibited. The trail would not be lit and therefore it is unlikely to be used by people walking dogs during the night, thus minimizing encounters with nocturnal wildlife. With implementation of the design features described above, off-leash dogs are not expected to result in a significant adverse effect on wildlife.

2.5.6 Exotic Plant Species

Non-native plants could colonize areas disturbed by construction to establish the trail and could potentially spread into adjacent native habitats. Many non-native plants are highly invasive and can displace native vegetation (reducing native species diversity), potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife dependent on native plant species. The project would include weed control during both project operation and during regular maintenance of the trails, with a focus on highly invasive species.









Source: Aerial (SanGIS, 2017).

Waters of the U.S./State Impacts Overview

Figure 15a



0 300 Feet



Study Area

Permanent Impacts Temporary Impacts

Non-wetland Waters of the U.S./State

Source: Aerial (SanGIS, 2017).

Waters of the U.S./State Impacts Segment 1 & 6b Figure 15b



450 Feet _





Source: Aerial (SanGIS, 2017).

Waters of the U.S./State Impacts Segment 2 & 3

Figure 15c









Source: Aerial (SanGIS, 2017).

Waters of the U.S./State Impacts Segment 4 & 5 Figure 15d



0 1,100 Feet



Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

CDFW Jurisdictional Areas Impacts Overview

Figure 16a



0 300 Feet



Sycuan-Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

CDFW Jurisdictional Areas Impacts Segment 1 & 6b Figure 16b



450 Feet -----

4



Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

CDFW Jurisdictional Areas Impacts Segment 2 & 3 Figure 16c





Sycuan-Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

CDFW Jurisdictional Areas Impacts Segment 4 & 5 Figure 16d

3.0 SPECIAL STATUS SPECIES

3.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the USFWS or CDFW (County 2010b)?

Any of the following conditions would be considered significant if:

- A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.
- B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.
- C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.
- D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.
- E. The project would impact golden eagle (Aquila chrysaetos) habitat.
- F. The project would result in a loss of functional foraging habitat for raptors.
- G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.
- H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.
- I. The project would impact occupied burrowing owl (Athene cunicularia) habitat.
- J. The project would impact occupied San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) habitat, or formerly occupied San Diego cactus wren habitat that has been burned by wildfire.
- K. The project would impact occupied Hermes copper butterfly (Lycaena hermes) habitat.
- L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction:
 - San Diego cactus wren
 - Coastal California gnatcatcher



- Least Bell's vireo
- Southwestern willow flycatcher
- Tree-nesting raptors
- Ground-nesting raptors
- Golden eagle
- Light-footed Ridgway's rail (Rallus longirostris levipes)

3.2 ANALYSIS OF PROJECT EFFECTS

3.2.1 Significant Impacts

3.2.1.1 Segment 6a

Segment 6a of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 6a of the project could impact one federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: coastal California gnatcatcher. Impacts to this species are described below.

Coastal California Gnatcatcher

Coastal California gnatcatchers were observed at two locations within 500 feet to the north of Segment 6a during 2019 protocol surveys. The proposed project would avoid direct impacts to these locations, thereby avoiding direct impacts to the coastal California gnatcatcher. Segment 6a would not impact Diegan coastal sage scrub. Project construction within 300 feet of on- and off-site breeding habitat for this sensitive bird species could result in adverse indirect impacts related to construction noise. These impacts would be considered significant. These impacts would be mitigated through implementation of mitigation measure **BIO-1** below (Section 3.4).

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: coastal California gnatcatcher. Arroyo toad is discussed above under guideline A.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction for Segment 6a could impact the nesting success of coastal California gnatcatcher and tree-nesting raptors, which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related



impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to coastal California gnatcatcher could occur from trail Segment 6a, based on 2019 protocol survey results. If coastal California gnatcatcher or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1**.

3.2.1.2 Segment 6b

Segment 6b of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 6b of the project could impact four federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad, coastal California gnatcatcher, least Bell's vireo, and Dehesa beargrass. In addition, USFWS-designated critical habitat for the federal listed threatened and state species of special concern coastal California gnatcatcher is present in Segment 6b of the Study Area (Figure 8). Impacts to these species are described below.

Arroyo Toad

Suitable habitat for this species occurs along the Sweetwater River, and one arroyo toad was observed outside the Study Area along the Sweetwater River, east of Segment 2 within one km of Segment 6b, during focused species surveys in 2019. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the arroyo toad. Impacts to arroyo toad breeding, aestivation, and foraging habitat are discussed in Section 2.1.2. Toads could move into the work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

Coastal California Gnatcatcher

Coastal California gnatcatchers were observed in two locations in the vicinity of Segment 6b during 2019 protocol surveys (Figure 14b). The proposed project would avoid direct impacts to these locations, thereby avoiding direct impacts to the coastal California gnatcatcher. Segment 6b would impact 1.67 acres of Diegan coastal sage scrub, some of which is occupied based on the 2019 protocol survey results. This impact will be mitigated through implementation of mitigation measure **BIO-3** below (Section 3.4). Project construction within 300 feet of on- and off-site breeding habitat for this sensitive bird species could result in adverse indirect impacts related to construction noise. These impacts would be considered significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

A narrow strip of critical habitat, totaling 4.78 acres, for the coastal California gnatcatcher is mapped in Segment 6b of the Study Area, in the northwestern portion of the project site (Figure 8). Critical habitat within the Study Area is mostly composed of suitable Diegan coastal sage scrub habitat. Suitable coastal



sage scrub habitat with potential to support the species occurs in the western and central portions of the Study Area (Figure 10). Segment 6b is the only trail segment that would impact designated critical habitat for the coastal California gnatcatcher. Segment 6b would impact 0.93 acre of gnatcatcher critical habitat. In accordance with the MSCP and BMO, these impacts will be mitigated as part of the habitat mitigation specified in mitigation measure **BIO-3**.

Least Bell's Vireo

This species was observed along the Sweetwater River riparian corridor south of Segment 1, within 500 feet of Segment 6b, and suitable riparian habitat for the species is present in riparian habitats along Sweetwater River (Figure 14b). The project would avoid impacts to riparian habitat occupied by least Bell's vireo. Indirect impacts related to construction noise to nesting least Bell's vireos within 300 feet of construction areas would be significant if nesting success was adversely affected. These impacts will be mitigated through implementation of mitigation measure **BIO-1**.

Dehesa Beargrass

Dehesa beargrass was observed at two locations in the Segment 6b Study Area (Figure 14c). Trail Segment 6b would impact up to ten individuals of Dehesa beargrass at one of two Dehesa beargrass locations, which would be a significant impact. This impact will be mitigated through implementation of mitigation measures **BIO-4** and **BIO-5**.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts from Segment 6b to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: coastal California gnatcatcher, least Bell's vireo, Dehesa beargrass, and Hermes copper butterfly. Coastal California gnatcatcher, least Bell's vireo, and Dehesa beargrass are discussed above under guideline A.

Hermes Copper Butterfly

Segment 6b was surveyed in 2019 and found not to be occupied by Hermes copper butterfly; therefore, Segment 6b will not impact occupied Hermes copper butterfly habitat. However, Segment 6b would impact 0.01 acre of Potential Hermes Copper Butterfly Habitat. This would be a significant impact, and would be mitigated through the implementation of mitigation measure **BIO-6**.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction for Segment 6b could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to least Bell's vireo could occur from trail Segment 6b. Impacts to coastal California



gnatcatcher could occur from trail Segment 6b, based on 2019 protocol survey results. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1**.

3.2.1.3 Segment 1

Segment 1 of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **3.1.D**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 1 of the project could impact two federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad and least Bell's vireo. Impacts to these species are described below.

Arroyo Toad

Toads could move into the work area in the eastern portion of Segment 1 during trail construction, and these impacts would be considered significant if toads were harmed. Impacts will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

Least Bell's Vireo

This species was observed along the Sweetwater River riparian corridor south of Segment 1. Suitable riparian habitat for the species is present in riparian habitats along Sweetwater River (Figure 14b). The project would avoid impacts to riparian habitat occupied by least Bell's vireo. Indirect impacts related to construction noise to nesting least Bell's vireos within 300 feet of construction areas would be significant if nesting success was adversely affected. Impacts will be mitigated through implementation of mitigation measure **BIO-7** below (Section 3.4).

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts from Segment 1 to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad and least Bell's vireo. Arroyo toad and least Bell's vireo are both discussed above under guideline A.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The Study Area contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad, as detailed in Section 2.1.2. Segment 1 would impact foraging habitat only. Habitat impacts would be mitigated as discussed in Section 4.0 below.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.



Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to least Bell's vireo could occur from trail Segment 1. Trail Segment 1 has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-7** below.

3.2.1.4 Segment 2a

Segment 2a of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **3.1.D**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 2a of the project could impact two federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad and least Bell's vireo. Impacts to these species are described below.

Arroyo Toad

Suitable habitat for this species occurs along the Sweetwater River, and one arroyo toad was observed outside the Study Area along the Sweetwater River, east of Segment 2, during focused species surveys in 2019. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the arroyo toad (Figure 14d). Impacts to arroyo toad breeding, aestivation, and foraging habitat are discussed in Section 2.1.2. Toads could move into the work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

Least Bell's Vireo

This species was observed along the Sweetwater River riparian corridor west of Segment 2. Suitable riparian habitat for the species is present in riparian habitats along Sweetwater River (Figure 14d). The project would avoid impacts to riparian habitat occupied by least Bell's vireo. Indirect impacts related to construction noise to nesting least Bell's vireos within 300 feet of construction areas would be significant if nesting success was adversely affected. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.



B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts from Segment 2a to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad, least Bell's vireo, and Hermes copper butterfly. Arroyo toad and least Bell's vireo are discussed above under guideline A.

Hermes Copper Butterfly

Segment 2a was surveyed in 2019 and found not to be occupied by Hermes copper butterfly; therefore, Segment 2a will not impact occupied Hermes copper butterfly habitat. However, Segment 2a would impact 0.01 acre of Potential Hermes Copper Butterfly Habitat. This would be a significant impact, and would be mitigated through the implementation of mitigation measure **BIO-8**.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The Study Area contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad, as detailed in Section 2.1.2. Segment 2a would impact aestivation and foraging habitat. Habitat impacts would be mitigated as discussed in section 4.0.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to least Bell's vireo could occur from trail Segment 2a. Segment 2a has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

3.2.1.5 Segment 2b

Segment 2b of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **3.1.D**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 2b of the project could impact two federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad and least Bell's vireo. Impacts to these species are described below.



Arroyo Toad

Suitable habitat for this species occurs along the Sweetwater River, and one arroyo toad was observed outside the Study Area along the Sweetwater River, east of Segment 2, during focused species surveys in 2019. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the arroyo toad (Figure 14d). Impacts to arroyo toad breeding, aestivation, and foraging habitat are discussed in Section 2.1.2. Toads could move into the work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

Least Bell's Vireo

This species was observed along the Sweetwater River riparian corridor west of Segment 2. Suitable riparian habitat for the species is present in riparian habitats along Sweetwater River (Figure 14d). The project would avoid impacts to riparian habitat occupied by least Bell's vireo. Indirect impacts related to construction noise to nesting least Bell's vireos within 300 feet of construction areas would be significant if nesting success was adversely affected. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts from Segment 2b to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad, least Bell's vireo, and Hermes copper butterfly. Arroyo toad and least Bell's vireo are discussed above under guideline A.

Hermes Copper Butterfly

Segment 2b was surveyed in 2019 and found not to be occupied by Hermes copper butterfly; therefore, Segment 2b will not impact occupied Hermes copper butterfly habitat. However, Segment 2b would impact 0.01 acre of Potential Hermes Copper Butterfly Habitat. This would be a significant impact, and would be mitigated through the implementation of mitigation measure **BIO-8**.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The Study Area contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad, as detailed in Section 2.1.2. Segment 2b would impact aestivation and foraging habitat. Habitat impacts would be mitigated as discussed in section 4.0.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or



ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to least Bell's vireo could occur from trail Segment 2b. Segment 2b has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

3.2.1.6 Segment 2c

Segment 2c of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **3.1.D**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 2c of the project could impact four federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad, least Bell's vireo, Quino, and coastal California gnatcatcher. Impacts to these species are described below.

Arroyo Toad

Suitable habitat for this species occurs along the Sweetwater River, and one arroyo toad was observed outside the Study Area along the Sweetwater River, east of Segment 2, during focused species surveys in 2019. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the arroyo toad (Figure 14d). Impacts to arroyo toad breeding, aestivation, and foraging habitat are discussed in Section 2.1.2. Toads could move into the work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

Least Bell's Vireo

This species was observed along the Sweetwater River riparian corridor west of Segment 2. Suitable riparian habitat for the species is present in riparian habitats along Sweetwater River (Figure 14d). The project would avoid impacts to riparian habitat occupied by least Bell's vireo. Indirect impacts related to construction noise to nesting least Bell's vireos within 300 feet of construction areas would be significant if nesting success was adversely affected. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

Quino Checkerspot Butterfly

This species is currently not covered under the MCSP. One Quino was observed during the 2019 survey within the Segment 2c Study Area. Host plants occur along Segment 2c, and impacts to occupied host plant patches would be considered significant. Through environmental analysis which informed the County of the sensitive resources present, the County made changes to the Segment 2c design to avoid impacts to the maximum extent practicable. Any remaining impacts will be mitigated through implementation of mitigation measure **BIO-9** below.



Coastal California Gnatcatcher

Coastal California gnatcatchers were observed at one location in the vicinity of Segment 2c during 2019 protocol surveys. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the coastal California gnatcatcher. Project construction within 300 feet of on- and off-site breeding habitat for this sensitive bird species could result in adverse indirect impacts related to construction noise. Segment 2c will impact 0.71 acre of occupied Diegan coastal sage scrub. These impacts would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-1** and **BIO-10** below.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Segment 2c impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad, least Bell's vireo, Quino, coastal California gnatcatcher, and Hermes copper butterfly. Arroyo toad, least Bell's vireo, Quino, and coastal California gnatcatcher are discussed above under guideline A.

Hermes Copper Butterfly

Segment 2c was surveyed in 2019 and found not to be occupied by Hermes copper butterfly; therefore, Segment 2c will not impact occupied Hermes copper butterfly habitat. However, Segment 2c would impact 0.01 acre of Potential Hermes Copper Butterfly Habitat. This would be a significant impact, and would be mitigated through the implementation of mitigation measure **BIO-8**.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The Study Area contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad, as detailed in Section 2.1.2. Segment 2c would impact aestivation and foraging habitat. Habitat impacts would be mitigated as discussed in section 4.0.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Impacts to least Bell's vireo could occur from trail Segment 2c. Segment 2c has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.



3.2.1.7 Segment 3

The proposed project would result in significant impacts under **above guidelines 3.1.A, 3.1.B, 3.1.D, and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 3 of the project could impact one federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: coastal California gnatcatcher. Impacts to these species are described below.

Coastal California Gnatcatcher

Coastal California gnatcatchers were observed at three locations within 500 feet of Segment 3 during 2019 protocol surveys. The proposed project would avoid direct impacts to these locations, thereby avoiding direct impacts to the coastal California gnatcatcher. Project construction within 300 feet of onand off-site breeding habitat for this sensitive bird species could result in adverse indirect impacts related to construction noise. Segment 3 will impact 0.02 acre of occupied Diegan coastal sage scrub. These impacts would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-1** and **BIO-11** below.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Segment 3 impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: coastal California gnatcatcher and Hermes copper butterfly. Coastal California gnatcatcher is discussed above under guideline A.

Hermes Copper Butterfly

Segment 3 was surveyed in 2019 and found not to be occupied by Hermes copper butterfly; therefore, Segment 3 will not impact occupied Hermes copper butterfly habitat. However, Segment 3 would impact 0.01 acre of Potential Hermes Copper Butterfly Habitat. This would be a significant impact, and would be mitigated through the implementation of mitigation measure **BIO-12**.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The Study Area contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad, as detailed in Section 2.1.2. However, the trail would not impact the high-quality arroyo toad breeding habitat located to the east of Sloane Canyon Road, east of Segment 3. Segment 3 would impact aestivation and foraging habitat. Habitat impacts are addressed in Section 4.0 below.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Construction of Segment 3 could impact the nesting success of coastal California gnatcatcher and treenesting raptors, which have the potential to nest on and/or within 500 feet of construction impact



areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Treenesting raptors could be impacted along any of the trail segments. Impacts to coastal California gnatcatcher could occur from trail Segment 3, based on 2019 protocol survey results. If coastal California gnatcatcher or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measures **BIO-1** below.

3.2.1.8 Segment 4a

Segment 4a of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 4a of the project could impact one federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad. Impacts to these species are described below.

Arroyo Toad

Critical habitat for the arroyo toad is mapped in Study Area Segment 4 in the eastern portion of the project site (Figure 8). Suitable habitat for this species occurs along the Sweetwater River, and arroyo toads were observed outside the Study Area along the Sweetwater River, east of Segment 4, during focused species surveys in 2019. The proposed project would avoid direct impacts to these locations, thereby avoiding direct impacts to the arroyo toad (Figure 14f). Segment 4 would not impact arroyo toad breeding, aestivation, or foraging habitat. Toads could move into the Segment 4a work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Segment 4a impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad. Arroyo toad is discussed above under guideline A.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher and tree-nesting raptors, which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-



nesting raptors could be impacted along any of the trail segments. Trail Segment 4a has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts would be mitigated through implementation of mitigation measure **BIO-1**.

3.2.1.9 Segment 4b

Segment 4b of the proposed project would result in significant impacts under **above guidelines 3.1.A**, **3.1.B**, **and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 4b of the project could impact one federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad. Impacts to these species are described below.

Arroyo Toad

Critical habitat for the arroyo toad is mapped in Study Area Segment 4 in the eastern portion of the project site (Figure 8). Suitable habitat for this species occurs along the Sweetwater River, and arroyo toads were observed outside the Study Area along the Sweetwater River, east of Segment 4, during focused species surveys in 2019. The proposed project would avoid direct impacts to these locations, thereby avoiding direct impacts to the arroyo toad (Figure 14f). Segment 4 would not impact arroyo toad breeding, aestivation, or foraging habitat. Toads could move into the Segment 4b work area during trail construction, and these impacts would be considered significant if toads were harmed. This impact will be mitigated through implementation of mitigation measure **BIO-2** below (Section 3.4).

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad. Arroyo toad is discussed above under guideline A.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher and tree-nesting raptors, which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Treenesting raptors could be impacted along any of the trail segments. Trail Segment 4b has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from



construction noise would be significant. These impacts would be mitigated through implementation of mitigation measure **BIO-1**.

3.2.1.10 Segment 4c

Segment 4c of the proposed project would result in significant impacts under **above guidelines 3.1.B and 3.1.L** for the following reasons:

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Segment 4c impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: Hermes copper butterfly, delicate clarkia, and Dean's milk-vetch.

Hermes Copper Butterfly

The portion of Segment 4c that was surveyed in 2019 did not support Hermes Copper Survey Areas; therefore, Segment 4c will not impact known occupied Hermes copper butterfly habitat. However, the Segment 4c Additional Study Area was not surveyed for Hermes copper butterfly in 2019, and it supports Additional Hermes Copper Butterfly Survey Area, as shown on Figure 7. Segment 4c would impact 0.05 acre of Potential Hermes Copper Butterfly Habitat, which is a significant impact. This impact will be mitigated through the implementation of mitigation measure **BIO-13**.

Delicate Clarkia

Delicate clarkia is a CRPR 1B.2 species and County List A. This species has moderate potential to occur within the Additional Study Area for Segment 4c, based on a nearby plant observation in similar habitat. There is a potential for impacts to unmapped plants in the Additional Study Area portion of Segment 4c. Without mitigation, impacts to delicate clarkia would be significant if found within the Segment 4c impact footprint. These impacts will be mitigated through implementation of mitigation measures **BIO-14** and **BIO-15** below.

Dean's Milk-vetch

Dean's milk-vetch is a CRPR 1B.1 species, and County List A. This species was observed in and adjacent to the Segment 4 Study Area. The thirty individuals observed within the Study Area for Segment 4 would be avoided, as would the ten individuals incidentally observed nearby. However, there is potential for this species to occur within the proposed Segment 4 impact footprint within the Additional Study Area (Figure 6). The trail has already been designed to avoid impacts to known plant locations, consistent with the BMO, and will avoid potential plant locations within the area of Segment 4c that was added to the survey area during the design process by locating any potential plants during preconstruction surveys and avoiding them (designing around them) if possible. Without mitigation, impacts to Dean's milk-vetch would be significant if it is found within the Segment 4c impact footprint and cannot be avoided. These impacts will be mitigated, including designing the trail to minimize impacts to Dean's milk-vetch to the maximum extent practicable in compliance with the BMO, through implementation of mitigation measures **BIO-14** and **BIO-15** below.



L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher and tree-nesting raptors, which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Trail Segment 4c has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts would be mitigated through implementation of mitigation measure **BIO-1**.

3.2.1.11 Segment 5b

Segment 5b (and not Segment 5a) of the proposed project would result in significant impacts under **above guidelines 3.1.A, 3.1.B, 3.1.D, and 3.1.L** for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Without mitigation, Segment 5b of the project could impact one federally or state listed species detected within the Study Area during surveys conducted by HELIX to date: arroyo toad. In addition, USFWS-designated critical habitat for the federal listed endangered and state species of special concern arroyo toad is in the eastern portion of the Study Area in Segment 5 (Figure 8). Impacts to these species are described below.

Arroyo Toad

Critical habitat for the arroyo toad is mapped in Study Area Segment 5 in the eastern portion of the project site (Figure 8). Suitable habitat for this species occurs along the Sweetwater River, and arroyo toad was observed at one location outside the Study Area along the Sweetwater River, north of Segment 5, during focused species surveys in 2019. The proposed project would avoid direct impacts to this location, thereby avoiding direct impacts to the arroyo toad (Figure 14g). Impacts to arroyo toad breeding, aestivation, and foraging habitat are discussed in Section 2.1.2. Although Segment 5b would impact 1.05 acres of arroyo toad critical habitat, critical habitat supporting PCEs would not be impacted, as discussed in Section 2.1.2. This impact would not be a significant adverse modification to critical habitat, given that the critical habitat to be impacted does not support PCEs and the trail would not substantially interfere with access to potential upland foraging and aestivation habitats. Toads could move into the work area during trail construction, and these impacts would be considered significant if toads were harmed. These impacts will be mitigated through implementation of mitigation measure **BIO-2**.



B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

Project impacts to the following County Group 1, List A, and/or state Species of Special Concern are potentially significant: arroyo toad and Hermes copper butterfly. Arroyo toad is discussed above under guideline A.

Hermes Copper Butterfly

The portion of Segment 5 that was surveyed in 2019 did not support Hermes copper butterfly; however, Segment 5 overlaps the McGinty Mountain core occurrence and therefore Segment 5 is considered occupied. Segment 5b would impact 0.07 acre of Occupied Hermes Copper Butterfly Habitat. This is a significant impact. This impact will be mitigated through the implementation of mitigation measure **BIO-16**.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

Marginally suitable breeding habitat in Beaver Hollow would be impacted by Segment 5b, however, focused surveys were negative for this area. Segment 5b would not impact critical habitat supporting PCEs, as discussed in Section 2.1.2. This impact would not be a significant adverse modification to critical habitat, given that the impacted critical habitat does not support PCEs and the trail would not substantially interfere with access to potential upland foraging and aestivation habitats. Habitat impacts are addressed in Section 4.0 below.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher and tree-nesting raptors, which have the potential to nest on and/or within 500 feet of construction impact areas. Noise from clearing and grading could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 decibels (dB) or ambient could be significantly impacted. Tree-nesting raptors could be impacted along any of the trail segments. Segment 5b has the potential to support coastal California gnatcatcher in the future. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 feet of the impact area (500 feet for raptors), effects resulting from construction noise would be significant. These impacts will be mitigated through implementation of mitigation measure **BIO-1** below.

3.2.2 No Impact or Less than Significant Impacts

The project would result in less than significant or no impacts under **Guidelines 3.1.A, 3.1.B, 3.1.C, 3.1.E, 3.1.F, 3.1.G, 3.1.H, 3.1.I, 3.1.I, and 3.1.K** for the following species and reasons:


A. Non-significant impacts under County Guideline 3.1.A

San Diego Thornmint

Critical habitat for the federal listed threatened and state listed endangered San Diego thornmint occurs to the southwest of the Study Area and would not be impacted by any trail Segment. This species has not been documented in the Study Area and is not expected to occur.

B. Non-significant impacts under County Guideline 3.1.B

Impacts to the following species would be less than significant, as discussed below.

American White Pelican

No removal of suitable habitat (open water in Lake Emma) would occur in any of the segments for American white pelican. The project would not impact an on-site population of American white pelican, and impacts would be less than significant.

Turkey Vulture

Suitable foraging and/or roosting habitat for the turkey vulture would be impacted in all the trail segments, but suitable nesting habitat would not be impacted. Turkey vulture is a wide-ranging species that flies over large territories, and suitable habitat occurs in the surrounding area, including preserved habitat within the SDNWR. Therefore, the project would not impact an on-site population of turkey vulture, and impacts would be less than significant.

Cooper's Hawk

Segment 5b would impact 0.08 acre of coast live oak woodland that could support Cooper's hawk. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project would not impact an on-site population, and impacts to Cooper's hawk would be less than significant.

Sharp-shinned Hawk

Segment 5b would impact 0.08 acre of coast live oak woodland that could support sharp-shinned hawk. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project would not impact an on-site population of sharp-shinned hawk, and impacts would be less than significant.

Red-shouldered Hawk

Segment 5b would impact 0.08 acre of coast live oak woodland that could support red-shouldered hawk. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project would not impact an on-site population of red-shouldered hawk, and impacts would be less than significant.



Yellow-breasted Chat

Segment 5b would impact 0.08 acre of coast live oak woodland that could support yellow-breasted chat. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project would not impact the on-site population of yellow-breasted chat, and impacts would be less than significant.

Lewis' Woodpecker

Segment 5b would impact 0.08 acre of coast live oak woodland that could support Lewis' woodpecker. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project will not impact the on-site population of Lewis' woodpecker, and impacts would be less than significant.

Southern California Rufous-crowned Sparrow

Removal of suitable habitat for the southern California rufous-crowned sparrow would occur in Segments 2, 3, 4, 5b, and 6b; however, ample suitable habitat occurs in the surrounding area to be avoided, including preserved habitat within the SDNWR. Therefore, the on-site population of southern California rufous-crowned sparrow would not be impacted, and impacts would be less than significant.

Two-striped Gartersnake

Removal of suitable habitat for two-striped gartersnake would occur in Segments 1, 2, and 5; however, ample suitable habitat occurs in the surrounding area to be avoided, including preserved habitat within the SDNWR. Therefore, the on-site population of two-striped gartersnake would not be impacted, and impacts would be less than significant.

C. The project would not impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

The following County List C or D plant species, County Group 2 animal species, and Birds of Conservation Concern have been detected on the project site, but their local long-term survival would not be impacted: ashy spike-moss, small-flowered morning glory, San Diego sunflower, San Diego sagewort, Caspian tern, oak titmouse, yellow warbler, Belding's orange-throated whiptail, San Diego tiger (coastal) whiptail, Costa's hummingbird, monarch butterfly, mule deer, mountain lion, Blainville's (coast) horned lizard, and Lawrence's goldfinch. These species are further discussed below.

Ashy Spike-moss

Ashy spike-moss is a CRPR 4.1 species and County List D. This species was observed within Diegan coastal sage scrub west of Sloane Canyon Road in Segment 4. The location observed in Segment 4 will be impacted; however, the species occurs within similar habitat adjacent to the Study Area and is widespread throughout the South County MSCP Subarea. The removal of one location in Segment 4 would not impact the species' local long-term survival and is not a significant impact.



Small-flowered Morning Glory

Small-flowered morning-glory is a CRPR 4.2 species and County List D. Approximately 1,000-2,000 individuals of this species were observed in one area within the Segment 6b Study Area. Segment 6b would impact a portion of the area where this species was observed. Small-flowered morning glory has high potential to occur in the non-native grassland to the north outside of the Study Area, such that the removal of a few individuals of small-flowered morning glory by trail segment 6b would not impact the species' local long-term survival and is not a significant impact.

San Diego Sunflower

San Diego sunflower is a CRPR 4.3 species and County List D. This species was abundant in Diegan coastal sage scrub in the Segments 3 and 4 Study Area and at one location in the Segment 4 Study Area, with two locations in Segment 2. Nine of the twelve mapped locations within the Study Area would be impacted, three in Segments 2, 3, and 4, including only partial impacts to the large polygon mapped in Segment 4c; however, the species occurs within similar habitat adjacent to the Study Area and is widespread throughout the South County MSCP Subarea. The removal of a few individual plants in Segments 2, 3, and/or 4 would not impact the species' local long-term survival and is not a significant impact.

San Diego Sagewort

San Diego sagewort is a CRPR 4.2 species, and County List D. This species was observed within the riparian habitat in the Study Area of Segment 2 and Segment 5. There will be no impact to San Diego sagewort, because neither of the two observed locations would be impacted and the potential for this species to occur in the Additional Study Area portion of Segment 4c is low due to the lack of riparian habitat there.

Caspian Tern

No removal of suitable habitat (open water in Lake Emma) would occur in any of the segments for Caspian tern. Therefore, the project would not impact the local long-term survival of Caspian tern, and impacts would be less than significant.

Oak Titmouse

Segment 5b would impact 0.08 acre of coast live oak woodland that could support oak titmouse. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project will not impact the species' local long-term survival, and impacts to oak titmouse would be less than significant.

Yellow Warbler

Segment 5b would impact 0.08 acre of coast live oak woodland that could support yellow warbler. None of the other trail segments will impact suitable riparian and forest habitat. Trail segment 5b will be built along the south side of the road, separated from the main riparian area, and oak tree impacts will be avoided; therefore, the project will not impact the species' local long-term survival, and impacts to yellow warbler would be less than significant.



Belding's Orange-throated Whiptail

Removal of suitable habitat for Belding's orange-throated whiptail would occur in Segments 2, 3, 4, 5b, and 6b; however, extensive habitat for the species is already preserved throughout the South County MSCP Subarea and within the SDNWR in the local area. Therefore, the project will not impact the species' local long-term survival, and impacts would be less than significant.

San Diego Tiger (Coastal) Whiptail

Removal of suitable habitat for San Diego tiger (coastal) whiptail would occur in Segment 4; however, suitable habitat occurs in the surrounding area, including preserved habitat within the SDNWR. Therefore, the project will not impact the species' local long-term survival, and impacts would be less than significant.

Costa's Hummingbird

Removal of suitable habitat for Costa's hummingbird would occur in Segment 2; however, suitable habitat occurs in the surrounding area, including preserved habitat within the SDNWR. Therefore, the project will not impact the species' local long-term survival, and impacts would be less than significant.

Monarch Butterfly

Two monarch butterflies were observed flying through the Study Area, one east of Segment 2a and one west of Segment 6b. This species is expected to migrate through the region but is not expected to roost on the site due to its inland location. No removal of larval host plants for the monarch butterfly would occur. Nectar sources are assumed to occur within the Study Area; however, their removal would not significantly affect the monarch since it is a wide-ranging species that moves through the area briefly during migration. Extensive habitat for the monarch is already preserved throughout the South County MSCP Subarea and within the SDNWR in the local area. The project will not impact the species' local long-term survival, and impacts would be less than significant.

Mule Deer

While mule deer was detected in the Study Area during the 2019 survey, the species has high mobility and any individuals potentially present would likely disperse away from the project area during project-related activities. Suitable habitat within the project footprint comprises a small fraction of the habitat for the local large mammal populations and is contiguous with habitat throughout the Study Area and SDNWR. The project does not include substantial barriers such as a large block of development or paved road, and the proposed project is not expected to reduce the local population of mule deer to below a self-sustaining level. Impacts would be less than significant.

Mountain Lion

While mountain lion was detected in the Study Area during the 2019 survey, the species has high mobility and any individuals potentially present would likely disperse away from the project area during project-related activities. Suitable habitat within the project footprint comprises a small fraction of the habitat for the local large mammal populations and is contiguous with habitat throughout the Study Area and SDNWR. The project does not include substantial barriers such as a large block of development



or paved road, and the proposed project is not expected to reduce the local population of mountain lion to below a self-sustaining level. Impacts would be less than significant.

Blainville's (Coast) Horned Lizard

Removal of suitable habitat for Blainville's [Coast] horned lizard would occur in Segments1, 2, 3, 4, 5b, and 6b; however, suitable habitat occurs in the surrounding area, including preserved habitat within the SDNWR. Therefore, the project will not impact the species' local long-term survival, and impacts would be less than significant.

Lawrence's Goldfinch

Removal of suitable habitat for Lawrence's goldfinch would occur in Segments 1, 2, and 5; however, suitable habitat occurs in the surrounding area. Therefore, the project will not impact the species' local long-term survival, and impacts would be less than significant.

E. The project would not impact golden eagle habitat.

The Study Area does not contain suitable nesting habitat for the species and the site is not within any known golden eagle territory. Golden eagles are occasional visitors to the SDNWR and could forage over portions of the Study Area; however, no known active nest sites occur within 4,000 feet of the Study Area. The closest golden eagle nest is the San Miguel Mountain pair, which nests over eight miles to the south/southwest of the site. A prime foraging area for this pair is the area around Sweetwater Reservoir, southwest of the project. No impacts would occur to golden eagle or its habitat.

F. The project would not result in a loss of functional foraging habitat for raptors.

All impacts to habitat within the Study Area would occur as thin strips to either establish trails in previously undeveloped areas or previously disturbed areas. The non-native grassland, disturbed habitat, as well as less densely vegetated scrub and chaparral areas within the Study Area are considered optimal raptor foraging habitat and would remain so after trail construction, because prey animals would move easily across the trails and raptors could easily forage on them. Thus, the removal of habitat in strips for establishment of trails would not constitute an effect on raptor foraging habitat, as the trails would not affect the Study Area's functionality for raptor foraging and would not have a substantial adverse effect on the long-term survival of raptor species within the South County MSCP Subarea. Impacts to raptor foraging would be less than significant; however, the habitat impacted by the project would be mitigated as described in Section 4.0.

G. The project would not impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

The Study Area is part of a core wildlife area, most of the Study Area is identified as PAMA, and sensitive wildlife species are known to occur. However, even in the unlikely event that sensitive habitat impacts were maximized by selecting Segments 6b, 2b, 3, 4b, and 5b project impacts to sensitive habitat would be limited to 6.96 acres (8.4 percent) of the approximately 83-acre Study Area. The preferred alternative (Segments 6a, 1, 2a, 3, 4a, and 5a), would impact only 2.67 acres of sensitive habitat, which is only 3.2 percent of the Study Area. The Study Area and surrounding PAMA land provides adequate space and



resources for wildlife known to use the site, maintains connectivity to off-site resources, and functions to facilitate bird and mammal movement through the area, including for species targeted for conservation in the region, such as the coastal California gnatcatcher and least Bell's vireo. Therefore, the project would not significantly impact the viability of a core wildlife area.

H. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

Human access would not increase substantially because the Study Area currently has existing dirt roads, trails, and roads, which are subject to moderate to heavy human activity related to hiking, bicycle use, and vehicles. As the majority of the site is already subjected to human uses, with some of the proposed trails following existing informal trails, the proposed project would not represent a significant increase in human activity. Furthermore, formalizing the trail network with signage to direct visitors onto established trails would help dissuade trespassing into closed areas and provide further protections for sensitive habitat areas.

The existing thick vegetation and steep slopes along the sides of many of the trail segments will further discourage trail users from wandering off the trail into adjacent sensitive habitat. Signs and wildlife-friendly fencing will also be installed where needed to protect Quino host plant areas from human access and trampling.

Dogs are currently required to be on-leash within the County, and effects of off-leash dogs on wildlife would be further minimized through installation of signage along the trail reminding hikers of that off-leash dogs are prohibited. Trails would not be lit and are considered unlikely to be used by people walking dogs during the night, thus minimizing encounters with nocturnal wildlife.

Signage would also be installed to encourage responsible behavior by equestrian visitors, thus minimizing the spread of weed seeds, flies, and brown-headed cowbirds (*Molothrus ater*) from horse manure. The trail will be designed and constructed to minimize erosion and runoff. Potential indirect impacts from construction noise are discussed under Guideline 3.1.L. Noise impacts are not expected during project operation, because all trails will be non-motorized. Therefore, indirect impacts on sensitive species will be less than significant.

I. The project would not impact occupied burrowing owl habitat.

Burrowing owls were not observed during biological surveys, the site does not support suitable burrowing owl habitat, and the project would have no impact on burrowing owl.

J. The project would not impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

The Study Area does not contain suitable habitat for the coastal cactus wren. The project would have no impact on cactus wren.

3.3 CUMULATIVE IMPACT ANALYSIS

The proposed project would result in minimal impacts to sensitive species and their habitats. The project impacts to sensitive habitat for the preferred alternative (Segments 6a, 1, 2a, 3, 4a, and 5a) would be



limited to 2.67 acres, out of an approximately 83-acre Study Area. Further, even in the unlikely event that sensitive habitat impacts were maximized by selecting Segments 6b, 2b, 3, 4b, and 5b, project impacts to sensitive habitat would be limited to 6.96 acres, out of an approximately 83-acre Study Area. The proposed project would not contribute to a significant cumulative impact on arroyo toad, coastal California gnatcatcher, Quino, or least Bell's vireo. The project includes Quino avoidance and minimization measures to avoid Quino impacts, and riparian habitat occupied by least Bell's vireo will also be avoided. The project would potentially impact a maximum of 0.93 acre of critical habitat for the coastal California gnatcatcher if Segment 6b is selected. However, the project would implement required arroyo toad, least Bell's vireo, and coastal California gnatcatcher, and Hermes copper butterfly through on or off-site revegetation or purchase of mitigation credits.

As the Proposed Project would ultimately be in conformance with the South County MSCP Subarea Plan and any other projects proposed in the vicinity would also have to follow the South County MSCP Subarea Plan, cumulative impacts would be considered fully mitigated.

3.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

- BIO-1 Grubbing or clearing of vegetation for trail Segment 6a, 6b, 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, and 5b during the general avian breeding season (February 1 – September 15), least Bell's vireo breeding season (March 15 to September 15), coastal California gnatcatcher breeding season (March 1 – August 15), or raptor breeding season (January 15 – July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the breeding season, a preconstruction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within 300 feet of the survey area (500 feet for raptors), clearing, grubbing, and grading shall be allowed to proceed in that area. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted by a qualified biologist within three days prior to the commencement of construction activities in that area. If active nests or nesting birds are observed within 300 feet of the survey area (500 feet for raptors), the biologist shall flag a buffer around the active nests and construction activities shall not occur within 300 feet of active nests (500 feet for raptors) until nesting behavior has ceased, nests have failed, or young have fledged as determined by a qualified biologist. If the qualified biologist determines that the species will not be impacted with a reduced buffer (i.e., less than 300 feet for general avian species and 500 feet for raptors), potentially with implementation of avoidance measures to reduce noise, as necessary, and the qualified biologist monitors the active nest during construction to ensure no impacts to the species occur, construction may occur outside the reduced buffer during the breeding season, as long as the species is not impacted.
- BIO-2 The following arroyo toad conservation measures apply in the area of Segment 6b shown as Arroyo Toad Exclusion Area on Figure 14c, the area of Segment 1 shown as Arroyo Toad Exclusion Area on Figure 14c, the area of Segment 2a, 2b, or 2c, as applicable, shown as Arroyo Toad Exclusion Area on Figure 14d, the area of Segment 4a and 4b shown as Arroyo Toad Exclusion Area on Figure 14f, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14f, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14f, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14f, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14g. There will be no soil-disturbing activity during arroyo toad breeding season outside the arroyo toad exclusion fence (March 15 through July 1). To avoid potential impacts to



arroyo toads that may be aestivating within the project area, exclusionary arroyo toad fencing will be installed around the limits of work during trail construction. The fence will consist of fabric or plastic at least two feet high. The lower one foot of the fence will be laid across the ground, staked firmly, and held securely by a continuous line of gravel bags, such that there are no gaps that could allow passage for arroyo toad. No vegetation removal or soil disturbance will be associated with installation of the fence, except for minor soil disturbance installing the stakes to hold up the fence, and all materials will be removed when earthwork is complete. Fence installation will be monitored by a USFWS-approved biologist. Following fence installation, a USFWS-approved biologist will conduct clearance surveys within the fenced areas for a minimum of three consecutive nights. If pre-activity conditions are dry, the area inside the exclusionary fencing will be sprayed with water during the arroyo toad survey to simulate a precipitation event. Surveys must be completed no more than 5 days prior to initiating soildisturbing activities. Any arroyo toads found during surveys will be relocated safely by the approved biologist to outside of the fenced area. The approved biologist will continue surveys until there have been two consecutive nights without arroyo toads inside the fence. The USFWSapproved biologist will conduct a training for construction personnel prior to impacts and shall be on-site at least weekly to check fencing integrity. No work will occur immediately prior to or during rain events.

- **BIO-3** Mitigation for Segment 6b impacts to 1.67 acres of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, including 0.93 acre of critical habitat, shall occur at a 1.5:1 ratio with 2.51 acres of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-4** Prior to trail grading for Segment 6b, follow-up rare plant surveys shall be conducted by a County-approved biologist for Dehesa beargrass (*Nolina interrata*), which was observed in the Segment 6b Study Area and would require additional measures for unavoidable impacts.

Should Dehesa beargrass be identified in the proposed impact area, the project alignment shall be adjusted to avoid them to the maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during pre-construction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets the species' habitat requirements, as determined by the County-approved biologist. Impacts shall be mitigated consistent with the BMO Section 86.507.a.1 at a 3:1 ratio.

Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a preference for species salvage and transplantation on-site if feasible. DPR and BIA will review and approve the letter report and implement the mitigation according to the Mitigation Monitoring and Reporting Program for the project. If species are transplanted for mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure **BIO-5**.



- **BIO-5** Prior to trail grading for Segment 6b, if Dehesa beargrass is being impacted and translocation is selected as part of the mitigation package according to the letter report prepared under mitigation measure **BIO-4**, a plant salvage and translocation plan shall be prepared for Dehesa beargrass impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.
- **BIO-6** Mitigation for Segment 6b permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- If heavy equipment would be in operation in Segment 1 during the breeding season for least BIO-7 Bell's vireo (March 15 to September 15), coastal California gnatcatcher (March 1 to August 15), general avian species (February 1 – September 15), or raptors (January 15 – July 15), preconstruction survey(s) shall be conducted by a gualified biologist, as appropriate, to determine whether these species occur within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area (within 300 feet for passerines, 500 feet for raptors, or as otherwise determined by a qualified biologist), construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these species, then the grading contractor will install noise attenuation materials within the work area to reduce the grading noise levels to below 60 dB(A)Leq, unless a qualified biologist determines that noise attenuation is not necessary due to existing barriers, ambient noise levels, or other biological factors relevant to the species present. The type of material and location of installation will be determined prior to installation in coordination with a qualified biologist knowledgeable of that species and in coordination with a qualified acoustician. All noise attenuation materials will be installed prior to construction, and noise monitoring will be implemented to help ensure grading noise is below 60 dB(A)Leg at the edge of the species' habitat both during noise attenuation installation (if installed during the breeding season) and during construction. Prior to starting construction, the qualified acoustician will provide a written report to DPR and BIA that confirms that noise attenuation is installed and adequately reducing noise levels at the edge of the species' habitat. Noise monitoring will continue into the species' breeding season until grading is completed.
- **BIO-8** Mitigation for Segment 2a, 2b, or 2c permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area.



Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

BIO-9 The following Quino conservation measures apply in the area of Segment 2c shown as Quino Checkerspot Butterfly Avoidance Area on Figure 14d.

Step 1, Survey

- Additional Quino host plant mapping was conducted in spring 2020 prior to construction when host plants were blooming, in order to ensure host plant patches are delineated to the greatest extent feasible.
- During 2020 host plant mapping, host plant patches were mapped them using GIS so they can be flagged prior to construction.

Step 2, Avoidance and Minimization Measures:

- Realign or leave trail sections unimproved, as needed, to avoid direct impacts to host plants as much as possible, as mapped during the 2019 Quino focused surveys and refined in 2020.
- All construction within mapped Quino host plant patches will be prohibited during the Quino flight season (defined as 3rd week of February through the 2nd Saturday in May).
- A qualified biologist will monitor construction within the Quino Avoidance Area to ensure that all flagged and mapped host plant locations planned for avoidance are avoided.
- The qualified biologist will conduct environmental awareness training for all entering the site during construction of the project.
- Following trail construction, clearing and trail maintenance within the Quino Avoidance Area shall either occur outside of the Quino flight season or be monitored by a qualified biologist.
- Install signs and/or fencing between the trail and the avoided host plants stating, "Environmentally sensitive area. Please stay on trail," or similar language.

Step 3, Compensatory Mitigation:

- If the trail cannot be redesigned or left unimproved to avoid impacts to all occupied Quino host plant patches, then in addition to the surveys and avoidance and minimization measures in Steps 1 and 2 above, a Section 7 consultation will be required and mitigation will be provided at a ratio determined through Section 7 consultation for impacted host plant patches. Mitigation may consist of one or a combination of on- or off-site planting of host plants, providing long-term maintenance of existing host plants, preserving occupied Quino habitat, or similar measures to the satisfaction of the USFWS.
- BIO-10 Mitigation for Segment 2c impacts to 0.71 acre of coastal California gnatcatcher occupied
 Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.07 acres of Tier II or
 Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation
 shall occur through one or a combination of the following: on- and/or off-site preservation,
 restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- BIO-11 Mitigation for Segment 3 permanent impacts to 0.02 acre of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-12** Mitigation for Segment 3 permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur



through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

- BIO-13 The following Hermes copper butterfly conservation measures apply to Segment 4c. Step 1, Survey
 - Conduct focused Hermes copper butterfly survey of the area of Segment 4c shown as Additional Hermes Copper Survey Areas on Figure 7 in spring-summer 2020.

Step 2, Avoidance and Minimization Measures:

- Realign the trail within the Study Area, if possible, to avoid direct impacts to occupied Hermes copper butterfly habitat, if mapped during the 2020 focused Hermes copper butterfly survey.
- All construction within occupied Hermes copper butterfly habitat, if any, will be prohibited during the Hermes copper butterfly flight season (defined as 3rd full week of May through the first full week of July).

Step 3, Compensatory Mitigation:

- If the 2020 focused Hermes copper butterfly survey is negative, mitigation for Segment 4c permanent impacts to 0.05 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.05 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank. -OR-
- If the 2020 focused Hermes copper butterfly survey is positive and impacts cannot be avoided, mitigation for Segment 4c permanent impacts to 0.05 acre of Occupied Hermes Copper Butterfly Habitat shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat, with 0.10 or 0.15 acre of Occupied Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-14** Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6, rare plant surveys shall be conducted by a County-approved biologist for County List A and B sensitive plant species, including, but not limited to, Dean's milk-vetch (*Astragalus deanei*), Delicate clarkia (*Clarkia delicata*), and Dehesa beargrass (*Nolina interrata*), which are species determined to have a moderate or high potential to occur and that would require additional measures for unavoidable impacts.

Should County List A or B species be identified in the impact areas of the Segment 4c Additional Study Area, the project alignment shall be adjusted to minimize impacts to the maximum extent practicable, consistent with the MSCP as codified in the BMO Section 86.507.a.1. If impacts to County List A or B species are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during pre-construction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets that species' habitat requirements, as



determined by the County-approved biologist. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species, consistent with the MSCP and the BMO Section 86.507.a.1, with List B species mitigated at a 1:1 ratio, List A species such as Dean's milk-vetch mitigated at a 2:1 ratio, and federally- or state-listed endangered or threatened species such as Dehesa beargrass mitigated at a 3:1 ratio.

Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a preference for species salvage and transplantation on-site if feasible. DPR and BIA will review and approve the letter report and implement the mitigation according to the Mitigation Monitoring and Reporting Program for the project. If species are transplanted for mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure **BIO-15**.

- **BIO-15** Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6, if County List A or B species will be impacted by the project and translocation is selected as part of the mitigation package according to the survey conducted under mitigation measure **BIO-14**, a plant salvage and translocation plan shall be prepared for County List A and B species impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.
- **BIO-16** Mitigation for Segment 5b impacts to 0.07 acre of Occupied Hermes Copper Butterfly Habitat, shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat, with 0.14 or 0.21 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or offsite preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

3.5 CONCLUSION

The preferred alignment would result in significant impacts to coastal California gnatcatcher, arroyo toad, least Bell's vireo, Potential Hermes Copper Butterfly Habitat, and raptors with the potential to nest and/or forage over the site and immediate vicinity. Potential significant impacts could result from direct disturbance, loss of habitat, and noise. The proposed mitigation for Segments 6a, 1, 2a, 3, and 4a would reduce project impacts from the preferred alignment to less than significant. If other segment options were selected, there could be significant impacts to coastal California gnatcatcher critical habitat, Quino, Dehesa beargrass, occupied Hermes copper butterfly habitat, delicate clarkia, and/or Dean's milk-vetch, depending on which segment options were selected. The proposed mitigation for Segments 6b, 2b, 2c, 4b, 4c, and/or 5b would reduce these impacts to less than significant.



4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITIES

4.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS or CDFW (County 2010b)?

Any of the following conditions would be considered significant if:

- A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.
- B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.
- C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.
- D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.
- E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

4.2 ANALYSIS OF PROJECT EFFECTS

4.2.1 Significant Impacts

4.2.1.1 Segment 6a

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.



Implementation of Segment 6a of the proposed project would not result in direct impacts to sensitive vegetation communities, as shown in Table 6. Impacts to sensitive natural communities would be considered less than significant.

4.2.1.2 Segment 6b

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 6b of the proposed project would result in direct impacts to approximately 2.08 acres of sensitive vegetation communities, including 1.67 acres of Diegan coastal sage scrub and 0.41 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-3** above (Section 3.4) and **BIO-17** below (Section 4.4).

4.2.1.3 Segment 1

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 1 of the proposed project would result in direct impacts to approximately 0.46 acre of sensitive vegetation communities, consisting of 0.46 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measure **BIO-18** below (Section 4.4).

4.2.1.4 Segment 2a

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 2a of the proposed project would result in direct impacts to approximately 1.95 acres of sensitive vegetation communities, including 1.61 acres of Diegan coastal sage scrub and 0.34 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-19** and **BIO-20** below (Section 4.4).

4.2.1.5 Segment 2b

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.



Implementation of Segment 2b of the proposed project would result in direct impacts to approximately 2.03 acres of sensitive vegetation communities, including 1.69 acres of Diegan coastal sage scrub and 0.34 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-21** and **BIO-22** below (Section 4.4).

4.2.1.6 Segment 2c

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 2c of the proposed project would result in direct impacts to approximately 1.02 acres of sensitive vegetation communities, including 0.71 acre of Diegan coastal sage scrub and 0.31 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-10** above and **BIO-23** below (Section 4.4).

4.2.1.7 Segment 3

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 3 of the proposed project would result in direct impacts to approximately 0.20 acre of sensitive vegetation communities, including 0.02 acre of Diegan coastal sage scrub and 0.18 acre of scrub oak chaparral, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-11** above (Section 3.4) and **BIO-24** below (Section 4.4).

4.2.1.8 Segment 4a

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 4a of the proposed project would result in direct impacts to approximately 0.06 acre of sensitive vegetation communities, consisting of 0.06 acre of Diegan coastal sage scrub, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measure **BIO-25** below (Section 4.4).



4.2.1.9 Segment 4b

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 4b of the proposed project would result in direct impacts to approximately 1.95 acres of sensitive vegetation communities, consisting of 1.95 acres of Diegan coastal sage scrub, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measure **BIO-26** below (Section 4.4).

4.2.1.10 Segment 4c

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 4c of the proposed project would result in direct impacts to approximately 0.86 acre of sensitive vegetation communities, consisting of 0.70 acre of Diegan coastal sage scrub and 0.16 acre of scrub oak chaparral, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-27** and **BIO-28** below (Section 4.4).

4.2.1.11 Segment 5a

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 5a of the proposed project would not result in direct impacts to sensitive vegetation communities, as shown in Table 6. Impacts to sensitive natural communities would be considered less than significant.

4.2.1.12 Segment 5b

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of Segment 5b of the proposed project would result in direct impacts to approximately 0.70 acre of sensitive vegetation communities, including 0.08 acre of coast live oak woodland, 0.02 acre of Diegan coastal sage scrub, 0.51 acre of scrub oak chaparral, and 0.09 acre of non-native grassland, as shown in Table 6. Impacts to sensitive natural communities would be considered significant. These impacts will be mitigated through implementation of mitigation measures **BIO-29** through **BIO-32** below (Section 4.4).



4.2.2 No Impact or Less than Significant Impacts

The project would not result in significant impacts under the guidelines 4.1.B, 4.1.C, 4.1.D, and 4.1.E for the following reasons:

B. The following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; diversion of water flow; placement of fill; placement of structures; road crossing construction; placement of culverts; disturbance of the substratum; and activities that may cause an adverse change in native species composition, diversity, and abundance.

The final project design will use bridges, puncheons, or other alternatives to avoid any impacts to jurisdictional wetlands and waters.

C. The project would not draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

No groundwater withdrawals or activities that would result in lowering of the groundwater table are proposed. No significant impact would occur.

D. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

Potentially significant indirect impacts to sensitive habitat resulting from human access, domestic animals, exotic plant species, and lighting would be avoided through the following project design features: (1) signs precluding access to areas outside of established trails shall be posted; (2) off-leash pets would not be allowed on trails or public areas and signs would be posted along trails notifying pet owners of this regulation; (3) only non-invasive, native plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]); (4) if night lighting is utilized during construction, the project is required to direct all necessary lighting in a downward direction with appropriate shield and illumination technology to prevent adverse spillover of light; (5) no operational project lighting is proposed; and (6) wildlife-friendly fencing will be installed to protect Quino host plant areas. No significant impact would occur.

E. The project includes wetland buffers adequate to protect the functions and values of existing wetlands.

The proposed project is exempt from the County's RPO (County 2012) requirements, pursuant to Section 86.605(d) of the RPO. Therefore, no wetland buffer is required.

4.3 CUMULATIVE IMPACT ANALYSIS

As discussed in Section 3.3 above, the project would not contribute to the cumulative impact on riparian habitat and other sensitive natural communities. The proposed project's impacts to wetland/riparian habitat and sensitive upland communities, while significant at the project level, are not considered cumulatively significant, as the project would provide mitigation for these impacts in accordance with County and regulatory agency guidelines. The County-approved mitigation ratios are standardized and



not dependent upon the quality of habitat. Rather, the mitigation ratios recognize the regional importance of the habitat, the overall rarity of the habitat, and the number and variety of species it supports. Mitigation for habitat loss is required to compensate for direct impacts, as well as cumulative loss of habitat. Impacts to wetland/riparian habitat and sensitive upland communities would be fully mitigated at County-approved ratios through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, enhancement and/or preservation; and/or off-site purchase of mitigation credits at an approved mitigation bank, or other location deemed acceptable by the County; thus, providing long-term conservation value. As the project would be in conformance with County guidelines and mitigation ratios, the proposed project's contribution to cumulative impacts to sensitive vegetation communities is not considerable and would be less than significant.

4.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Impacts to riparian habitats and sensitive natural communities would be mitigated through implementation of mitigation measures **BIO-3**, **BIO-10**, and **BIO-11** above and measures **BIO-17** through **BIO-32** below. Habitat impacts and mitigation by Segment are summarized in Table 7 below.



	Segment													
Vegetation Community ^{1,2,3}	Mitigation Ratio	6a ⁴	6b ⁴	1 ⁴	2 a ⁴	2b ⁴	2c ⁴	3 ⁴	4 a ⁴	4b ⁴	4c ⁴	5a ⁴	5b ⁴	Preferred Alternative Total ³
Sensitive Vegetation Communities														
Tier I				-										
Southern														
coast live oak	2.1													
riparian forest	2.1													
(61310)														
Southern														
riparian forest	2:1													
(61300)														
Southern														
willow scrub	2:1													
(63320)														
Mule fat scrub	2.1													
(63310)	2.1													
Non-vegetated														
channel	2:1													
(64200)														
Coast live oak													0.08/	
woodland	2:1												0.16	
(71160)													0.20	
Open coast														
live oak	2.1													
woodland														
(71161)														
Tier II	ſ							[1	r		
Diegan coastal														1.69/ 2.54
sage scrub,													·	
including	1.5:1		1.67/		1.61/	1.69/	0.71/	0.02/	0.06/	1.95/	0.70/		0.02/	
baccharis-			2.51		2.42	2.54	1.07	0.03	0.09	2.93	1.05		0.03	
dominated														
(32500)														

 Table 7

 SUMMARY OF SENSITIVE VEGETATION COMMUNITIES IMPACTS AND MITIGATION



 Table 7 (cont.)

 SUMMARY OF SENSITIVE VEGETATION COMMUNITIES IMPACTS AND MITIGATION

		Segment												
Vegetation Community ^{1,7}	Mitigation ^{2,3} Ratio	6 a ⁴	6b ⁴	1 ⁴	2a ⁴	2b ⁴	2c ⁴	3 ⁴	4a ⁴	4b ⁴	4c ⁴	5a ⁴	5b ⁴	Preferred Alternative Total ³
Sensitive Vegetation Communities														
Tier III														
Scrub oak chaparral (37900)	1:1							0.18/ 0.18			0.16/ 0.16		0.51/ 0.51	0.18/ 0.18
Non-native grassland (42200)	0.5:1		0.41/ 0.21	0.46/ 0.23	0.34/ 0.17	0.34/ 0.17	0.31/ 0.16						0.09/ 0.05	0.80/ 0.40
	TOTAL	0	2.08/ 2.72	0.46/ 0.23	1.95/ 2.59	2.03/ 2.71	1.02/ 1.23	0.20/ 0.21	0.06/ 0.09	1.95/ 2.93	0.86/ 1.21	0	0.70/ 0.75	2.67/ 3.12

1 Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

2 County Subarea Habitats and Tiers within the MSCP.

3 If Segment 6b were built, Segments 6a and 1 would not be built and their impacts would not occur. If Segments 6a and 1 were built, Segment 6b would not be built and its impacts would not occur. Total is for the preferred alternative: Segments 6a, 1, 2a, 3, 4a, and 5a.

4 All impacts and mitigation are in acres rounded to the nearest 0.01. The first number is the impact and the second number is the mitigation.



- **BIO-17** Mitigation for Segment 6b impacts to 0.41 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.21 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-18** Mitigation for Segment 1 impacts to 0.46 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.23 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-19** Mitigation for Segment 2a impacts to 1.61 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.42 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-20** Mitigation for Segment 2a impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-21** Mitigation for Segment 2b impacts to 1.69 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.54 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-22** Mitigation for Segment 2b impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-23** Mitigation for Segment 2c impacts to 0.31 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-24** Mitigation for Segment 3 impacts to 0.18 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.18 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.



- **BIO-25** Mitigation for Segment 4a impacts to 0.06 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.09 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-26** Mitigation for Segment 4b impacts to 1.95 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.93 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-27** Mitigation for Segment 4c impacts to 0.70 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.05 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-28** Mitigation for Segment 4c impacts to 0.16 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-29** Mitigation for Segment 5b permanent impacts to 0.08 acre of coast live oak woodland, a Tier I habitat, shall occur at a 2:1 ratio with 0.16 acre of Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-30** Mitigation for Segment 5b impacts to 0.02 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-31** Mitigation for Segment 5b impacts to 0.51 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.51 acre of Tier III, Tier II, or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- BIO-32 Mitigation for Segment 5b permanent impacts to 0.09 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.05 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.



4.5 CONCLUSION

The preferred alternative would result in significant impacts to 2.67 acres of sensitive natural communities; however, a combination of avoidance through project design and mitigation measures to fully compensate the loss of habitat would reduce impacts to below a level of significance. The impacts would change if different trail segment options were selected; however, mitigation is proposed at ratios consistent with those required by the County, Wildlife Agencies, and Resource Agencies, such that the mitigation would be adequate even if the most impactive trail segments totaling 6.96 acres of sensitive habitat were selected. With the implementation of mitigation measures **BIO-3**, **BIO-10**, **BIO-11**, and **BIO-17** through **BIO-32**, depending on final segment selection, impacts on sensitive natural communities would be reduced to less than significant.

5.0 JURISDICTIONAL WETLANDS AND WATERWAYS

5.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (County 2010b)?

The following condition would be considered significant if:

A. The project would impact federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

5.2 ANALYSIS OF PROJECT EFFECTS

5.2.1 No Impact

The project will not impact wetland Waters of the U.S./State or non-wetland Waters of the U.S./State, as discussed in Section 4.2.1 above.

5.3 CUMULATIVE IMPACT ANALYSIS

The project will not impact wetland Waters of the U.S./State; therefore, the project will not contribute to a cumulative impact to wetland Waters of the U.S./State.

5.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The project will not impact wetland Waters of the U.S./State; therefore, no mitigation is required.

5.5 CONCLUSION

Regardless of which trail segments are selected, the project will not impact wetland Waters of the U.S./State.



Furthermore, regardless of which trail segments are selected, implementation of the proposed project would not result in significant impacts to USACE and RWQCB non-wetland Waters of the U.S./State and CDFW-jurisdictional riparian habitat and streambed, as discussed in Section 4.2.1.

6.0 WILDLIFE MOVEMENT AND NURSERY SITES

6.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (County 2010b)?

Any of the following conditions would be considered significant if:

- A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.
- B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.
- C. The project would create artificial wildlife corridors that do not follow natural movement patterns.
- D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.
- E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.
- F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage.

6.2 ANALYSIS OF PROJECT EFFECTS

6.2.1 No Impact or Less than Significant Impacts

The project would not result in significant impacts under the above guidelines 6.1.A, 6.1.B, 6.1.C, 6.1.D, 6.1.E, and 6.1.F for the following reasons:

A. The project would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

Although the project would impact areas used by species for foraging and breeding, the project would not impede wildlife access to areas necessary for reproduction, as sufficient habitat to support these species occurs throughout the Study Area, vegetation impacts associated from construction of new trails



will be minimized, lines-of-sight are maintained across the trail, wildlife may cross the proposed trail, and connections to off-site lands also would be maintained. Similarly, wildlife may continue to access foraging habitat and water sources.

Access to these resources is expected to be maintained for a variety of species, including birds, terrestrial wildlife, and aquatic animals. Project construction would not impede access or lessen the area available for terrestrial wildlife movement. Coyotes are not known to avoid trails. Mule deer and mountain lion are the largest mammal species that could potentially occur on-site, and suitable expanses of habitat will be maintained for deer and mountain lion to move through the area. Movement of other medium-sized mammals, such as bobcat, is more likely to follow riparian areas associated with Sweetwater River and other areas with sufficient vegetative cover. Small animals could also cross the proposed trails. No impacts are proposed along Sweetwater River. The project would maintain a continuous connection of undeveloped land and native habitat including connections to the SDNWR. Therefore, the project would not impede wildlife access to habitat necessary for reproduction. Impacts would be less than significant.

B. The project would not substantially interfere with connectivity between blocks of habitat and would not potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

The Study Area occurs within the McGinty Mountain/Sequan Peak-Dehesa BRCA. The Study Area is continuous with large, continuous blocks of undeveloped areas including the SDNWR in the northwest end of the Study Area, and the SDNWR south of the Study Area. As discussed above in Section 6.2.1.A, the proposed trail is not expected to substantially interfere with the connectivity between blocks of habitat as lines-of-sight are maintained across the trail and wildlife may cross the proposed trail. The proposed trail would not substantially interfere with the ability of wildlife species to disperse across the core area within the Study Area or to adjacent open space areas, as adequate connectivity is maintained. The project would conform to the goals and requirements of the County Subarea MSCP and BMO, including effects on habitat linkages and wildlife corridors. Impacts would be less than significant.

C. The project would not create artificial wildlife corridors that do not follow natural movement patterns.

The project does not create artificial corridors, and movement functions would continue throughout the Preserve under post-project conditions. To the greatest extent practicable, the proposed trail occurs along existing trails already utilized by the public, and large expanses of native habitat would be maintained. The project will not constrain natural movement patterns through corridors for mule deer and mountain lions, as the trail segments have either been placed along or adjacent to existing roads or trails or have been minimized in width. Minimizing the trail width minimizes cut and fill slopes, which helps to maintain natural movement patterns so that these species will not be forced into open areas lacking cover or onto steep slopes. Mule deer or mountain lions were detected within the Sweetwater River riparian corridor, and movement within the riparian corridor will not be impacted by adding trails either alongside or upslope from the road. Valleys extend uphill from the river that would allow large mammals to move through the area undisturbed by the proposed trail segments. Additionally, because the trails are not lighted, they will be available for wildlife usage outside of daylight hours. Potential impediments to movement from construction of a new trail would not substantially interfere with natural movement patterns or access due to alternate travel routes throughout the local area. Adequate space and connectivity of habitat would remain in the local area, and local and regional movement



functions would continue throughout. In conclusion, although the project would introduce a new trail that could potentially result in minor interruptions to local wildlife movement within the site, the effects would not be substantially adverse and no artificial corridors would be created. Impacts would be less than significant.

D. The project would not increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

Project noise is not anticipated to adversely impact wildlife corridors/linkages as ongoing use by the public generates noise in portions of the site; thus, some level of noise disturbance already exists on-site. Additionally, construction of the trail is expected to occur in phases. The entire Study Area would not be impacted concurrently, allowing for wildlife, particularly avian species, to continue to use or occupy portions of the site outside of active work areas. Noise generated from trail construction is not anticipated to adversely impact wildlife species, and project design would not result in a significant impact to wildlife corridors or linkages resulting from noise.

Nighttime lighting is not proposed by this project. No significant impact to wildlife corridors or linkages resulting from lighting would occur.

E. The project maintains an adequate width for an existing wildlife corridor or linkage and would not further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, or placement of barriers in the movement path.

The Study Area occurs within the McGinty Mountain/Sequan Peak-Dehesa BRCA. The Study Area has large, continuous blocks of undeveloped areas, including the SDNWR in the northwest end of the Study Area, and the SDNWR south of the Study Area. As discussed above in Section 6.2.1.A, construction of a trail would not constrain or further constrain the width of an existing wildlife corridor or linkage. The project would make use of existing trails, and vegetation removal would be limited along the narrow project area. Wildlife movement would be able to continue around or across the completed trail, and its construction would not change the width of available wildlife corridors and linkages. Thus, the proposed trail would not result in an inadequate width for an existing wildlife corridor or linkage, and no significant impact would occur.

F. The project maintains adequate visual continuity (i.e., long lines-of-site) within wildlife corridors and linkage.

The project would not impair visual continuity within corridors or linkages. The project involves construction of a trail within a BRCA. Where trail construction is able to use an existing trail, lines-of-sight will be maintained across the trail. Where construction of the new trail is not able to use an existing trail, vegetation removal will occur, and lines-of-sight across the trail will be improved. Biological connectivity and existing lines-of-site between the project and adjacent undeveloped areas would be maintained. As such, the project would not impair visual continuity within corridors or linkages, and impacts would be less than significant.



6.3 CUMULATIVE IMPACT ANALYSIS

Wildlife movement in the area has already been impacted by the construction of Dehesa Road and Sloane Canyon Road, residential and commercial development, mineral extraction activities and creation of Lake Emma, and agriculture, as well as the presence of existing trails, maintenance, and access roads. The proposed project maintains connectivity within the core wildlife habitat, to adjacent linkages, and to adjacent, undeveloped habitat. With the project's location within and adjacent to undeveloped areas, incorporation of design features, and implementation of habitat mitigation measures at the specified ratios, the contribution of the project to the cumulative impact on wildlife movement would not be considerable and would be less than significant.

6.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No additional mitigation measures are required.

6.5 CONCLUSION

With the project's location within and adjacent to undeveloped areas, incorporation of design features, and implementation of habitat mitigation measures at the specified ratios, impacts would be less than significant, either for the preferred alignment or for other trail segment options, and no additional mitigation measures are required.

7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

7.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the project conflict with the provisions of an adopted HCP, NCCP plan, or other approved local, regional or state HCP (County 2010b)?

Any of the following conditions would be considered significant if:

- A. For lands outside of the MSCP, the project would impact Diegan coastal sage scrub vegetation in excess of the County's five percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.
- B. The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.
- C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.
- D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.



- E. The project does not conform to goals and requirements outlined in any applicable HCP, Resource Management Plan (RMP), Special Area Management Plan, Watershed Plan, or similar regional planning effort.
- F. For lands within the MSCP, the project would not minimize impacts to a Biological Resource Core Area (BRCA), as defined in the Biology Mitigation Ordinance (BMO; County 2010c).
- G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.
- H. The project does not maintain existing movement corridors and/or habitat linkages, as defined by the BMO.
- I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.
- J. The project would reduce the likelihood of survival and recovery of listed species in the wild.
- K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).
- L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

7.2 ANALYSIS OF PROJECT EFFECTS

7.2.1 Significant Impacts

The project would result in significant impacts under DPR's oak tree protection policy and under above guideline 7.1.K for the following reasons:

Coast live oak trees and oak root protections zones occur along all trail segments (Figure 11). Trail Segments 4a and 5a would not impact oak trees or oak root zones because only the existing roadway would be impacted. The remaining Segments 1, 2a, 2b, 2c, 3, 4b, 4c, 5b, 6a, and 6b would all impact oak root protection zones. DPR policy is to avoid impacting coast live oak trees and oak root zones where possible. Therefore, potential impacts are significant. Mitigation measure **BIO-33** below (Section 7.4) would reduce impacts to less than significant.

K. The project could result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

Implementation of the project Segments 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, 5b, 6a, and 6b could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. These impacts would be significant; however, the mitigation measures **BIO-1** and **BIO-7** would reduce impacts to less than significant.



7.2.2 No Impact or Less than Significant Impacts

The project would not result in significant impacts under above guidelines 7.1.A, 7.1.B, 7.1.C, 7.1.D, 7.1.E, 7.1.F, 7.1.G, 7.1.H, 7.1.I, 7.1.J, and 7.1.L for the following reasons:

A. The project would not impact Diegan coastal sage scrub vegetation outside of the MSCP in excess of the County's five percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

Project impacts to Diegan coastal sage scrub are all located within the adopted South County MSCP Subarea Plan. No impact would occur.

B. The project would not preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

Implementation of the project would not preclude or prevent the preparation of the subregional NCCP. The project is located within the boundaries of the South County MSCP Subarea Plan, which has already been prepared and adopted. No impact would occur.

C. The project would impact wetlands and sensitive habitat lands outlined in the RPO.

As detailed above in Section 1.5.3, the proposed project is exempt from this guideline pursuant to Section 86.603(a) of the RPO. The proposed project does not include consideration of an application listed as a type of discretionary application requiring a Resource Protection Study. Therefore, the project would be exempt from RPO requirements and no significant impact would occur.

D. The project would mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

The preferred alternative would impact 1.69 acres of Diegan coastal sage scrub. The project is located within the adopted South County MSCP Subarea Plan and the loss would be mitigated in accordance with the South County MSCP Subarea Plan and BMO. Therefore, no significant impact would occur.

E. The project conforms to goals and requirements outlined in any applicable HCP, RMP, Special Area Management Plan, Watershed Plan, or similar regional planning effort.

No adopted HCP, RMP, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project. The project occurs within the boundaries of the adopted South County MSCP and conforms to the goals and requirements of the MSCP and BMO. No impact would occur.

F. For lands within the MSCP, the project would minimize impacts to BRCA, as defined in the BMO.

The project minimizes impacts to BRCA in accordance with the MSCP and BMO, as detailed in Appendix N. Impacts would be less than significant.



G. The project would not preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The project is located within the adopted MSCP and connectivity is evaluated according to the MSCP and BMO. Impacts would be less than significant.

H. The project maintains existing movement corridors and/or habitat linkages, as defined by the BMO.

As detailed in Section 2.4, the open and relatively undisturbed canyons, ridges, and slopes of the Study Area contain native habitat that provides functional wildlife habitat and movement capability. Wildlife movement functions would be maintained within the Study Area by the formalizing of existing trails where possible, such as in Segment 3, and by using bridges to minimize impacts to wildlife movement along the Sweetwater River and smaller drainages. Therefore, wildlife movement routes, corridors, and habitat connectivity would be maintained by the project in accordance with the MSCP and BMO. Impacts would be less than significant.

I. The project avoids impacts to MSCP narrow endemic species and would not impact core populations of narrow endemics.

Dehesa beargrass, arroyo toad, Quino, and least Bell's vireo are narrow endemic species observed within and adjacent to the Study Area.

Potential impacts to Dehesa beargrass in Segment 6b are discussed in Section 3.2.1.2 and will be mitigated per mitigation measures **BIO-4** and **BIO-5**. The potential for impacts to Dehesa beargrass in Segment 4c is low, but if present, impacts will be mitigated by mitigation measures **BIO-14** and **BIO-15**. The project site is not one of the core populations of Dehesa beargrass to be avoided per MSCP Plan table 3-5.

The proposed project avoids impacts to all observed arroyo toad locations. As discussed in Section 3.2.1, potential impacts from construction of Segments 1, 2a, 2b, 2c, 4a, 4b, 5b, 6a, and 6b will be avoided during construction, per mitigation measure **BIO-2**. The project site is not one of the important habitat areas for arroyo toad mentioned in MSCP Plan Table 3-5.

Segment 2c is occupied by Quino and supports Quino host plants. The trail will avoid impacts to the maximum extent feasible and mitigate for unavoidable impacts per mitigation measure **BIO-9**, as discussed in Section 3.2.1.6. The project was not confirmed to support Quino breeding, and therefore it does not constitute a core population of Quino.

Finally, the project avoids and preserves within open space all suitable least Bell's vireo habitat, and breeding season impacts in Segments 1, 2a, 2b, 2c, and 6b would be avoided in accordance with MSCP Plan Table 3-5 by mitigation measures **BIO-1 and BIO-7**, as discussed in Section 3.2.1.

Therefore, the project avoids impacts to MSCP narrow endemic species and would not impact core populations. Impacts would be less than significant.



J. The project would not reduce the likelihood of survival and recovery of listed species in the wild.

Even in the unlikely scenario that the most impactive trail alignment were selected in each segment (Segments 6b, 2b, 3, 4b, and 5b), the proposed project proposes a maximum potential impact of 6.96 acres of sensitive habitat suitable for many listed species known to occupy the Study Area, which is a tiny fraction of the contiguous suitable habitat available throughout the Study Area and adjacent undeveloped lands. The preferred alternative (Segments 6a, 1, 2a, 3, 4a, and 5a), would impact only 2.67 acres of sensitive habitat, which is an even tinier fraction of the contiguous suitable habitat available throughout the Study Area and adjacent undeveloped lands. Furthermore, the project would mitigate for impacts to native habitat at ratios consistent with the MSCP and BMO, thereby enhancing breeding, foraging, and dispersal habitat for listed species that have been documented within the Study Area. By creating formal trails and installing signage directing people to official trails, large blocks of suitable habitat for listed species such that the project would not reduce the likelihood of survival or recovery for listed species, and a less than significant impact would occur.

L. The project would not result in the take of eagles, eagle eggs, or any part of an eagle (BGEPA).

The Study Area does not contain eagle foraging habitat or nesting habitat and it is not within any known golden eagle territory. The surrounding habitat fragmentation and the distance from known eagle territories would indicate that the site does not have high value for golden eagle. The surrounding area is primarily urbanized and new nesting in the vicinity is unlikely. Therefore, no impacts would occur to golden eagle or its habitat.

7.3 CUMULATIVE IMPACT ANALYSIS

The project will comply with the requirements of the MBTA, BGEPA, BMO, and MSCP. All currently proposed and future projects within the cumulative Study Area will also be required to comply with these regulations; therefore, no significant cumulative impacts would occur.

7.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Impacts to nesting birds protected under the MBTA would be mitigated through mitigation measures **BIO-1** and **BIO-7**.

Impacts to coast live oak trees protected by DPR policy would be mitigated through the following mitigation measure **BIO-33**:

BIO-33 In keeping with DPR policy to minimize impacts to oak trees whenever possible, the following measures will be implemented in Segments 6a, 6b, 1, 2a, 2b, 2c, 3, 4b, 4c, and 5b to protect avoided woodlands, forests, and coast live oak trees:

General Construction Site Recommendations

• A minimum four-foot tall, brightly colored, synthetic fence should be installed around the outermost edge of the protected zone of oaks and other native trees that are designated for retention on-site. Encroachment into the fenced areas should be



restricted to the minimum amount feasible and fencing should remain in place until all construction activities have ceased. The protected zone is the Oak Root Protection Zone depicted on Figures 14b through 14g or in cases where construction is encroaching on the Oak Root Protection Zone of a retained tree, the protected zone is the portion of the tree's Oak Root Zone that is being protected.

- The fenced area should be kept clear of building materials, waste, and excess soil.
- No digging, trenching, compaction, or other soil disturbance should be allowed in the fenced area.
- The storage of construction equipment or hazardous materials such as gasoline, oil, or other toxic chemicals should not be allowed in or adjacent to the fenced area.
- Storage areas for equipment, soil, and construction materials as well as burn sites (if permitted), cement washout pits, and construction work zones should be kept away from protected oaks and other native trees and outside the fenced in area.
- Cable, chain, rope or signage should not be attached to retained oaks and other native trees.
- Designated roads and parking areas should be established. All construction personnel should be restricted to driving and parking in designated areas. Discharge of exhaust from construction vehicles and equipment should not be allowed near the protected zone of trees.
- Grade changes should be avoided near fenced areas to the maximum extent possible.
- To prevent soil compaction when working within the Oak Root Zone, spread several inches of wood chips in the root zone area and bridge root areas with plates of steel.

Recommendations for Construction Activities in the Vicinity of Retained Trees

- All necessary clearance pruning on oaks and other native trees should be conducted by a Certified Tree Worker or Certified Arborist.
- Trenching within the Oak Root Zone should be avoided to the maximum extent practicable and kept a minimum distance of 10 times the diameter of the tree away from its trunk, if feasible; e.g., for a six inch diameter trunk, trenching should be kept at least five feet away. If necessary, this trenching should be conducted using hand excavation or compressed air to reduce impacts to tree roots. Machine trenching should not be allowed within the dripline of retained trees. If pipes must be installed closer to the tree than a distance of 10 times the diameter of the tree away from its trunk, they should be bored beneath the tree a minimum of three feet below the ground surface to reduce impacts to roots.
- Excavation should also be minimized within the dripline of retained oaks and other native trees. Construction within the dripline of retained trees should be conducted in a



manner that minimizes excavation and provides for the best preservation of roots as determined by the Project Arborist.

- If tree roots of oaks and other native trees are severed outside of the fenced area, they should be severed cleanly and kept moist. During hot, dry weather all exposed roots outside of fenced areas should be covered with protective material during construction such as mulch or plywood sheets to reduce soil compaction. Protective material should be removed upon completion of construction activities.
- Trenching and excavation should be avoided during hot, dry, weather if possible and trees shall be watered before, during, and after trenching and excavation within the dripline of retained trees to offset water loss due to cut roots.
- Grading within the driplines of retained oaks and other native trees should be avoided wherever feasible.

Recommendations for Protection of Trees Post-Construction

- Post-construction inspections of the retained oaks and other native trees should be conducted by a Certified Arborist or Certified Tree Worker to determine if the retained trees are stressed (e.g., water stress, nutrient stress) or damaged (e.g., broken branches, trunk damage). Appropriate corrective actions should be implemented as necessary. Such corrective actions may include application of root stimulant to encourage new root growth in trees that have a significant portion of their roots lost due to cutting or soil compaction.
- Aeration of soil by vertical mulching or similar technique should be implemented around retained oaks and other native trees to offset the impacts of soil compaction that has already occurred due to construction activities and other site uses.

Compensatory Mitigation

• Mature oak trees that cannot be avoided and are removed or killed by trail construction will be replaced with on- or off-site planting or preservation of coast live oak trees at a 2:1 ratio.

7.5 CONCLUSION

Implementation of either the preferred alignment or alternate trail segment options would result in potentially significant impacts to breeding migratory birds and coast live oak trees. Implementation of mitigation measures **BIO-1**, **BIO-7**, and **BIO-33** would reduce these impacts to below a level of significance.



8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The proposed project has the potential to cause significant impacts to special status animal species, sensitive natural communities, jurisdictional wetlands and/or riparian habitats as defined by the USACE and CDFW, and local policies. In each case, however, the identified significant impact can be mitigated to a less than significant level. Table 7 above provides a summary of project impacts and mitigation pertaining to sensitive natural communities. Table 8 provides a summary of the proposed mitigation measures.



 Table 8

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)	Segment(s)
BIO-1	Grubbing or clearing of vegetation for trail Segment 6a, 6b, 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, and 5b during the general avian breeding season (February 1 – September 15), least Bell's vireo breeding season (March 15 to September 15), coastal California gnatcatcher breeding season (March 1 – August 15), or raptor breeding season (January 15 – July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within 300 feet of the survey area (500 feet for raptors), clearing, grubbing, and grading shall be allowed to proceed in that area. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted by a qualified biologist within three days prior to the commencement of construction activities in that area. If active nests or nesting birds are observed within 300 feet of the survey area (500 feet for raptors) until nesting behavior has ceased, nests have failed, or young have fledged as determined by a qualified biologist. If the qualified biologist determines that the species will not be impacted with a reduced buffer (i.e., less than 300 feet for general avian species and 500 feet for raptors), potentially with implementation of avoidance measures to reduce noise, as necessary, and the qualified biologist monitors the active nest during construction to ensure no impacts to the species occur, construction may occur outside the reduced buffer during the breeding season, as long as the species is not impacted.	Less than Significant	3.1.A, 3.1.B, 3.1.L, 7.1.K	6a, 6b, 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, 5b



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-2 The following arroyo toad conservation measures apply in the area of Segment 6b shown as Arroyo Toad Exclusion Area on Figure 14c, the area of Segment 1 shown as Arroyo Toad Exclusion Area on Figure 14d, the area of Segment 2a, 2b, or 2c, as applicable, shown as Arroyo Toad Exclusion Area on Figure 14d, the area of Segment 4a and 4b shown as Arroyo Toad Exclusion Area on Figure 14d, and the area of Segment 4a and 4b shown as Arroyo Toad Exclusion Area on Figure 14d, the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14d, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14g. There will be no soil-disturbing activity during arroyo toad breeding season outside the arroyo toad exclusion fence (March 15 through July 1). To avoid potential impacts to arroyo toad fencing will be installed around the limits of work during trail construction. The fence will consist of fabric or plastic at least two feet high. The lower one foot of the fence will be laid across the ground, staked firmly, and held securely by a continuous line of gravel bags, such that there are no gaps that could allow passage for arroyo toad. No vegetation removal or soil disturbance will be associated with installation of the fence, except for minor soil disturbance installing the stakes to hold up the fence, and all materials will be removed when earthwork is complete. Fence installation will be monitored by a USFWS-approved biologist. Following fence installation, a USFWS-approved biologist will conduct clearance surveys within the fence dareas for a minimum of three consecutive nights. If pre-activity conditions are dry, the area inside the exclusionary fencing will be sprayed with water during the arroyo toad survey to simulate a precipitation event. Surveys must be completed no more than 5 days prior to initiating soil-disturbing activities. Any arroyo toads found during surveys will be relocated safely by the approved biologist to outside of the fenced area. The approved biologist will continue s	Less than Significant	3.1.A, 3.1.B	6b, 1, 2a, 2b, 2c, 4a, 4b, 5b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES


	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-3	Mitigation for Segment 6b impacts to 1.67 acres of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, including 0.93 acre of critical habitat, shall occur at a 1.5:1 ratio with 2.51 acres of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.A, 3.1.B, 4.1.A	6b
BIO-4	Prior to trail grading for Segment 6b, follow-up rare plant surveys shall be conducted by a County-approved biologist for Dehesa beargrass (<i>Nolina interrata</i>), which was observed in the Segment 6b Study Area and would require additional measures for unavoidable impacts. Should Dehesa beargrass be identified in the proposed impact area, the project alignment shall be adjusted to avoid them to the maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during pre-construction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets the species' habitat requirements, as determined by the County-approved biologist. Impacts shall be mitigated consistent with the BMO Section 86.507.a.1 at a 3:1 ratio. Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a preference for species salvage and transplantation on-site if feasible. DPR and BIA will review and approve the letter report and implement the mitigation according to the Mitigation, these species will be included in a plant salvage and transplantation plan according to mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure BIO-5 .	Less than Significant	3.1.A, 3.1.B, 7.1.I	6b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-5	Prior to trail grading for Segment 6b, if Dehesa beargrass is being impacted and translocation is selected as part of the mitigation package according to the letter report prepared under mitigation measure BIO-4 , a plant salvage and translocation plan shall be prepared for Dehesa beargrass impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.	Less than Significant	3.1.A, 3.1.B, 7.1.I	6b
BIO-6	Mitigation for Segment 6b permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.B	6b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-7	If heavy equipment would be in operation in Segment 1 during the breeding season for least Bell's vireo (March 15 to September 15), coastal California gnatcatcher (March 1 to August 15), general avian species (February 1 – September 15), or raptors (January 15 – July 15), pre- construction survey(s) shall be conducted by a qualified biologist, as appropriate, to determine whether these species occur within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area (within 300 feet for passerines, 500 feet for raptors, or as otherwise determined by a qualified biologist), construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these species, then the grading contractor will install noise attenuation materials within the work area to reduce the grading noise levels to below 60 dB(A)Leq, unless a qualified biologist determines that noise attenuation is not necessary due to existing barriers, ambient noise levels, or other biological factors relevant to the species present. The type of material and location of installation will be determined prior to installation in coordination with a qualified biologist knowledgeable of that species and in coordination with a qualified acoustician. All noise attenuation materials will be installed prior to construction, and noise monitoring will be implemented to help ensure grading noise is below 60 dB(A)Leq at the edge of the species' habitat both during noise attenuation installation (if installed during the breeding season) and during construction. Prior to starting construction, the qualified acoustician will provide a written report to DPR and BIA that confirms that noise attenuation is installed and adequately reducing noise levels at the edge of the species' habitat. Noise monitoring will continue into the species' breeding season until grading is completed.	Less than Significant	3.1.A, 3.1.B, 3.1.L, 7.1.K	1
BIO-8	Mitigation for Segment 2a, 2b, or 2c permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.B	2a, 2b, 2c

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-9	 The following Quino conservation measures apply in the area of Segment 2c shown as Quino Checkerspot Butterfly Avoidance Area on Figure 14d. Step 1, Survey Additional Quino host plant mapping was conducted in spring 2020 prior to construction when host plants were blooming, in order to ensure host plant patches are delineated to the greatest extent feasible. During 2020 host plant mapping, host plant patches were mapped them using GIS so they can be flagged prior to construction. Step 2, Avoidance and Minimization Measures: Bealign or leave trail sections unimproved as needed to avoid direct impacts to host 			
	 Incluigh of heave than sections dumpfored, as needed, to avoid direct impacts to host plants as much as possible, as mapped during the 2019 Quino focused surveys and refined in 2020. All construction within mapped Quino host plant patches will be prohibited during the Quino flight season (defined as 3rd week of February through the 2nd Saturday in May). A qualified biologist will monitor construction within the Quino Avoidance Area to ensure that all flagged and mapped host plant locations planned for avoidance are avoided. The qualified biologist will conduct environmental awareness training for all entering the site during construction, clearing and trail maintenance within the Quino Avoidance Area shall either occur outside of the Quino flight season or be monitored by a qualified biologist. Install signs and/or fencing between the trail and the avoided host plants stating, "Environmentally sensitive area. Please stay on trail," or similar language. 	Less than Significant	3.1.A, 3.1.B	2c

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
Step 3, Compensatory Mitigation: If the trail cannot be redesigned or left unimproved to avoid impacts to all occupied Quino host plant patches, then in addition to the surveys and avoidance and minimization measures in Steps 1 and 2 above, a Section 7 consultation will be required and mitigation will be provided at a ratio determined through Section 7 consultation for impacted host plant patches. Mitigation may consist of one or a combination of on- or off-site planting of host plants, providing long-term maintenance of existing host plants, preserving occupied Quino habitat, or similar measures to the satisfaction of the USFWS.			
BIO-10 Mitigation for Segment 2c impacts to 0.71 acre of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.07 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.A, 3.1.B, 4.1.A	2c
BIO-11 Mitigation for Segment 3 permanent impacts to 0.02 acre of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.A, 3.1.B, 4.1.A	3
BIO-12 Mitigation for Segment 3 permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.B	3

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
 BIO-13 The following Hermes copper butterfly conservation measures apply to Segment 4c. Step 1, Survey Conduct focused Hermes copper butterfly survey of the area of Segment 4c shown as Additional Hermes Copper Survey Areas on Figure 7 in spring-summer 2020. Step 2, Avoidance and Minimization Measures: Realign the trail within the Study Area, if possible, to avoid direct impacts to occupied Hermes copper butterfly habitat, if mapped during the 2020 focused Hermes copper butterfly survey. All construction within occupied Hermes copper butterfly habitat, if any, will be prohibited during the Hermes copper butterfly flight season (defined as 3rd full week of May through the first full week of July). Step 3, Compensatory Mitigation: If the 2020 focused Hermes copper butterfly survey is negative, mitigation for Segment 4c permanent impacts to 0.05 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bankOR- 	Less than Significant	3.1.B	4c

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
 If the 2020 focused Hermes copper butterfly survey is positive and impacts cannot be avoided, mitigation for Segment 4c permanent impacts to 0.05 acre of Occupied Hermes Copper Butterfly Habitat shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat, with 0.10 or 0.15 acre of Occupied Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank. 			
BIO-14 Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6, rare plant surveys shall be conducted by a County-approved biologist for County List A and B sensitive plant species, including, but not limited to, Dean's milk-vetch (<i>Astragalus deanei</i>), Delicate clarkia (<i>Clarkia delicata</i>), and Dehesa beargrass (<i>Nolina interrata</i>), which are species determined to have a moderate or high potential to occur and that would require additional measures for unavoidable impacts.	Less than Significant	3.1.B, 7.1.	4c

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
 Should County List A or B species be identified in the impact areas of the Segment 4c Additional Study Area, the project alignment shall be adjusted to minimize impacts to the maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts to County List A or B species are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during pre-construction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets that species' habitat requirements, as determined by the County-approved biologist. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species, consistent with the BMO Section 86.507.a.1, with List B species mitigated at a 1:1 ratio, List A species such as Dean's milk-vetch mitigated at a 2:1 ratio, and federally- or state-listed endangered or threatened species such as Dehesa beargrass mitigated at a 3:1 ratio. 			

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
Should County List A or B species be identified in the impact areas of the Segment 4c	I		
Additional Study Area, the project alignment shall be adjusted to minimize impacts to the			
maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts to			
County List A or B species are unavoidable, they shall be quantified and limited to no more			
than 20 percent of the total population in the area, consistent with the BMO Section			
86.507.a.1, as determined during pre-construction surveys and documented in a letter report			
submitted by the County-approved biologist to DPR and BIA. The mapping of plant			
populations will extend beyond the impact area into the adjacent area that meets that			
species' habitat requirements, as determined by the County-approved biologist. In addition,			
impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species,			
consistent with the BMO Section 86.507.a.1, with List B species mitigated at a 1:1 ratio, List A			
species such as Dean's milk-vetch mitigated at a 2:1 ratio, and federally- or state-listed			
endangered or threatened species such as Dehesa beargrass mitigated at a 3:1 ratio.			
Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a			
preference for species salvage and transplantation on-site if feasible. DPR and BIA will review			
and approve the letter report and implement the mitigation according to the Mitigation			
Monitoring and Reporting Program for the project. If species are transplanted for mitigation,			
these species will be included in a plant salvage and translocation plan according to mitigation			
measure BIO-15 .			

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Table 8 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-15 Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6, if County List A or B species will be impacted by the project and translocation is selected as part of the mitigation package according to the survey conducted under mitigation measure BIO-14 , a plant salvage and translocation plan shall be prepared for County List A and B species impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.	Less than Significant	3.1.B, 7.1.I	4c
BIO-16 Mitigation for Segment 5b impacts to 0.07 acre of Occupied Hermes Copper Butterfly Habitat, shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat, with 0.14 or 0.21 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	3.1.B	5b



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-17 Mitigation for Segment 6b impacts to 0.41 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.21 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	6b
BIO-18 Mitigation for Segment 1 impacts to 0.46 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.23 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	1
BIO-19 Mitigation for Segment 2a impacts to 1.61 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.42 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	2a
BIO-20 Mitigation for Segment 2a impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	2a
BIO-21 Mitigation for Segment 2b impacts to 1.69 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.54 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	2b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-22 Mitigation for Segment 2b impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	2b
BIO-23 Mitigation for Segment 2c impacts to 0.31 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	2c
BIO-24 Mitigation for Segment 3 impacts to 0.18 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.18 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	3
BIO-25 Mitigation for Segment 4a impacts to 0.06 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.09 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	4a
BIO-26 Mitigation for Segment 4b impacts to 1.95 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.93 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	4b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-27 Mitigation for Segment 4c impacts to 0.70 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.05 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	4c
BIO-28 Mitigation for Segment 4c impacts to 0.16 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	4c
BIO-29 Mitigation for Segment 5b permanent impacts to 0.08 acre of coast live oak woodland, a Tier I habitat, shall occur at a 2:1 ratio with 0.16 acre of Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	5b
BIO-30 Mitigation for Segment 5b impacts to 0.02 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	5b
BIO-31 Mitigation for Segment 5b impacts to 0.51 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.51 acre of Tier III, Tier II, or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	5b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
BIO-32 Mitigation for Segment 5b permanent impacts to 0.09 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.05 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.	Less than Significant	4.1.A	5b
 BIO-33 In keeping with DPR policy to minimize impacts to oak trees whenever possible, the following measures will be implemented in Segments 6a, 6b, 1, 2a, 2b, 2c, 3, 4b, 4c, and 5b to protect avoided woodlands, forests, and coast live oak trees: General Construction Site Recommendations A minimum four-foot tall, brightly colored, synthetic fence should be installed around the outermost edge of the protected zone of oaks and other native trees that are designated for retention on-site. Encroachment into the fenced areas should be restricted to the minimum amount feasible and fencing should remain in place until all construction activities have ceased. The protected zone is the Oak Root Protection Zone depicted on Figures 14b through 14g or in cases where construction is encroaching on the Oak Root Protection Zone of a retained tree, the protected zone is the portion of the tree's Oak Root Zone that is being protected. The fenced area should be kept clear of building materials, waste, and excess soil. No digging, trenching, compaction, or other soil disturbance should be allowed in the fenced area. 	Less than Significant	7.1	6a, 6b, 1, 2a, 2b, 2c, 3, 4b, 4c, 5b

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
•	The storage of construction equipment or hazardous materials such as gasoline, oil, or other toxic chemicals should not be allowed in or adjacent to the fenced area.			
•	Storage areas for equipment, soil, and construction materials as well as burn sites (if permitted), cement washout pits, and construction work zones should be kept away from protected oaks and other native trees and outside the fenced in area.			
•	Cable, chain, rope or signage should not be attached to retained oaks and other native trees.			
•	Designated roads and parking areas should be established. All construction personnel should be restricted to driving and parking in designated areas. Discharge of exhaust from construction vehicles and equipment should not be allowed near the protected zone of trees.			
Grad	e changes should be avoided near fenced areas to the maximum extent possible.			
•	To prevent soil compaction when working within the Oak Root Zone, spread several inches of wood chips in the root zone area and bridge root areas with plates of steel.			
Reco	mmendations for Construction Activities in the Vicinity of Retained Trees			
•	All necessary clearance pruning on oaks and other native trees should be conducted by a Certified Tree Worker or Certified Arborist.			

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation	Level of Significance After Mitigation	Guideline Number	Segment(s)
• Trenching within the Oak Root Zone should be avoided to the maximum extent practicable and kept a minimum distance of 10 times the diameter of the tree away from its trunk, if feasible; e.g., for a six inch diameter trunk, trenching should be kept at least five feet away. If necessary, this trenching should be conducted using hand excavation or compressed air to reduce impacts to tree roots. Machine trenching should not be allowed within the dripline of retained trees. If pipes must be installed closer to the tree than a distance of 10 times the diameter of the tree away from its trunk, they should be bored beneath the tree a minimum of three feet below the ground surface to reduce impacts to roots.			
• Excavation should also be minimized within the dripline of retained oaks and other native trees. Construction within the dripline of retained trees should be conducted in a manner that minimizes excavation and provides for the best preservation of roots as determined by the Project Arborist.			
• If tree roots of oaks and other native trees are severed outside of the fenced area, they should be severed cleanly and kept moist. During hot, dry weather all exposed roots outside of fenced areas should be covered with protective material during construction such as mulch or plywood sheets to reduce soil compaction. Protective material should be removed upon completion of construction activities.			
• Trenching and excavation should be avoided during hot, dry, weather if possible and trees shall be watered before, during, and after trenching and excavation within the dripline of retained trees to offset water loss due to cut roots.			
• Grading within the driplines of retained oaks and other native trees should be avoided wherever feasible.			

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



Proposed Mitigation		Guideline Number	Segment(s)
Recommendations for Protection of Trees Post-Construction			
• Post-construction inspections of the retained oaks and other native trees should be conducted by a Certified Arborist or Certified Tree Worker to determine if the retained trees are stressed (e.g., water stress, nutrient stress) or damaged (e.g., broken branches, trunk damage). Appropriate corrective actions should be implemented as necessary. Such corrective actions may include application of root stimulant to encourage new root growth in trees that have a significant portion of their roots lost due to cutting or soil compaction.			
• Aeration of soil by vertical mulching or similar technique should be implemented around retained oaks and other native trees to offset the impacts of soil compaction that has already occurred due to construction activities and other site uses.			
Compensatory Mitigation			
• Mature oak trees that cannot be avoided and are removed or killed by trail construction will be replaced with on- or off-site planting or preservation of coast live oak trees at a 2:1 ratio.			

 Table 8 (cont.)

 SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES



9.0 LIST OF PREPARERS AND PERSONS/ORGANIZATIONS CONTACTED

The following individuals contributed to the fieldwork and/or preparation of this report.

Jasmine Bakker*	B.S., Ecology & Systematic Biology, emphasis in Botany, California Polytechnic State University, San Luis Obispo, 2001
Tara Baxter	B.A., Ecology and Evolutionary Biology, University of Colorado, Boulder, 2009
Sean Bohac	Graduate Certificate, GIS Certificate Program, Mesa College, San Diego, California, 2003 B.S., Biology, The Evergreen State College, Olympia, Washington, 1998
Angelia Bottiani B.S.,	Biology, emphasis on Ecology and Biodiversity, Humboldt State University, 2015
Samantha Edgley*	B.S., Environmental Biology, emphasis in Ecosystem Ecology and Management, California State Polytechnic University, Pomona, 2012
Beth Ehsan‡†	M.S., Natural Resource Policy, University of Michigan, 2004 B.A., Conservation Biology, University of Wisconsin-Madison, 2001
Linda Garcia	M.A., English, Nation University, San Diego, 2012 B.A., Literatures in English, University of California, San Diego, 2003
Erica Harris*	B.S., Biology, emphasis in Zoology, San Diego State University, 2009
Korey Klutz†	B.S., Biology, emphasis in Evolution and Systematics, San Diego State University, 1999
Rebecca Kress	B.A., Geography, State University of New York, Geneseo, 1999
Beth Martinez	M.S., Environmental Studies, California State University Fullerton, 2002 B.A., Philosophy, University of California Irvine, 1992
Amanda Mathews	B.S., Wildlife and Fisheries, Frostburg State University, 2008 A.A., Life Sciences and Laboratory Science, Biotechnology, Howard Community College, 2006
Amy Mattson*	M.S., Marine Biology, Scripps Institution of Oceanography, 1999 B.S., Marine Biology Concentration, University of California Los Angeles, 1994
Laura Moreton	M.S., Biodiversity Survey, University of Sussex, England 2007 B.S., Biology, San Diego State University, CA 2006



Stacy Nigro+	B.S., Forest Resources and Conservation (emphasis Wildlife Ecology) University of Florida-Gainesville, 1994
Benjamin Rosenbaum	B.S., Biology, emphasis in Ecology, San Diego State University, 2009
W. Larry Sward†	M.S., Biology, emphasis in Botany, San Diego State University, 1979 B.S., Biology, emphasis in Ecology, San Diego State University, 1975

‡ Primary report author

* Contributing author

+ County-approved Biological Consultant



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Appendix A

Observed Species List – Flora

Appendix A Plant Species Observed

Family	Scientific Name ^{*,†}	Common Name	Habitat ¹
Adoxaceae	Sambucus nigra ssp. caerulea	blue elderberry	SCLORF, CLOW, EW
Agavaceae	Hesperoyucca whipplei	Our Lord's candle	DCSS, SOC
	Yucca schidigera	Mohave yucca	DCSS
Alliaceae	Allium peninsulare var. peninsulare	Peninsula onion	SOC
	Allium sp.	wild onion	NNG
Anacardiaceae	Schinus molle*	Peruvian pepper tree	EW, NNV
	Toxicodendron diversilobum	poison oak	SCLORF, SRF, SOC
Apiaceae	Bowlesia incana	American bowlesia	SOC
	Conium maculatum*	poison-hemlock	SCLORF
	Daucus pusillus	wild carrot	DCSS, SOC
	Lomatium sp.	lomatium	SOC, SOC
	Sanicula sp.	sanicle	SOC, SOC
Asteraceae	Artemisia californica	California sagebrush	DCSS
	Baccharis salicifolia	mule fat	MFS, SCLORF, SRF
	Baccharis sarothroides	broom baccharis	MFS, SCLORF, SRF
	Bahiopsis laciniata†	San Diego County sunflower	DCSS
	Carduus pycnocephalus	Italian thistle	NNG, DCSS
	Centaurea melitensis*	tocalote	DCSS, NNG
	Chaenactis glabriuscula	common yellow chaenactis	NNG, DCSS, SOC
	Encelia californica	California encelia	SOC, DCSS
	Ericameria palmeri† ‡	Palmer's goldenbush	DCSS
	Eriophyllum confertiflorum	golden yarrow	DCSS, SOC
	Glebionis coronaria*	garland daisy	NNG, DCSS, DH
	Hedypnois cretica*	Crete hedypnois	DH
	Heterotheca grandiflora	telegraph weed	DH
	Hypochaeris glabra*	smooth catsear	NNG, DCSS, SOC, DH
	Isocoma menziesii	goldenbush	DCSS, NNG, CLOW
	Logfia arizonica	Arizona filago	DCSS
	Logfia filaginoides	California filago	DCSS, NNG, SOC
	Pseudognaphalium biolettii	bicolor cudweed	DCSS
	Pseudognaphalium canescens	everlasting	SCLORF
	Pseudognaphalium leucocephalum† ‡	white rabbit-tobacco	CLOW
	Senecio flaccidus	shrubby ragwort	DCSS
	Senecio vulgaris*	common groundsel	SCLORF, SOC
	Silybum marianum*	milk thistle	SOC, SCLORF
	Sonchus oleraceus*	common sow thistle	NNG, DH, SCLORF, DCSS, SOC
	Symphyotrichum subulatum	slim aster	DCSS
Boraginaceae	Amsinckia intermedia	rancher's fiddleneck	NNG, SOC, DCSS
	Amsinckia menziesii	small flowered fiddleneck	NNG, SOC, DCSS
	Cryptantha sp.	cryptantha	SOC, DCSS, NNG

Appendix A (cont.) Plant Species Observed

Family	Scientific Name ^{*,†}	Common Name	Habitat ¹
Boraginaceae	Eucrypta chrysanthemifolia	common eucrypta	SOC
	Pectocarya heterocarpa	hairy-leaved comb-bur	SOC
	Phacelia campanularia	Desert bells	DCSS
	Phacelia imbricata	imbricate phacelia	DCSS
	Phacelia parryi	Parry's phacelia	SOC
	Pholistoma membranaceum	white fiesta flower	SOC
Brassicaceae	Brassica nigra*	black mustard	DCSS, NNG, DH
	Capsella bursa-pastoris*	shepherd's purse	NNG, DH
	Hirschfeldia incana*	short-pod mustard	DCSS, NNG
	Lepidium nitidum*	shining peppergrass	NNG
	Lepidium sp.	peppergrass	NNG, DH
	Raphanus sativus*	wild radish	NNG, DH
	Sisymbrium altissimum*	tumble mustard	SCLORF, NNG
Caprifoliaceae	Lonicera subspicata	honeysuckle	SOC
Caryophyllaceae	Silene sp.	silene	NNG
	Stellaria media*	common chickweed	SOC, SCLORF
	Stellaria nitens	shining chickweed	SOC, SCLORF
Convolvulaceae	Calystegia macrostegia	morning-glory	DCSS, SOC, NNG
	Convolvulus simulans†	small-flowered morning-glory	NNG
Crassulaceae	Crassula connata	pygmy-weed	DCSS, SOC
	Dudleya edulis	ladies-fingers	SOC,
	Dudleya pulverulenta	chalk-lettuce	SOC, SCLORF
Cucurbitaceae	Marah macrocarpa	wild cucumber	SOC, SCLORF
Ericaceae	Xylococcus bicolor	mission manzanita	SOC
Euphorbiaceae	Croton setigerus	dove weed	NNG
	Euphorbia maculata*	spotted spurge	DH
	Euphorbia peplus*	petty spurge	SOC, NNG
Fabaceae	Acmispon glaber	deerweed	DCSS
	Astragalus deanei†	Dean's milk-vetch	DCSS
	Lathyrus vestitus	sweet pea	DCSS, SOC
	<i>Lotus</i> sp.	lotus	DCSS, DH
	Lupinus bicolor	miniature lupine	SOC, NNG, DCSS
	Lupinus hirsutissimus	stinging lupine	DCSS, NNG, DH
	Lupinus succulentus	arroyo lupine	DCSS
	Lupinus truncatus	collar lupine	DCSS
	Medicago polymorpha*	burclover	NNG, DCSS
	Melilotus indicus*	Indian sweet clover	SCLORF, NNG, DCSS
Fagaceae	Quercus agrifolia	coast live oak	SCLORF, CLOW
	Quercus berberidifolia	scrub oak	SOC, SCLORF
Geraniaceae	Erodium botrys*	long-beak filaree	NNG, DCSS, SOC

Appendix A (cont.) Plant Species Observed

Family	Scientific Name ^{*,†}	Common Name	Habitat ¹
Geraniaceae	Erodium cicutarium*	redstem filaree	NNG, DCSS, SOC
	Erodium moschatum*	green-stem filaree	NNG, DCSS, SOC
Lamiaceae	Lamium amplexicaule*	henbit	SOC
	Salvia apiana	white sage	DCSS
	Salvia columbariae	chia	SOC, DCSS
	Salvia mellifera	black sage	SOC, DCSS
Liliaceae	Calochortus splendens	lilac mariposa lily	DCSS, NNG
Malvaceae	Malva parviflora	cheeseweed	NNG, SCLORF
Montiaceae	Calandrinia menziesii	red maids	SOC
	Claytonia parviflora	narrow-leaved miner's lettuce	SOC, SRF
Myrsinaceae	Lysimachia arvensis*	scarlet pimpernel	NNG, DCSS, SOC
Myrtaceae	<i>Eucalyptus</i> sp.*	eucalyptus	EW
Nyctaginaceae	Mirabilis laevis	wishbone bush	DCSS
Oleaceae	Olea europaea*	olive	AG
Onagraceae	Camissoniopsis bistorta	California sun cup	DCSS, SOC, DH
	Camissoniopsis hirtella	field sun cup	DCSS, SOC
	Camissoniopsis sp.	sun cup	SOC, SRF
	Clarkia delicata†	delicate clarkia	SOC, SRF
	Clarkia epilobioides	canyon godetia	SOC, SRF
	Clarkia purpurea	purple clarkia	DCSS, SOC, NNG
	Eulobus californicus	false-mustard	SCLORF, DCSS, NNG, SOC
	Oenothera elata	evening-primrose	MFS, SWS, SRF, SCLORF
Orobanchaceae	Castilleja affinis	Indian paintbrush	DCSS, SOC
	Castilleja exserta	purple owl's clover	DCSS, SOC, NNG
Oxalidaceae	Oxalis corniculata*	yellow sorrel	DH, NNG
	Oxalis pes-caprae*	Bermuda buttercup	NNG, DH
Papaveraceae	Dendromecon rigida	bush poppy	SOC
	Eschscholzia californica	California poppy	NNG, DCSS
	Papaver californicum	fire poppy	DCSS
Phrymaceae	Diplacus puniceus	sticky monkeyflower	SOC, DCSS
Plantaginaceae	Antirrhinum kelloggii	climbing snapdragon	SOC
	Antirrhinum nuttallianum	Nuttall's snapdragon	SOC
	Collinsia sp.	Chinese houses	SOC
	Keckiella antirrhinoides	chaparral beard-tongue	SOC
	Keckiella cordifolia	heart-leaved penstemon	SOC
	Linaria dalmatica ssp. dalmatica*	broad-leaved toadflax	SOC
	Plantago erecta	dwarf plantain	SOC, DCSS, NNG
Platanaceae	Platanus racemosa	western sycamore	SCLORF, SRF
Poaceae	Avena barbata*	slender oat	NNG, DCSS, SOC, SRF
	Brachypodium distachyon*	purple false brome	NNG, SOC

Appendix A (cont.) Plant Species Observed

Family	Scientific Name ^{*,†}	Common Name	Habitat ¹
	Bromus diandrus*	ripgut brome	NNG, DCSS, SCLORF, CLOW, SOC, EW
Poaceae	Bromus madritensis ssp. rubens*	foxtail brome	NNG, DCSS, SCLORF, CLOW, SOC, EW
	Festuca myuros*	fescue	NNG, DCSS, SCLORF, CLOW, SOC, EW
	Festuca perennis*	Italian ryegrass	NNG, SCLORF
	Stipa miliacea*	smilo grass	SCLORF
Polemoniaceae	Gilia angelensis	gilia	SOC
	Linanthus dianthiflorus	ground pink	SOC, NNG
Polygonaceae	Rumex crispus*	curly dock	SCLORF
	Eriogonum fasciculatum	California buckwheat	DCSS, SOC, SCLORF, CLOW, EW
Primulaceae	Primula clevelandii	Padre's shooting star	SOC, NNG
Ranunculaceae	Clematis pauciflora	ropevine	SOC
	Delphinium parishii	Parish's larkspur	SOC
	Thalictrum fendleri	Fendler's meadow rue	SOC
Rhamnaceae	Rhamnus crocea	spiny redberry	SOC, DCSS
	Rhamnus ilicifolia	holly-leaf redberry	SOC
Rosaceae	Adenostoma fasciculatum	chamise	SOC
	Cercocarpus minutiflorus	San Diego mountain mahogany	SOC
	Heteromeles arbutifolia	toyon	SOC, SCLORF
Rubiaceae	Galium angustifolium	narrow leaved bedstraw	SOC, DCSS
	Galium aparine	goosegrass	SCLORF, CLOW, EW
	Galium nuttallii	San Diego bedstraw	SOC
	Nolina cismontana†	chaparral nolina	NNG, DCSS
Rutaceae	Cneoridium dumosum	bushrue	SOC
Salicaceae	Populus fremontii	Fremont cottonwood	SCLORF, SRF
	Salix gooddingii	Goodding's black willow	SCLORF, SRF, SWS
	Salix laevigata	red willow	SCLORF, SRF, SWS
	Salix lasiolepis	arroyo willow	SCLORF, SRF, SWS
Saxifragaceae	Lithophragma affine	woodland star	SOC
Selaginellaceae	Selaginella cinerascens	ashy spike-moss	DCSS
Solanaceae	Datura wrightii	jimson weed	NNG, DH
	Nicotiana glauca*	tree tobacco	NNG, SCLORF, EW, DH
Tamaricaceae	Tamarix ramosissima*	saltcedar	SCLORF, EW
Themidaceae	Bloomeria crocea	golden star	SOC, NNG, DCSS
	Dichelostemma capitatum	blue dicks	NNG, DCSS, SOC
Urticaceae	Parietaria hespera	pellitory	SCLORF
	Urtica urens*	dwarf nettle	SCLORF

¹ AG = Agriculture; CLOW = Coast Live Oak Woodland (including open); DCSS = Diegan coastal sage scrub (including Baccharis dominated); DH = Disturbed Habitat; EW = Eucalyptus Woodland; MFS = Mule Fat Scrub; NNG = Non-native Grassland; NNV = Non-native Vegetation; SOC = Scrub Oak Chaparral; SCLORF = Southern Coast Live Oak Riparian Forest; SRF = Southern Riparian Forest; SWS = Southern Willow Scrub.

* Non-native Species

+ Special Status Species

‡ Observed Outside of the Study Area

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Appendix B

Observed Species List – Fauna

Appendix B Animal Species Observed

Taxon		Colombilio Norroot	Common Nomo	
Order	Family		common Name	
INVERTEBRATES				
Coleoptera	Coccinellidae	unidentified	unidentified ladybug	
	Tenebrionidae	unidentified	darkling beetle	
Diplopoda	Spirobolidae	unidentified	unidentified millipede	
Hymenoptera	Formicoidea	unidentified	unidentified velvet ant	
	Pompilidae unidentified		tarantula hawk	
Lepidoptera	Hesperiidae	Erynnis funeralis	Funereal Duskywing	
		Hesperiidae	unidentified skipper	
		Hylephila phyleus	Fiery Skipper	
		Pyrgus albescens	White Checkered-Skipper	
	Lycaenidae	Callophrys dumetorum	Coastal Green Hairstreak	
		Glaucopsyche lygdamus	Silvery Blue	
		Hemiargus ceraunus	Ceraunus Blue	
		Leptotes marina	Marine Blue	
		Lycaenidae	unidentified blue	
		Plebejus acmon	Acmon Blue	
		Strymon melinus	Gray Hairstreak	
	Nymphalidae	Adelpha bredowii	California Sister	
		Coenonympha tullia california	California Common Ringlet	
		Danaus gilippus	Queen	
		Danaus plexippus†	Monarch	
		Euphydryas editha quino†	Quino Checkerspot	
		Junonia coenia	Common Buckeye	
		Limenitis lorquini	Lorquin's Admiral	
		Nymphalidae	unidentified lady	
		Nymphalis antiopa	Mourning Cloak	
		Nymphalis californica	California Tortoiseshell	
		Vanessa annabella	West Coast Lady	
		Vanessa atalanta	Red Admiral	
		Vanessa cardui	Painted Lady	
	Papilionidae	Papilio eurymedon	Pale Swallowtail	
		Papilio rutulus	Western Tiger Swallowtail	
	Pieridae	Anthocharis sara	Sara Orangetip	
		Colias eurytheme	Orange Sulphur	
		unidentified	unidentified sulphur	
		unidentified	unidentified white	
		Pieris rapae	Cabbage White	
		Pontia protodice	Checkered White	
		Pontia sisymbrii	Spring White	
	Riodinidae	Apodemia mormo virgulti	Behr's Metalmark	

Appendix B (cont.) Animal Species Observed

Taxon		Scientific Nama+	Common Namo	
Order	Family	Scientific Name	Common Name	
VERTEBRATES				
Amphibians				
Anura	Bufonidae	Anaxyrus boreas	western toad	
		Anaxyrus californicus†	arroyo toad	
	Hylidae	Pseudacris regilla	Pacific treefrog	
	Ranidae	Lithobates catesbeianus	American bullfrog	
Reptiles				
Squamata	Colubridae	Coluber flagellum	coachwhip	
		Pituophis catenifer	gophersnake	
	Crotalidae	Crotalus oreganus helleri	southern pacific rattlesnake	
	Natricidae	Thamnophis hammondii†	two-striped gartersnake	
	Phrynosomatidae	Phrynosoma blainvillii†	Blainville's horned lizard	
		Sceloporus occidentalis	western fence lizard	
		Sceloporus orcutti	granite spiny lizard	
		Uta stansburiana	common side-blotched lizard	
	Teiidae	Aspidoscelis hyperythra beldingi†	Belding's orange-throated whiptail	
		Aspidoscelis tigris stejnegeri†	San Diegan tiger whiptail	
Birds				
Accipitriformes	Accipitridae	Accipiter cooperii†	Cooper's Hawk	
		Accipiter striatus†	Sharp-shinned Hawk	
		Buteo jamaicensis	Red-tailed Hawk	
		Buteo lineatus†	Red-shouldered Hawk	
	Cathartidae	Cathartes aura†	Turkey Vulture	
Anseriformes	Anatidae	Anas platyrhynchos	Mallard	
	Anatidae	Oxyura jamaicensis	Ruddy Duck	
Apodiformes	Apodidae	Aeronautes saxatalis	White-throated Swift	
	Trochilidae	Calypte anna	Anna's Hummingbird	
		Calypte costae ⁺	Costa's Hummingbird	
		Selasphorus sp.	Allen's/Rufous Hummingbird	
Charadriiformes	Laridae	Hydroprogne caspia†	Caspian Tern	
Columbiformes	Columbidae	Zenaida macroura	Mourning Dove	
Cuculiformes	Cuculidae	Geococcyx californianus	Greater Roadrunner	
Galliformes	Odontophoridae	Callipepla californica	California Quail	
	Phasianidae	Meleagris gallopavo	Wild Turkey	
Gruiformes	Rallidae	Fulica americana	American Coot	
Passeriformes	Aegithalidae	Psaltriparus minimus	Bushtit	
	Cardinalidae	Passerina amoena	Lazuli Bunting	
		Passerina caerulea	Blue Grosbeak	
		Pheucticus melanocephalus	Black-headed Grosbeak	
	Corvidae	Aphelocoma californica	California Scrub-Jav	
Birds (cont.)				
Passeriformes	Corvidae	Corvus brachyrhynchos	American Crow	
		Corvus corax	Common Raven	
	Fringillidae	Haemorhous mexicanus	House Finch	
	0	Spinus lawrencei†	Lawrence's Goldfinch	
		Spinus psaltria	Lesser Goldfinch	
	Hirundinidae	Stelaidopteryx serripennis	Northern Rough-winged Swallow	
		Tachycineta bicolor	Tree Swallow	
	Icteriidae	Icteria virens†	Yellow-breasted Chat	

Appendix B (cont.) Animal Species Observed

Taxon		Colombific Normat	Common Name	
Order	Family	Scientific Name	Common Name	
	Icteridae	Agelaius phoeniceus	Red-winged Blackbird	
		Icterus bullockii	Bullock's Oriole	
		Icterus cucullatus	Hooded Oriole	
		Molothrus ater	Brown-headed Cowbird	
	Mimidae	Mimus polyglottos	Northern Mockingbird	
		Toxostoma redivivum	California Thrasher	
	Paridae	Baeolophus inornatus†	Oak Titmouse	
	Parulidae	Cardellina pusilla	Wilson's Warbler	
		Geothlypis trichas	Common Yellowthroat	
		Oreothlypis celata	Orange-crowned Warbler	
		Setophaga coronata	Yellow-rumped Warbler	
		Setophaga petechia†	Yellow Warbler	
	Passerellidae	Aimophila ruficeps canescens†	Southern California Rufous-crowned Sparrow	
		Melospiza melodia	Song Sparrow	
		Melozone crissalis	California Towhee	
		Pipilo maculatus	Spotted Towhee	
		Zonotrichia leucophrys	White-crowned Sparrow	
	Polioptilidae	Polioptila caerulea	Blue-gray Gnatcatcher	
		Polioptila californica californica†	Coastal California Gnatcatcher	
	Ptilogonatidae	Phainopepla nitens	Phainopepla	
	Regulidae	Reaulus calendula	Ruby-crowned Kinglet	
	Sturnidae	Sturnus vulgaris	European Starling	
	Svlviidae	Chamaea fasciata	Wrentit	
	Troglodytidae	Thryomanes bewickii	Bewick's Wren	
	,	Troglodytes aedon	House Wren	
	Turdidae	Turdus migratorius	American Robin	
	Tyrannidae	Empidonax difficilis	Pacific-slope Flycatcher	
		Myiarchus cinerascens	Ash-throated Flycatcher	
		Sayornis nigricans	Black Phoebe	
		Sayornis saya	Say's Phoebe	
		Tyrannus verticalis	Western Kingbird	
Birds (cont.)				
Passeriformes	Tyrannidae	Tyrannus vociferans	Cassin's Kingbird	
	Vireonidae	Vireo bellii pusillus†	Least Bell's Vireo	
		Vireo huttoni	Hutton's Vireo	
Pelecaniformes	Ardeidae	Ardea alba	Great Egret	
		Butorides virescens†	Green Heron	
	Pelecanidae	Pelecanus erythrorhynchos ⁺	American White Pelican	
Piciformes	Picidae	Colaptes auratus	Northern Flicker	
		Melanerpes formicivorus	Acorn Woodpecker	
		Melanerpes lewis [†]	Lewis's Woodpecker	
		Dryobates nuttallii	Nuttall's Woodpecker	
Podicipediformes	Podicipedidae	Aechmophorus clarkii	Clark's Grebe	
Mammals				
Artiodactyla	Cervidae	Odocoileus hemionus†	mule deer	
Carnivora	Canidae	Canis familiaris	domestic dog	
		Canis latrans	coyote	
	Felidae	Lynx rufus	bobcat	
		Puma concolor†	mountain lion	
	1			

Appendix B (cont.) Animal Species Observed

Taxon		Scientific Nomet	Common Name	
Order	Family	Scientific Name	common Name	
Lagomorpha	Leporidae	Sylvilagus audubonii	desert cottontail	
Rodentia	Sciuridae	Otospermophilus beecheyi	California ground squirrel	

+ Special Status Species

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Appendix C

Potential Sensitive Species Table – Flora

Appendix C Sensitive Plant Species Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego thorn-mint (Acanthomintha ilicifolia)	FT/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Annual herb. Typically found on clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Flowering period: April to June. Elevation: below 3150 feet (960 meters).	None in all Segments. Although suitable habitat types occur within the study area, suitable clay soils are absent. The species has been previously observed approximately 0.3 miles north of Segment 6; however, soils mapped in this area consist of Auld stony clay.
California adolphia (Adolphia californica)	/ CRPR 2B.1 County List B	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks on clay soils. Flowering period: December to April. Elevation: below 1,312 feet (400 meters).	None in all Segments. Although suitable habitat types occur within the study area, suitable clay soils are absent. This conspicuous perennial shrub would have been observed during biological surveys if present.
Singlewhorl burrobrush (Ambrosia monogyra)	/ CRPR 2B.2	Perennial shrub. Found on sandy soils within washes and dry riverbeds within chaparral communities. Flowering period: September to November. Elevation: below 1,640 feet (500 meters).	Presumed Absent in all Segments. Suitable habitat and soils occur within the study area along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow. However, this conspicuous perennial shrub would have been observed during biological surveys if present.
San Diego ambrosia (Ambrosia pumila)	FE/ CRPR 1B.1 County List A MSCP Covered MSCP NE	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April to July. Elevation: 164 to 1,969 feet (50 to 600 meters).	Presumed Absent in all Segments . Suitable sandy loam soils and habitat occurs within the study area, particularly along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow; however, focused rare plant surveys conducted during the flowering period were negative for this species. Habitat within the Segment 4 Additional Study Area is not suitable. The nearest occurrences of the species are located over 4 miles southwest of the project within USFWS-designated critical habitat located south of Cottonwood Golf Club along a downstream portion of the Sweetwater River.
Otay manzanita (Arctostaphylos otayensis)	/ CRPR 1B.2 County List A MSCP Covered	Perennial shrub. Found in chaparral and cismontane woodland on metavolcanics soils. Flowering period: January to April. Elevation: 900 to 5,580 feet (275 to 1,700 meters).	None in all Segments. Although suitable chaparral habitat occurs within the study area, suitable metavolcanics soils are absent. This conspicuous perennial shrub would have been observed during biological surveys if present.
Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
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San Diego sagewort (Artemisia palmeri)	/ CRPR 4.2 County List D		Present in Segments 2 and 5. Observed within the riparian habitat along Sweetwater River in the study area of Segment 2 and 5.
		courses, often beneath riparian woodland, on sandy and mesic soils. May occur in coast live oak woodland, coastal sage scrub, and southern mixed	Low in Segment 4c . Species has a low potential to occur in the Segment 4c Additional Study Area due to lack of suitable habitat.
		Elevation: below 1,969 feet (600 meters).	Presumed Absent in Segments 1,3, 4a, 4b, 6a, and 6b. These segments were surveyed during the flowering period and the species was not observed.
Dean's milk-vetch (<i>Astragalus deanei</i>)	/ CRPR 1B.1 County List A	Perennial herb. Found on open, shrubby slopes in chaparral. Also occurs within coastal scrub, cismontane woodland, and riparian forest. Flowering period: February to May. Elevation: 246 to 2,280 feet (75 to 695 meters).	Present in Segment 4. Thirty individuals at five locations were observed within the Segment 4 Study Area, as shown on Figure 14e. Another ten individuals were incidentally observed nearby, but are not shown, because they were located outside of the Study Area; however, these ten individuals would be considered as part of the contiguous population when analyzing species impacts. Additional individuals of this species have a high potential to occur along the proposed Segment 4c alignment in the Additional Study Area, based on nearby observations in similar habitat.
			Presumed Absent in Segments 1, 2, 3, 5, 6a, and 6b. These segments were surveyed during the flowering period and the species was not observed.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego milk-vetch (Astragalus oocarpus)	/ CRPR 1B.2 County List A	Perennial herb. Endemic to San Diego County occurring within at the edges of cismontane chaparral habitat at the periphery of meadows. Associated with open areas and mild soil disturbances in chaparral or open southern oak woodland on dry, brushy slopes. Flowering period: May to August. Elevation: 1,300 to 5,000 feet (400 to 1,700 meters).	Low in all Segments. The study is below the species known elevation range. The species generally occurs at higher elevations further east of the project within Cuyamaca Rancho State Park and Cleveland National Forest.
South coast saltscale (<i>Atriplex pacifica</i>)	/ CRPR 1B.2 County List A	Annual herb. Found coastally on dunes and within playas in alkali sinks, sage scrub and wetland riparian communities. Flowering period: March to October. Elevation: below 984 feet (300 meters).	Low in all Segments. Suitable wetland and riparian habitats occur within the study area. However, documented occurrences of the species are further west and south of the project with the closest occurrence located over 7 miles south within the Rancho Jamul Ecological Reserve.
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Perennial shrub. Relatively low-growing mature chaparral is the primary habitat. Also found in southern maritime and southern mixed chaparrals. Flowering period: August to December. Elevation: 197 to 984 feet (60 to 300 meters).	Low in all Segments. Suitable habitat occurs within the study area and the species was documented approximately 3.8 miles north of the project within Galloway Valley (north of Harbison Canyon) in 2016. However, this conspicuous perennial shrub would most likely have been observed during biological surveys if present.
San Diego County viguiera (<i>Bahiopsis laciniata</i>)	/ CRPR 4.3 County List D	Perennial shrub. Occurs on a variety of soil types within coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Flowering period: February to August. Elevation: 295 to 2,461 feet (90 to 750 meters).	 Present in Segments 2, 3, and 4. Species is abundant within Diegan coastal sage scrub within Segments 3 and 4, with two locations in Segment 2. Presumed Absent in Segments 1,5, 6a, and 6b. These segments were surveyed when the species was visible and the species was not observed.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	/ CRPR 1B.1 MSCP Covered	Perennial bulbiferous herb. Occurs on clay soils in valley grasslands and coastal scrub, particularly near mima mound topography or in the vicinity of vernal pools. Flowering period: April to May. Elevation: 164 to 1,526 (50 to 465 meters).	None in all Segments. Suitable clay soils and vernal pool habitat is absent from the study area.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	/ CRPR 1B.1 County List A MSCP Covered	Perennial bulbiferous herb. Occurs within closed- cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers mesic or clay soils. Flowering period: May to July. Elevation: 98 to 5,550 feet (30 to 1,692 meters).	Low in all Segments. Suitable clay soils are absent from the study area; however, mesic areas occur along Sweetwater River and Beaver Hollow that may support the species. The nearest occurrence of the species is located approximately 3.6 miles northeast of the project along Sequan truck trail to the north of Sweetwater Falls Dam and west of Japatul Road where multiple individuals were observed in 2012.
Brewer's calandrinia (<i>Calandrinia breweri</i>)	/ CRPR 4.2 County List D	Annual herb. Occurs within chaparral or coastal scrub on sandy or loamy soil, disturbed sites, and after burns. Blooms January to June. Elevation: 32 to 4,000 feet (10 to 1,220 meters).	Presumed Absent in all Segments . Suitable sandy and loamy soils occur within the study area, and the species was observed upstream of the project along Sweetwater River within the Sycuan Peak Ecological Reserve in 2004; however, focused rare plant surveys conducted during the flowering period were negative for this species.
Dunn's mariposa lily (<i>Calochortus dunnii</i>)	/SR CRPR 1B.2 County List A MSCP Covered MSCP NE	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, and valley and foothill grassland, typically on gabbroic, metavolcanics, or rocky soils. Blooms February to June. Elevation: 600 to 6,000 feet (185 to 1,830 meters).	Low in all Segments. Suitable gabbroic and metavolcanics soils are absent from the study area. The closest occurrence is located approximately 6.5 miles east of the project, east of Loveland Reservoir, on the southside of Japatul Road where the species was recently observed in 2018.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Lewis' evening-primrose	/	Annual herb. Occurs on sandy or clay soils within	Presumed Absent in Segments 1, 2, 3, 4a, 4b,
(Camissoniopsis lewisii)	CRPR 3	grasslands, coastal scrub, cismontane woodland,	5, 6a, and 6b. Suitable sandy soils and habitat
		and coastal bluffs and dunes. Flowering period:	types occur within the study area ; however,
		March to June. Elevation: below 2,600 feet (less	focused rare plant surveys conducted during
		than 800 meters).	the flowering period were negative for this
			species. Reported occurrences of the species
			present within the project vicinity. Closest
			observation located upstream of the project
			along Sweetwater River within the Sycuan Peak
			observed in 2005
			00361760 11 2003.
			Low in Segment 4c. Species has low potential
			to occur within the Segment 4c Additional
			Study Area.
San Luis Obispo sedge	/	Perennial rhizomatous herb. Found along springs	Low in all Segments. The study area lacks
(Carex obispoensis)	CRPR 1B.2	and stream banks in chaparral, generally on	serpentine soils and is generally located outside
		serpentine soils. Fruiting time: March to June.	of the species known range (Monterey and San
		Elevation: below 984 feet (300 meters).	Luis Obispo Counties). However, the species
			was identified in 2005 and 2009 to the south of
			the project within the McGinty Mountain
Lakosida coapathus	1	Peronnial shruh. Occurs on clones and ridgelines in	Ecological Reserve.
(Ceanothus cyaneus)	/ CPDP 1B 2	closed cone coniferous forest and chaparral	chaparral habitat occurs within the study area
(ceunotinus cyuneus)	County List A	Flowers April to June Elevation: 770 to 2 540 feet	and the species has been documented to occur
	MSCP Covered	(235 to 755 meters).	within the project vicinity. However, this
	MSCP NE		conspicuous perennial shrub would most likely
			have been observed during biological surveys if
			present.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Wart-stemmed ceanothus	/	Perennial shrub. Occurs on rocky slopes within	Presumed Absent in all Segments. Suitable
(Ceanothus verrucosus)	CRPR 2B.2	chaparral. Flowering Period: December to May.	chaparral habitat occurs within the study area.
	County List B	Elevation: below 416 feet (below 380 meters).	However, the species is generally documented
	MSCP Covered		to occur within the coastal regions with the
			eastern-most observation in La Mesa being
			from the late-1800s. This conspicuous perennial
			shrub would most likely have been observed
			during biological surveys if present.
Smooth tarplant	/	Annual herb. Occurs on alkaline soils in chenopod	None in all Segments. Suitable alkaline soils are
(Centromadia pungens ssp. laevis)	CRPR 1B.1	scrub, meadows and seeps, playas, riparian	absent from the project site. No known
	County List A	woodland, and valley and foothill grassland. Blooms	occurrences of the species occur within the
		April to September. Elevation: below 2,100 feet	project vicinity.
		(640 meters).	
Southern mountain misery	/	Perennial shrub. Occurs in chaparral on gabbroic or	Presumed Absent in all Segments. Gabbroic
(Chamaebatia australis)	CRPR 4.2	metavolcanics soils. Flowering period: November to	and metavolcanics soils are absent from the
	County List D	May. Elevation: 980 to 3,350 feet (300 to 1,020	study area, although the species has been
		meters).	documented to occur within the project vicinity
			near McGinty Mountain. However, this
			conspicuous perenniai snrub would most likely
			nave been observed during biological surveys if
Deningular chinoflower	1	Annual borb. Found in varia anonings in chamics	present.
(Charizantha lantathaca)	CNDS List 4.2	chaparral with candy or gravely substrates: often	chaparral habitat occur with the study areas
(Chonzunthe leptothecu)	CNPS LIST 4.2	chaparral with salluwial fans. Eleworing period: May	bewever, the project is located just below the
	County List D	to August, Elevation: 080 to E 200 feet (200 to	nowever, the project is located just below the
		1 600 meters)	occurs gonorally occur further east of the site at
		1,000 meters).	higher elevation areas within the Cleveland
			National Forest, although the species was
			observed south of the project pear McCinty
			Mountain.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Long-spined spineflower (Chorizanthe polygonoides var. longispina)	/ CRPR 1B.2 County List A	Annual herb. Occurs in chaparral, coastal scrub, and native grassland, often in sandy soils. Flowering period: April to June. Elevation: 98 to 4,920 feet (30 to 1,500 meters).	Low in all Segments. Suitable habitat and soils occur within the study area. However, there are no documented occurrences of the species within the project vicinity. The nearest reported location is over 8 miles east of the project at Lake Murray where the species was observed in 2010.
Delicate clarkia (<i>Clarkia delicata</i>)	/ CRPR 1B.2 County List A	Annual herb. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral, often on gabbroic soils. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	 Present in Segments 2 and 3. This species was observed at two locations within the Study Area, which are within Segment 2, to the east of Sloane Canyon Road, and within Segment 3, west of Sloane Canyon Road. Moderate in Segment 4c. The species has moderate potential to occur within the Segment 4c Additional Study Area, based on the nearby plant observation within Segment 3 in similar Diegan coastal sage scrub habitat. Presumed Absent in Segments 1, 4a, 4b, 5, 6a, and 6b. These segments were surveyed during the flowering period and the species was not
San Miguel savory (Clinopodium chandleri)	/ CRPR 1B.2 MSCP Covered County List A	Perennial shrub. Occurs within chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland on rocky, gabbroic, or metavolcanic soils. Flowering period: March to July. Elevation: 390 to 3,530 feet (120 to 1,075 meters).	observed. Presumed Absent in all Segments . Study area Segment 1 includes suitable gabbroic soils; however, focused rare plant surveys conducted during the flowering period were negative for this species. Soils within the Segment 4 Additional Study Area are not suitable. Observed approximately 1 mile south of the project to the east of McGinty Mountain in 2010.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Summer holly (Comarostaphylis diversifolia ssp. diversifolia)	/ CRPR 1B.2 County List A	Perennial shrub. Occurs in chaparral and cismontane woodland. Flowering period: May to June. Elevation: 328 to 1,804 feet (100 to 550 meters).	Low in all Segments. Suitable chaparral habitat occurs within the study area; however, the species has not been documented within the project area. The nearest observation occurs over 6 miles to the south near San Miguel Mountain. This conspicuous perennial shrub would have been observed during biological surveys if present.
Small-flowered morning-glory (<i>Convolvulus simulans</i>)	/ CRPR 4.2 County List D	Annual herb. Occurs on clay soils and serpentinite seeps in openings within chaparral, coastal scrub, and native grassland. Flowering period: April to June. Elevation: 98 to 2,871 feet (30 to 875 meters).	 Present in Segment 6b. Multiple individuals observed in one area within non-native grassland, to the north of Dehesa Road, within study area of Segment 6b. Presumed Absent/Not Expected in Segments 1, 2, 3, 4, 5, and 6a. This species was not observed within Segment 1, 2, 3, 4a, 4b, 5, and 6a, and is not expected to occur in the Segment 4c Additional Survey Area, due to the lack of clay soil.
San Diego sand aster (Corethrogyne filaginifolia var. incana)	/ CRPR 1B.1 County List A	Perennial herb. Occurs within grasslands, coastal bluff scrub, coastal scrub, and chaparral. Flowering period: June to September. Elevation: 15 to 2,362 feet (5 to 720 meters).	Low in all Segments. Suitable habitat occurs within the study area; however, there are no reported occurrences of the species within the project vicinity. The closest location is over 10 miles southwest of the project near Telegraph Canyon within Bonita where the species was observed in 2003.
Snake cholla (Cylindropuntia californica var. californica)	/ CRPR 1B.1 County List A MSCP Covered MSCP NE	Perennial herb (stem succulent). Occurs within coastal sage scrub and coastal chaparral communities. Flowering period: April to July. Elevation: below 820 feet (250 meters).	Low in all Segments. Suitable habitat occurs within the project site but the occurrences of the species are not reported within the project vicinity. The closest location is over 4 miles south of the project within Proctor Valley where the species was observed in 2000. This conspicuous species would have been observed during biology surveys if present.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Otay tarplant (Deinandra conjugens)	FT/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Annual herb. Grows in clay soils within coastal scrub openings and grasslands. Flowering period: May to June. Elevation: 65 to 980 feet (20 to 300 meters).	None in all Segments. Suitable clay soils are absent from the study area and the species is not reported to occur within the project vicinity. The closest documented location is over 5 miles southwest of the project near Jamacha Boulevard.
Paniculate tarplant (<i>Deinandra paniculata</i>)	/ CRPR 4.2 County List D	Annual herb. Occurs in vernally mesic areas, sometimes sandy soils, in coastal scrub, valley and foothill grassland, and vernal pools with sandy soil. Blooms March to December. Elevation: 80 to 3,100 feet (25 to 940 meters).	Low in all Segments. Potentially suitable habitat occurs within the study area; however, the species was not observed during rare plant surveys and no recent records of the species occur in the project vicinity.
Western dichondra (<i>Dichondra occidentalis</i>)	/ CRPR 4.2 County List D	Perennial herb. Found among rocks and shrubs within grasslands, coastal sage scrub, chaparral, and oak woodlands. Often proliferates on recently burned slopes. Flowering period: March to June. Elevation: below 1,706 feet (520 meters).	 Presumed Absent in Segments 1, 2, 3, 4a, 4b, 5, 6a, and 6b. Suitable habitat occurs within the study area and the species was previously reported to occur adjacent to Segment 6 where the species was observed just north of Dehesa Road in 2008 ; however, focused rare plant surveys conducted during the flowering period were negative for this species. Low in Segment 4c. Species has low potential to occur within the Segment 4c Additional Study Area.
Orcutt's bird's-beak (<i>Dicranostegia orcuttiana</i>)	/ CRPR 2B.1 County List B MSCP Covered	Annual herb. Found coastally within coastal sage scrub. Flowering period: March to August. Elevation: below 1,148 feet (350 meters).	None in all Segments. All records of the species occur further southwest outside of the project within Otay and Chula Vista.
Cleveland's bush monkeyflower (<i>Diplacus clevelandii</i>)	/ CRPR 4.2 County List D	Perennial herb. Occurs on rocky, gabbroic soils within disturbed areas at the borders of chaparral, woodlands, and coniferous forests. Flowers: April to July. Elevation: 492 to 2,187 feet (450 to 2,000 meters).	Low in all Segments. The study area lacks suitable gabbroic soils and no occurrences of the species are reported within the project vicinity.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Variegated dudleya (<i>Dudleya variegata</i>)	/ CRPR 1B.2 County List A MSCP Covered	Perennial herb succulent. Occurs on clay soils of dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Flowering period: April to June.	None in all Segments. Although suitable habitat types occur within the study area, suitable clay soils are absent. The species has been previously observed approximately 0.3 miles
	MSCP NE	Elevation: below 984 feet (300 meters).	north of Segment 6; however, soils mapped in this area consist of Auld stony clay.
Palmer's goldenbush (Ericameria palmeri var. palmeri)	/ CRPR 1B.1 County List B MSCP Covered MSCP NE	Perennial Shrub. Found in mesic areas within coastal sage scrub and chaparral. Occasionally occurs as a hillside element (usually at higher elevations inland on north-facing slopes). Flowering period: September to November. Elevation: below 1,968 feet (600 meters).	Presumed Absent in all Segments . This perennial shrub species was observed at one location north of the Segment 6b study area, but was not observed during focused rare plant surveys.
San Diego button-celery (Eryngium aristulatum var. parishii)	FE/SE CRPR 1B.1 County List A MSCP Covered	Annual or perennial herb. Grows in vernal pools and other mesic areas, such as marshes. Flowering period: May to June. Elevation: below 2,313 feet (705 meters).	Low in all Segments. Vernal pools are absent from the study area but mesic habitats occurs along Sweetwater River. However, no reported occurrences are located in the project vicinity.
Abrams' spurge (Euphorbia abramsiana)	/ CRPR 2B.2	Annual herb. Grows in sandy flats within Mojavean and Sonora and desert scrub habitat. Flowering period: September to November. Elevation: below 656 feet (200 meters).	None in all Segments. Suitable desert scrub habitat does not occur within the study area and there are not reported occurrences of the species within the project vicinity.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	/ CRPR 2B.1 County List B MSCP Covered	Perennial (stem succulent) shrub. Grows in sandy to rocky areas within chaparral, valley grassland and coastal sage scrub communities. Flowering period: May to June. Elevation: 33 to 492 feet (10 to 150 meters).	Low in all Segments. This species was not observed within the study area. One individual was located outside of the study area to the south of Segment 1 at the northern edge of Lake Emma. Species has a low potential to occur along Segment 4 outside of the study area because it was not observed in similar habitat within the study area.
Chaparral ash (Fraxinus parryi)	/ CRPR 2B.2	Perennial shrub. Grows in canyons, slopes, margins of mixed chaparral. Flowering period: February to March. Elevation: around 1,969 feet (600 meters).	None in all Segments. Species occurs below the species' known elevation range.
Mexican flannelbush (Fremontodendron mexicanum)	FE/SR CRPR 1B.1 County List A	Perennial shrub. Occurs on gabbroic, metavolcanic, and serpentine soils within chaparral, foothill woodland and closed-cone pine forest communities. Flowering period: March to June. Elevation: 33 to 2,349 feet (10 to 716 meters).	None in all Segments. Suitable gabbroic, metavolcanic, and serpentine soils are absent from the study area and there are no reported occurrences within the project vicinity.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Palmer's grapplinghook	/	Annual herb. Found in clay soils in annual	None in all Segments. Suitable clay soils are
(Harpagonella palmeri)	CRPR 4.2	grasslands and coastal sage scrub. Blooms March to	absent from the project area and the species is
	County List D	May. Elevation: 65 to 3,100 feet (20 to 955 meters).	not reported to occur within the project
			vicinity.
Tecate cypress	/	Perennial tree. Found within closed-cone coniferous	None in all Segments. Suitable soils do not
(Hesperocyparis forbesii)	CRPR 1B.1	forest and chaparral on clay, gabbroic, or	occur within the study area. This conspicuous
	County List A	metavolcanics soils. Elevation: 262 to 4,900 feet (80	perennial tree would have been observed
	MSCP Covered	to 1500 meters).	during biological surveys if present.
Graceful tarplant	/	Annual herb. Occurs in grasslands, coastal scrub,	Low in all Segments. Suitable habitat occurs
(Holocarpha virgata ssp. elongata)	CRPR 4.2	chaparral, and cismontane woodland. Flowering	within the study area; however, no records of
	County List D	period: May to November. Elevation: 195 to 3,600	the species occur in the project vicinity.
		feet (60 to 1,100 meters).	
Vernal barley	/	Annual herb. Occurs in vernal pools, alkaline flats,	None in all Segments. No vernal pools or
(Hordeum intercedens)	CRPR 3.2	and dry, saline streambeds. Also found in saline	suitable alkaline and saline habitats occur
	County List C	flats and depressions within grasslands. Flowering	within the project site, and there are not
		period: March to June. Elevation: below 3.280 feet	reported occurrences of the species within the
		(1,000 meters).	project vicinity.
Ramona horkelia	/	Perennial herb. Occurs within gabbroic and dry, red	None in all Segments. Suitable gabbroic and
(Horkelia truncata)	CRPR 1B.3	clay soils of chaparral and woodland communities.	clay soils are absent from the study area and
	County List A	Flowering period: March to June. Elevation: 1,312	the site is below the species' known range.
	MSCP Covered	to 4,300 (400 to 1,300 meters).	
Decumbent goldenbush	/	Perennial shrub. Occurs in sandy soil and disturbed	Presumed Absent in all Segments. Suitable
(Isocoma menziesii var. decumbens)	CRPR 1B.2	areas on the inland side of dunes, hillsides, and	sandy soils and habitat occur within the study
	County List A	arroyos within coastal sage scrub and chaparral	area and the species is documented to occur in
		communities. Flowering period: July to November.	the project vicinity. The closest reported
		Elevation: below 656 feet (200 meters).	location is located approximately 2 miles south
			near McGinty Mountain. This conspicuous
			perennial shrub would most likely have been
			observed during biological surveys if present.
San Diego marsh-elder	/	Perennial herb. Found in alkaline flats. depressions.	Presumed Absent in all Segments. Suitable
(Iva havesiana)	CRPR 2B.2	and streambanks within wetland communities.	wetland habitat occurs within the study area.
	County List B	Flowering period: April to October, Elevation: 32 to	but there are no known occurrences of the
		1.640 feet (10 to 500 meters).	species in the project vicinity. This conspicuous
			perennial herb would most likely have been
			observed during biological surveys if present.

Status ¹	Habit, Ecology and Life History	Potential to Occur ²
/ CRPR 4.2 County List D	Perennial (rhizomatous) herb. Found in moist, saline, or alkaline soils in coastal salt marshes and riparian marshes. Flowering period: June to August. Elevation: below 985 feet (300 meters).	Presumed Absent in all Segments . No known occurrences of the species occur in the project vicinity. This conspicuous species most likely would have been observed during biological surveys if present.
/ CRPR 1B.1 County List A	Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	None in all Segments. No vernal pools, or suitable saline and alkali habitats occur within the project site. Furthermore, no records of the species occur within the project vicinity.
/ CRPR 4.3 County List D	Perennial herb. Occurs within xeric chaparral habitat with a predominance of chamise. Typically located clambering through woody shrubs. Flowering time: April to June. Elevation: below 3,500 feet (1,050 meters).	Low in all Segments. Suitable chaparral habitat occurs within the study area; however, no reported occurrences of the species are located within the project vicinity.
/ CRPR 1B.3 County List A MSCP Covered MSCP NE	Perennial shrub. Occurs on gabbroic and metavolcanic soils within coastal sage scrub, chaparral, coniferous forests, and grasslands. Flowering time: June to July. Elevation: 980 to 3600 feet (300 to 1,100 meters).	None in all Segments. Suitable gabbroic and metavolcanic soils occur within the study area and the project is located just below the species' known elevation range. No recent records of the species occur within the project vicinity.
/ CRPR 4.3 County List A	Annual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill grasslands. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).	 Presumed Absent in Segments 1, 2, 3, 4a, 4b, 5, 6a, and 6b. Suitable habitat occurs within the study area and the species was previously reported within the eastern portion of the project at Segment 5 in 1995; however, focused rare plant surveys conducted during the flowering period were negative for this species. Low in Segment 4c. Species has low potential to occur within the Segment 4 Additional Study Area.
	Status ¹ / CRPR 4.2 County List D / CRPR 1B.1 County List A / CRPR 4.3 County List D / CRPR 1B.3 County List A MSCP Covered MSCP NE / CRPR 4.3 County List A	Status1Habit, Ecology and Life History/ CRPR 4.2Perennial (rhizomatous) herb. Found in moist, saline, or alkaline soils in coastal salt marshes and riparian marshes. Flowering period: June to August. Elevation: below 985 feet (300 meters)/ CRPR 1B.1Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters)/ CRPR 4.3 County List DPerennial herb. Occurs within xeric chaparral habitat with a predominance of chamise. Typically located clambering through woody shrubs. Flowering time: April to June. Elevation: below 3,500 feet (1,050 meters)/ CRPR 1B.3 County List APerennial shrub. Occurs on gabbroic and metavolcanic soils within coastal sage scrub, chaparral, coniferous forests, and grasslands. Flowering time: June to July. Elevation: 980 to 3600 feet (300 to 1,100 meters)/ CRPR 4.3 County List AAnnual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill grasslands. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Small-flowered microseris	/	Annual herb. Found on clay soils within coastal sage	None in all Segments. Suitable clay soils and
(Microseris douglasii ssp. platycarpha)	CRPR 4.2	scrub, woodlands, and grasslands. Often near	vernal pools are absent from the study area.
	County List D	vernal pools or serpentine outcrops. Flower period:	
		March to May. Elevation: 49 to 3,510 feet (15 to	
		1,070 meters).	
Felt-leaved monardella	/	Perennial (rhizomatous) herb. Found within	Low in all Segments. The species was observed
(Monardella hypoleuca ssp. lanata)	CRPR 1B.2	chaparral understory, typically beneath mature	approximately 1.5 miles south within McGinty
	County List A	stands of chamise in xeric, rocky, granitic slopes.	Mountain Preserve in 2005; however, the
	MSCP Covered	Flowering period: May to October. Elevation: 985	chaparral within the Study Area is dominated
	MSCP NE	and 5,000 feet (300 to 1500 meters).	by scrub oak, not by chamise. Species was not
	55/05		observed during rare plant surveys.
Willowy monardella	FE/SE	Perennial nerb. Associated with riparian scrub,	Presumed Absent in all segments. Suitable
(Monardella Viminea)	CRPR IB.1	usually at sandy locales in seasonally dry wasnes is	Sandy, riparian habitat occurs along
	County List A	nabitat of this small substitute. Generally, there is no	Sweetwater River; nowever, no reported
		canopy cover, and river cobbles may lie in close	project visibility
	IVISCP INE	Flowation: below 1 200 foot (below 400 meters)	project vicinity.
Little mousetail	/	Annual berb. Occurs in alkaline vernal pools within	None in all Segments, Suitable vernal pool
(Myosurus minimus ssp. anus)	CRDR 3 1	native grassland. Elowering period: March to lune	habitat does not occur within the study area
(wyosurus mininus ssp. upus)	County List C	Elevation: 65 to 2.100 feet (20 to 640 meters).	
Mud nama	/	Annual herb. Occurs in intermittently wet areas	Low in all Segments. Suitable habitat occurs
(Nama stenocarpa)	CRPR 2B.2	such as streambanks and muddy lake edges.	within the study area along Sweetwater River at
	County List B	Flowering period: March to October. Elevation:	lakeshore fringes of Lake Emma. However, the
		below 2,657 feet (810 meters).	closest occurrence of the species is over 7 miles
			west at the Sweetwater Reservoir.
Spreading navarretia	FT/	Annual herb. Occurs in vernal pools, chenopod	None in all Segments. Vernal pools and other
(Navarretia fossalis)	CRPR 1B.1	scrub, marshes, swamps, and playas. Flowering	potentially suitable habitat is absent from the
	County List A	period: April to June. Elevation: 98 to 4,265 feet (30	study area, and no occurrences of the species
		to 1,300 meters).	have been reported in the project vicinity.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Dehesa beargrass (Nolina interrata)	/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Perennial herb. Always associated with gabbro or peridotite soils, open southern mixed chaparral and chamise chaparral. Flowering period: June to July Elevation: 656 to 2,300 feet (200 to 700 meters).	Present in Segment 6b . This species was observed in two locations to the north of Dehesa road, within the Segment 6b Study Area, in an area with suitable Las Posas fine sandy loam.
			Presumed Absent in Segments 1, 2, 3, 4a, 4b, 5, 6a, and 6b. These segments were surveyed during the flowering period and the species was not observed.
			Low in Segment 4c. The potential to occur in the Segment 4c Additional Survey Area is low, due to the lack of suitable soil: the soil is Vista coarse sandy loam. The potential cannot be ruled out because there is a CNDDB observation within approximately 700 feet in an area mapped as Cieneba very rocky coarse sandy loam.
California adder's-tongue (Ophioglossum californicum)	CRPR 4.2	Perennial rhizomatous herb. Occurs within mesic areas of chaparral and grassland habitats, and along the margins of vernal pools. Flowering period: January to June. Elevation: 196 to 1,722 feet (60 to 525 meters):	Low in all Segments. Vernal pools do not occur within the study area, but other potential habitat may occur along Sweetwater River. Species was previously observed approximately 1 mile northwest of the project within the Crestridge Ecological Reserve in 2005.
Golden-rayed pentachaeta (Pentachaeta aurea ssp. aurea)	/ CRPR 4.2 County List D	Annual herb. Occurs in grassy areas within coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Flowering period: March to July. Elevation: 260 to 6,100 feet (80 and 1,850 meters).	Low in all Segments. Potentially suitable habitat occurs within the study area, but there are no recent records of the species in the project vicinity.
Woolly chaparral-pea (Pickeringia montana var. tomentosa)	/ CRPR 4.3	Perennial shrub. Found on gabbroic, granitic, and clay soils within chaparral habitat. Flowering period: May to August. Elevation: below 5,600 feet (1,700 meters).	Presumed Absent in all Segments . Suitable soils are absent from the study area and no recent occurrences of the species are present within the project vicinity.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Chaparral rein orchid (<i>Piperia cooperi</i>)	/ CRPR 4.2 County List D	Perennial herb. Generally found on dry sites within grasslands, chaparral, and cismontane woodland. Flowering period: March to June. Elevation: 50 to 5,200 feet (15 to 1,585 meters).	 Presumed Absent in Segments 1, 2, 3, 4a, 4b, 5, 6a, and 6b. Suitable habitat occurs within the study area and has been observed south of the project on the west side of McGinty Mountain ; however, focused rare plant surveys conducted during the flowering period were negative for this species. Low in Segment 4c. Species has low potential to occur within the Segment 4c Additional Study Area.
Fish's milkwort (Polygala cornuta var. fishiae)	/ CRPR 4.3 County List D	Perennial shrub. Occurs usually in wetlands, and occasionally found in chaparral and oak woodland communities. Flowering period: May to August. Elevation: 295 and 4166 feet (90 to 1,270 meters).	Low in all Segments. Suitable habitat occurs within the study area and has been observed south of the project near McGinty Mountain. Perennial shrub that would have most likely being observed during biological surveys if present.
White rabbit-tobacco (<i>Pseudognaphalium leucocephalum</i>)	/ CRPR 2B.2	Perennial herb. Occurs on sandy or gravelly soils of benches, dry stream bottoms, and canyon bottoms within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: July to November. Elevation: below 6,890 feet (2,100 meters).	Presumed Absent in all Segments. Numerous individuals were observed within the sandy soils of the open coast live oak woodland adjacent to the Segment 2 study area; however, focused rare plant surveys conducted during the flowering period were negative for this species within the Study Area. Habitat within the Segment 4 Additional Study Area is not suitable.
Cedros Island oak (Quercus cedrosensis)	/ CRPR 2B.2 County List B	Perennial tree. Closed-cone coniferous forest with chaparral and coastal scrub. Flowering period: April to May. Elevation: 328 to 5,900 feet (100 to 1,800 meters).	Presumed Absent in all Segments. Suitable habitat occurs within the study area, but this conspicuous species would have been observed during biological surveys if present.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	/ CRPR 1B.1 County List A	Perennial shrub. Occurs on sandy or clay loam soils near the coast within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: March to May. Elevation: below 656 feet (200 meters).	Presumed Absent in all Segments. Suitable habitat occurs within the study area, but this conspicuous species would have been observed during biological surveys if present.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Engelmann oak	/	Perennial tree. Occurs on slopes and foothills within	Presumed Absent in all Segments. Suitable
(Quercus engeimannii)	CRPR 4.2	grassiands, chaparral, oak woodland, and riparian	nabitat occurs within the study area, but this
	County List D	Elevation: 160 to 4 300 feet (50 to 1 300 meters)	during biological surveys if present
Moreno currant	/	Perennial shrub. Occurs within riparian scrub	Low in all Segments. Suitable habitat riparian
(Ribes canthariforme)	, CRPR 1B.3	habitat and moist areas in southern interior	scrub and chaparral habitat occurs within the
	County List A	chaparral. Flowering period: February to April.	study area; however, there are no reported
		Elevation: 1,640 and 3,935 feet (500 to 1200	occurrences of the species within the project
		meters).	vicinity. The closest reported locations are
			found further east near the community of
			Alpine.
Coulter's matilija poppy	/	Perennial herb. Occurs in dry washes and canyons	Presumed Absent in all Segments. Suitable
(Romneya coulteri)	CRPR 4.2	coastal sage scrub and chaparral. Often in burned	habitat occurs within the study area; however,
	County List D	areas. Flowering period: March to August.	no occurrences of the species are reported
			perennial species would have been observed
			during biological surveys if present
Munz's sage	/	Perennial shrub. Chaparral and Diegan coastal sage	Low in all Segments. Suitable habitat occurs
(Salvia munzii)	CRPR 2B.2	scrub are both utilized by this shrub that when	within the study area; however, this perennial
, ,	County List B	found is often a dominant plant of the area.	shrub would most likely have been observed
		Flowering period: January to May. Elevation: below	during biological surveys if present. The closest
		2,625 feet (below 800 meters).	reported occurrence is located over 4 miles
			east of the project within the community of
			Alpine.
Ashy spike-moss	/	Fern. Grows in sunny spots or under shrubs within	Present in Segment 4. Observed at one location
(Selaginella cinerascens)	CRPR 4.1	coastal sage scrub and chaparral. Uften associated	within Diegan coastal sage scrub habitat west
	County List D	(FEO motors)	of Sloane Canyon Road within Segment 4.
			Presumed Absent in Segments 1, 2, 3, 5, 6a
			and 6b. These segments were surveyed during
			the visible period and the species was not
			observed.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Chaparral ragwort (Senecio aphanactis)	/ CRPR 2B.2 County List B	Annual herb. Occurs on alkali flats and dry, open, rocky areas within grasslands, coastal scrub, and cismontane woodland. Flowering period: February to May. Elevation: 33 to 1,804 feet (10 to 550 meters).	Low in all Segments. Suitable habitat occurs within study area; however, there are no records of the species within the project vicinity.
Purple stemodia (<i>Stemodia durantifolia</i>)	/ CRPR 2B.1 County List B	Perennial herb. Grows on wet sand or rocks within riparian habitats or drying streambeds. Flowering period: year-round. Elevation: 1,312 feet (400 meters).	Low in all Segments. Suitable habitat occurs within the study area along Sweetwater River; however, there are no reports of the species within the project vicinity. The closet occurrence is over 5 miles to the west, just west of Sweetwater Reservoir.
San Diego County needlegrass (<i>Stipa diegoensis</i>)	/ CRPR 4.2 County List D	Perennial herb. Found in rocky, mesic soils near streams or the coast within coastal scrub and chaparral. Flowering period: February to June. Elevation: 30 to 2,600 (10 and 800 meters).	 Presumed Absent in Segments 1, 2, 3, 4a, 4b, 5, 6a, and 6b. Suitable habitat occurs within the study area along Sweetwater River and the species is reported to occur to the south of the project within the San Diego National Wildlife Refuge east of McGinty Mountain in 2011; however, focused rare plant surveys conducted during the flowering period were negative for this species. Low in Segment 4c. Species has low potential to occur within the Segment 4 Additional Study Area.
Parry's tetracoccus (<i>Tetracoccus dioicus</i>)	/ CRPR 1B.2 County List A MSCP Covered	Perennial shrub. Occurs on dry slopes within coastal sage scrub and chaparral. Usually, conditions are quite xeric with only limited annual growth. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	Low in all Segments. Suitable habitat occurs within the study area but there are no recent occurrences of the species in the project vicinity. Historical observations of the species occur north of Dehesa Road, but this perennial shrub would have been observed during biological surveys if present.

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Rush-like bristleweed	/	Perennial herb. Found in xeric, low-growing	High in all Segments. Suitable habitat is present
(Xanthisma junceum)	CRPR 4.3	chamise chaparral or Diegan coastal sage scrub.	within the study area and the species was
	County List D	Usually grows in exposed locations with rocky	previously reported to occur just west of the
		substrate that does not foster much annual	project within McGinty Mountain in 1994 and
		understory. An inconspicuous species that flowers	1995. Potentially suitable Diegan coastal sage
		late and is probably under reported. Flowering	scrub occurs in Segments 1 through 6b.
		period: May to October. Elevation: below 3,300 feet	
		(below 1,000 meters).	

¹ F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare

CRPR = California Native Plant Society Rare Plant Rank: 1A – presumed extirpated in California and either rare or extinct elsewhere; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California, but more common elsewhere; 2B – rare, threatened, or endangered in California, but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

County of San Diego Sensitivity Status: Plant species are divided into Groups A through D on the County Rare Plant List. **Groups A and B** Plants include those that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met. **Groups C and D** Plants include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

MSCP Covered Species: Covered Species under County MSCP Subarea Plan; NE = Narrow Endemic Species under County MSCP Subarea Plan.

² Potential to Occur is assessed as follows. None: Species is either sessile (i.e. plants) or so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; Low: Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; High: Suitable habitat occurs in the project site and the species has been recorded recently on or near the study area, but was not observed during project surveys; Present: The species was observed during biological surveys for the project and is assumed to occupy the project site; Presumed Absent: Species would be visible at the time surveys were conducted and would have been observed if present.

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Appendix D

Potential Sensitive Species Table – Fauna

Species	Status ¹	Habitat Associations	Potential to Occur ²
INVERTEBRATES			
Thorne's hairstreak	/	Occupies Tecate cypress forests, which larvae exclusively	Not Expected in all Segments.
(Callophrys thornei)	County Group 1	feed upon. Tecate cypress (Hesperocyparis forbesii) is a	The species host plant does not occur within the
	MSCP Covered	relict species from a time when southern California's	project's Study Area, or within adjacent areas in the
	MSCP NE	climate was cooler and wetter. There are five remaining	vicinity of the Study Area. The project is located outside
		populations of the species, all are located within the Otay	of the known range of the species, Otay Mountain
		Mountain wilderness.	wilderness, which occurs approximately 12 miles to the
			south.
Monarch butterfly	/	The population west of the Rocky Mountains migrates to,	Present in Segments 2a and 6b.
(Danaus plexippus)	County Group 2	and overwinters, along the coast of central and southern	Species was observed flying within Diegan coastal sage
		California. Inhabits a wide variety of open habitats	scrub habitat at the southern portion of Segment 2a and
		including fields, meadows, marshes, and roadsides and	within non-native grassland at the western portion of
		roosting on wind-protected tree groves (such as	Segment 6b.
		eucalyptus [<i>Eucalyptus</i> spp.], Monterey pine [<i>Pinus</i>	
		<i>radiata</i>], and cypress [<i>Hesperocyparis</i> sp.]), with nectar	High in Segments 1, 2b, 2c, 3, 4, 5, and 6a.
		and water sources nearby. Breeds in areas that have a	Species was not observed within Segments 1, 2b, 2c, 3,
		suitable abundance of their host plant, milkweed	4, 5, or 6a, but could potentially fly over these segments.
		(Asclepias sp.).	However, no larval host plants or communal roosting
			sites were observed within the Study Area for all
			segments.

Species	Status ¹	Habitat Associations	Potential to Occur ²
INVERTEBRATES			
Quino checkerspot butterfly (Euphydryas editha quino)	FE/ County Group 1 MSCP NE	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [<i>Plantago</i> <i>erecta</i>], woolly plantain [<i>Plantago patagonia</i>] but also Coulter's snapdragon [<i>Antirrhinum coulterianum</i>], and rigid bird's beak [<i>Cordylanthus rigidus</i>]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	 Present in Segment 2c. A single Quino checkerspot butterfly was observed along the existing trail within Segment 2c on April 8, 2019 during protocol-level species surveys. No other Quino or newly emerged Quino were observed during survey weeks one through five of the protocol-level Quino surveys in Segments 1, 2a, 2b, 3, 4, 5, 6a, and 6b. Therefore, while a single Quino was observed flying through the Study Area within Segment 2c, the survey did not document Quino breeding within the Study Area. Observations have been previously documented outside the Study Area within the San Diego National Wildlife Refuge, within half a mile to the north of Segment 6b in 2010 and 500 feet southwest of Segment 3 in 2019. Presumed Absent in Segments 1, 2a, 2b, 3, 4a, 4b, 5, 6a, 6b, or the surveyed portion of Segment 4c during protocol Quino surveys conducted in 2019, and thus these segments are considered unoccupied by the species. Low Potential in Segment 4c The potential for Quino within Segment 4c (within the Additional Study Area shown on Figure 5) is expected to be low based on the thick chaparral in the northern portion, the lack of hilltops or openings, and the lack of larval host plants within Segment 4c.

Species	Status ¹	Habitat Associations	Potential to Occur ²
INVERTEBRATES (contin	ued)		
Species INVERTEBRATES (contin Hermes copper butterfly (<i>Lycaena hermes</i>)	Status ¹ ued) FC/ County Group 1	Habitat Associations Found in coastal sage scrub and southern mixed chaparral habitats with mature specimens of its larval host plant, spiny redberry (<i>Rhamnus crocea</i>). This species appears to utilize redberry stands growing in deeper, well drained soils of canyon bottoms and north-facing hillsides. Nectaring resources include California buckwheat (<i>Eriogonum fasciculatum</i>), chamise (<i>Adenostoma fasciculatum</i>), and California sunflower (<i>Encelia californica</i>), among others.	Potential to Occur2Assumed Occupied in Segments 5a and 5bThe species host plant, spiny redberry, occurs within 15 feet ofCalifornia buckwheat in Segments 5a and 5b and Segments 5aand 5b are located within a core occurrence area, according tothe Species Status Assessment (USFWS 2018). Therefore,Segments 5a and 5b are considered occupied.Presumed Absent in Segments 3, 4a, 4b, and 6b. During thefocused Hermes copper surveys for the 2019 flight season,there were no observations within the surveyed Study Area. Asthere were no observations during the 2019 surveys, Segments3, 4a, 4b, and 6b as well as the majority of Segments 2, and thesouthern part of Segment 4c are considered unoccupied.However, potential habitat, i.e. spiny redberry within 15 feet ofCalifornia buckwheat, occurs within these segments.High Potential in Segment 4cSegment 4cSegment 4c has high potential to support Hermes copper dueto the large amount of potential Hermes copper habitat in thenorthern part of the segment 2 Additional Survey AreaDne additional area of potential Hermes copper habitat occurswithin the Additional Study Area in Segment 2a/2b/2c. Thisare has low potential to support Hermes copper because itonly supports one spiny redberry within 15 feet of Californiabuckwheat, and potential Hermes copper habit
			No spiny redberry was observed within 15 feet of California buckwheat for Segments 1 and 6a. Therefore, these segments do not contain suitable habitat for Hermes copper.

Species	Status ¹	Habitat Associations	Potential to Occur ²
VERTEBRATES		· · ·	
Amphibians			
Arroyo toad (<i>Anaxyrus californicus</i>)	FE/SSC County Group 1 MSCP NE MSCP Covered	Inhabits low gradient, medium to large streams and rivers with intermittent and perennial flow in coastal and desert drainages of central and southern California. Breeding habitat specialists that require slow-moving streams composed of sandy soils with sandy streamside terraces. In some areas they may occupy first-order streams, although most populations in habitat second-sixth-order streams that have extensive braided channels and sediment deposits of sand, gravel, or pebbles that are occasionally redistributed by flooding. Utilizes shallow pools (at least 1-inch deep) for breeding, egg- laying, and tadpole development. Vulnerable to habitat destruction and alteration due to changes in hydrology, including construction of dams and water diversions, and further impacted by the presence of non-native predators such as American bullfrog (<i>Lithobates catesbeianus</i>).	High in Segments 2, 4a, 4b, 5a, and 5b. The species has been heavily documented within the vicinity of the project Study Area for Segments 2a, 2b, 4a, 4b, 5a, and 5b, with numerous observations of arroyo toads reported upstream of the Sweetwater River Bridge crossing, with the closest observations mapped along segments 2a and 4a. Additional sightings have been reported between Lake Emma and the Sweetwater Bridge crossing, with the closest observation approximately 100 feet from Segment 2a, with locations mostly concentrated near the bridge. During the 2019 focused arroyo toad surveys throughout the Study Area within suitable habitat, numerous arroyo toads were observed within 500 feet of the Study Area for Segments 2, 4a, and 4b, although there were no observations within the project Study Area itself. The majority of arroyo toad observations occurred in the Sweetwater River, south of the confluence with the North Fork Sweetwater River, east of Sloane Canyon Road, to the east of Segments 2a and 4a. The closest observation was 180 feet from the eastern portion of Segment 2a and 160 feet from the eastern portion of Segment 4a. The potential for breeding in the northern part of Segment 2 is low, and suitable hydrology was not observed in Harbison Canyon Creek during 2019 surveys, although one individual was observed approximately 200 feet from the eastern portion of the Segment 2 Study Area, along Harbison Canyon Creek.

Species	Status ¹	Habitat Associations	Potential to Occur ²
			One other individual was observed approximately 260 feet
			from the northern portion of the Segment 5 Study Area, near
			Beaver Hollow.
			Presumed Absent in Segments 1, 3, 6a, and 6b.
			No suitable habitat for arroyo toad is present in Segments 1,_3,
			6a, and 6b. In addition, no arroyo toad individuals were
			observed in the vicinity of the Study Area for Segments 1, 6a,
			and 6b during 2019 protocol surveys. Therefore, arroyo toad
			does not occupy these segments.
			USFWS-designated habitat for the species occurs within the
			Study Area for Segments 4 and 5.
Western spadefoot	/SSC	Occurs from northern California southward to San	High in Segments 2, 4, and 5.
toad	County Group 2	Diego County, and west of the Sierra Nevada at	Potentially suitable habitat includes temporary pools seasonally
(Spea hammondii)		elevations below 4,500 feet. This terrestrial species	located along Sloane Canyon Road in Study Area Segments 2, 4,
		requires temporary pools for breeding. Suitable	and 5. Temporary ponds formed by tire ruts or larger
		upland habitats include coastal sage scrub,	depressions were observed along Sloane Canyon Road
		chaparral, and grasslands. Most common in	following heavy rains. Furthermore, the species has been
		grasslands with vernal pools or mixed grassland-	documented to occur within the Study Area, as a single male
		coastal sage scrub areas. Breeds in temporary pools	was collected in November 1996 along Sloane Canyon Road
		formed by heavy rains, but also found in riparian	within Segment 2.
		habitats with suitable water resources. Breeding	
		pools must lack exotic predators such fish, bullfrogs,	Not Expected for Segments 1, 3, 6a, and 6b.
		and crayfish for the species to successfully	Species is not expected to occur in Segments 1, e, 6a, and 6b
		reproduce. Estivates in burrows within upland	due to lack of suitable habitat.
		habitats adjacent to potential breeding sites.	

Species	Status ¹	Habitat Associations	Potential to Occur ²
Amphibians (continued)			
Southwestern Pond Turtle (<i>Actinemys pallida</i>)	/SSC County Group 1 MSCP NE MSCP Covered	Occurs in most major coast-facing drainages below 4,700 feet from Washington south to Baja California, Mexico. In California, the species has only been documented in two desert slope drainages: the Mojave River (San Bernardino County) and Andreas Canyon (Riverside County). Aquatic species that requires permanent, or nearly permanent, slack or slow moving aquatic habitats. Inhabits many types of water bodies, ranging from creeks and slow moving rivers, to ponds, lakes, and reservoirs. Leaves water and travels to surrounding upland habitats to nest, over-winter, and aestivate.	 High in Segments 1 and 2. Suitable habitat for the species occurs within the Study Area Segment 2 at Lake Emma and ponded areas along Sweetwater River, although no impacts are proposed for the areas containing suitable habitat. The species has been documented over 1.5 miles upstream of the project along Sweetwater River at Lawson Creek, Sloan Ranch, and Sycuan Peak Ecological Reserve. Low in Segments 3, 4, 5, 6a, and 6b. A total of 25 individuals, all adults except for one juvenile, were captured during trapping surveys conducted in these areas between 2009 and 2010. Potential to occur in Segments 3, 4, 5, 6a, and 6b is low, as suitable aquatic habitat does not occur within the project footprint for these segments.
Reptiles	1000		
San Diegan legless lizard (Anniella stebbinsi)	/SSC County Group 2	Occurs in sparsely vegetated areas with moist warm, loose soil with plant cover; moisture is essential. Common in several habitats but especially in beach dunes, coastal scrub, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores (<i>Platanus racemosa</i> .), cottonwoods (<i>Populus</i> spp.), or oaks (<i>Quercus</i> spp). Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Sometimes found in suburban gardens in southern California.	 High in Segments 1, 2, and 5. Suitable habitat occurs within the Study Area, particularly along Sweetwater River in Segments 1, 2, and 5, and there are reported observations of the species within the project vicinity. Low in Segments 3, 4, 6a, and 6b. Potential to occur in Segments 3, 4, 6a, and 6b is low due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (continued)			
California glossy snake (<i>Arizona elegans</i> occidentalis)	/SSC	Occurs along the coastal regions of California from San Francisco Bay south of Baja California, Mexico, although the species is generally absent along the Central Coast. Occurs within scrub, chaparral, grasslands, rocky washes, and desert habitats below 6,000 feet. Prefers open areas with loose soil for burrowing.	High in Segments 1, 2, and 5 . Suitable habitat occurs within the Study Area, particularly along Sweetwater River in Segments 1, 2, and 5. Reports of the species within the project vicinity are generally from the 1930s and 1940s. However, the lack of occurrences is most likely related to the lack of focused reptile surveys (such as pitfall trapping) and the nocturnal nature of the species.
			Low in Segments 3, 4, 6a, and 6b. Potential to occur in Segments 3, 4, 6a, and 6b is low due to lack of suitable habitat.
Belding's orange- throated whiptail (<i>Aspidoscelis</i> <i>hyperythra beldingi</i>)	/WL County Group 2 MSCP Covered	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular ranges below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants (such as California buckwheat, California sagebrush, black sage, or chaparral) to provide a food base for its major food source, termites.	 Present in Segments 2, 3, 4, 5, and 6b. The species was detected in four locations within Segment 6b, directly north of Dehesa Road within Diegan coastal sage scrub and disturbed habitat. One individual was observed along Sloane Canyon Road in Segment 2. Another individual was observed at the eastern end of Segment 3. Another individual was observed along Sloane Canyon Road, directly east of Segment 4a/4b. The species was detected in two locations within Segment 5, directly south of Sloane Canyon Road, within scrub oak chaparral and Diegan coastal sage scrub habitat. High in Segments 1 and 6a. The species was not observed in Segments 1 or 6a; however, suitable habitat occurs in each of these segments.
San Diego tiger whiptail (<i>Aspidoscelis tigris</i> <i>stejnegeri</i>)	/SSC County Group 2	Occurs along the coastal region of southern California from San Luis Obispo south to San Diego County. Inhabits a wide variety of habitats, primarily in hot and dry open areas with sparse vegetation, from sea level to 4,900 feet. Associated habitats include coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas with sandy or gravel substrates.	 Present in Segment 4. A single individual was observed within Diegan coastal sage scrub located along Sloane Canyon Road. The individual was located outside of the Study Area, east of Segment 4a. Low in Segments 1, 2, 3, 5, 6a, and 6b. The species was not observed in Segments 1, 2, 3, 5, 6a, and 6b. Potential to occur in these segments is considered low given that only one individual was observed east of Segment 4a during multiple surveys for this project throughout 2019.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (continued)			
Baja California	/SSC	Occurs from extreme southern San Diego County at	Low in all Segments.
coachwhip		elevations below 7,700 feet. Habitat generalist	Suitable habitat occurs within the Study Area; however, there
(Coluber fuliginosus)		found in open terrain but more common in	are no reported occurrences within the project vicinity and the
		grasslands, scrublands, and coastal sand dunes. Diet	project is located at the extreme northern portion of the
		consists of a wide variety of prey including rodents,	species known range. The nearest occurrence is approximately
		lizards, snakes, turtles, insects, bird and lizard eggs,	five miles southeast of the project Study Area, where at least
		and carrion.	one individual was captured between 1995 and 2005.
Red diamond	/SSC	Occurs in the southwestern portion of California	High in Segments 2, 3, 4, 5, and 6b.
rattlesnake	County Group 2	from San Bernardino County southward to San	Suitable habitat occurs within the Study Area and the species is
(Crotalus ruber)		Diego County at elevations below 5,000 feet. Has a	known to occur within the surrounding area. Rocky outcrops
		wide tolerance for varying environments including	occurs in numerous areas of the Study Area, particularly within
		the desert, dense foothill chaparral, warm inland	the coastal sage scrub habitat north of Dehesa Road in
		mesas and valleys, and cool coastal zones. Most	Segment 6b, and coastal sage scrub and chaparral habitat
		commonly found near heavy brush with large rocky	found within Segments 2, 3, 4, and 5.
		microhabitats. Chamise and red shank chaparral	
		associations may offer better structural habitat for	Low in Segments 1 and 6a.
		refuges and food resources.	Potential to occur within Segments 1 and 6a is low due to the
			lack of suitable habitat.
San Diego ring-necked	/	Found mainly in San Diego County along the coast to	High in all Segments.
snake	County Group 2	the west of the mountain and desert regions, and in	Suitable habitat occurs within all Segments of the Study Area
(Diadophis punctatus		extreme southwestern Riverside County. Prefers	and voucher specimens have been collected to the north of the
similis)		moist habitats and often found near intermittent	project in the Crest community.
		streams. Suitable habitat includes wet meadows,	
		rocky hillsides, farmland, grassland, chaparral,	
		mixed coniferous forests, and woodlands. Secretive	
		with individuals usually found under the cover of	
		rocks, wood, boards and other surface debris, but	
		occasionally seen moving on the surface on cloudy	
		days, dusk, or at night.	

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (continued)			
Rosy boa (<i>Lichanura orcutti</i>)	/ County Group 2	Occurs throughout southern California south of Los Angeles County from the coast east towards the Mojave and Colorado deserts, and south to San Diego County, though the species is absent from most of Imperial County. Inhabits arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, and other rocky areas. Appears to be common in riparian areas but does not require permanent water.	High in all Segments . Suitable habitat occurs within all Segments of the Study Area, particularly along Sweetwater River, and voucher specimens have been collected along Dehesa Road and adjacent areas.
Blainville's horned lizard (<i>Phrynosoma</i> blainvillii)	/SSC County Group 2 MSCP Covered	Occurs from southern California to northern Baja California. In California, the species predominately occurs from Kern County south to San Diego County west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants (<i>Pogonmyrmex</i> sp.) and are generally excluded from areas invaded by Argentine ants (<i>Linepithema</i> <i>humile</i>).	 Present in Segment 2c. A single individual was observed along an existing dirt trail within Segment 2c. High in Segments 1, 2a, 2b, 4, 5, 6a, and 6b. Species was not observed within Segments 1, 2a, 2b, 3, 4, 5, 6a, and 6b; however, suitable habitat occurs throughout the Study Area and is found within each of the proposed trail segments.
Coronado skink (Plestiodon skiltonianus interparietalis)	/WL County Group 2	Occurs in coastal and inland portions of southern San Diego County, though the species can occur up into Riverside County where it intergrades with Skilton's skink (<i>Plestiodon skiltonianus skiltonianus</i>). Suitable habitats include grassland, woodlands, pine forests, and chaparral, especially in open sunny areas such as clearings and edges of creeks or rivers. Prefers rocky areas near streams with lots of vegetation but can also be found in areas away from water. Occasionally seen foraging in leaf litter but more commonly found underneath surface objects, such as bark or rocks, where it lives in extensive burrows.	High in all Segments. Potentially suitable habitat occurs within all Segments of the Study Area, particularly along Sweetwater River, and voucher specimens have been collected within adjacent areas.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (continued)			
Two-striped garter	/SSC	Found in California from Monterey County south	Present in Segment 5.
snake	County Group 1	along the coast to San Diego County at elevations	A single individual was observed in Segment 5, to the south of
(Thamnophis		below 7,000 feet. Commonly inhabits perennial and	Sloane Canyon, within scrub oak chaparral habitat near Beaver
hammondii)		intermittent streams with rocky beds bordered by	Hollow.
		riparian habitats dominated by willows (Salix spp.)	
		and other dense vegetation. Also found in stock	High in Segments 1 and 2.
		ponds and other artificially created aquatic habitats	High quality suitable habitat for the species occurs along
		if bordered by dense vegetation and potential prey,	Sweetwater River in Study Area Segments 1 and 2.
		such as amphibians and fish, are present.	
			Not Expected in Segments 3, 4, 6a, and 6b.
			Species was not observed and is not expected to occur in
			Segments 3, 4, 6a, and 6b due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²		
Birds					
Cooper's Hawk (Accipiter cooperii)	/WL County Group 1 MSCP Covered	In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.	 Present in Segments 1, 2c, and 5. Three individuals observed within and adjacent to the Study Area. Detected within eucalyptus woodland in Segment 1 and observed flying overhead west of Segment 2c, as well as at the eastern portion of Segment 5. High in Segments 2a, 2b, 3, 4, 6a, and 6b. Species was not detected within Segments 2a, 2b, 		
Sharn-shinned Hawk	/WL	Primarily winters and migrates throughout California	3, 4, 6a, and 6b. Suitable breeding habitat within the Study Area includes eucalyptus woodland south of Dehesa Road and riparian and woodland habitats along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow in Segments 1, 2, and 5. Present in Segment 2c and 3.		
(Accipiter striatus)	County Group 1	with breeding records in the northern and central portions of the State, but the species breeding range in California is poorly known. Breeds within most closed-	A single individual was observed flying overhead at the intersection of Segment 2c and Segment 3.		
		canopy woodlands and forests, including riparian habitats, from sea level to near alpine elevations, generally nesting in trees near openings. Wintering habitat similar to breeding habitat but more expansive to include suburban and agricultural areas.	High for wintering/foraging habitat in Segments 1, 2a, 2b, 4, 5, 6a, and 6b. The species was not observed in Segments 1, 2a, 2b, 4, 5, 6a, and 6b. Suitable wintering and foraging habitat occur within the Study Area, but the species would not be expected to breed in the area based on the known breeding range of the species, which is concentrated in the northern United States and Canada and does not reach southern California, and general lack of confirmed breeding locations within San Diego County.		

Species	Status ¹	Habitat Associations	Potential to Occur ²			
Birds (continued)	Birds (continued)					
Tricolored Blackbird (<i>Agelaius tricolor</i>)	BCC/SCE, SSC County Group 1 MSCP Covered	Highly colonial, nomadic species occurring as a year- round resident of California from Sonoma County to San Diego. Common locally in the Central Valley and sporadically throughout the State. Breeds in dense colonies. Breeding habitat typically characterized by emergent freshwater marsh dominated by tall, dense cattails (<i>Typha</i> spp.) and bulrush (<i>Schoenoplectus</i> spp.), though the species also utilizes willows (<i>Salix</i> spp.), blackberries (<i>Rubus</i> spp.), thistles (<i>Cirsium</i> and <i>Centaurea</i> spp.), nettles (<i>Urtica</i> sp.), and agricultural crops. Forages in grasslands and cropland habitats adjacent to breeding areas.	Not Expected in all Segments. The Study Area lacks suitable marsh habitat and limited marsh habitat occurs outside of the Study Area along the fringes of Lake Emma. Historical observations occur over 5 miles north of the Study Area at Lindo Lake, and over 7 miles southwest at the north end of Sweetwater Reservoir. At Lindo Lake, the species was last confirmed breeding in 2000, but no individuals were detected during surveys in 2009. The species was last observed breeding at Sweetwater Reservoir in 2008 with no individuals observed during surveys in 2009 and 2014.			
Southern California Rufous-crowned Sparrow (<i>Aimophila ruficeps canescens</i>)	/WL County Group 1 MSCP Covered	Restricted to southwestern California occurring from Santa Barbara County southwards to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush but are generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	 Present in Segments 2, 3, and 6b. Several individuals detected within and adjacent to the Study Area. Found at one location within Diegan coastal sage scrub habitat along Segment 2a/2b/2c; one location north of Segment 3; at one location between Segments 2b, 2c, and 3; and at two locations north of Segment 6b. High in Segment 4. This species was not observed in Segments 1, 4, 5, or 6a; however, it has potential to occur in Segment 4 due to the presence of Diegan coastal sage scrub habitat similar to where the species was detected. Low in Segments 1, 5, and 6a This species has low potential to occur in Segments 1, 5, and 6a due to the lack of suitable habitat. 			

Species	Status ¹	Habitat Associations	Potential to Occur ²		
Birds (continued)					
Golden Eagle (<i>Aquila chrysaetos</i>)	BCC/WL, FP County Group 1 MSCP Covered	Uncommon permanent resident and migrant throughout California, except the center of the Central Valley. More common in southern California than in northern regions. Inhabits a variety of habitats, nesting in cliffs or trees and rugged terrain and foraging over plains, grasslands, or low and open shrublands including chaparral and coastal sage scrub. Typically absent from heavily forested areas or on the immediate coast and are almost never detected in urbanized environments.	Low in all Segments. The Study Area does not contain suitable nesting habitat for the species and the site is not within any known golden eagle territory. Golden eagles are occasional visitors to the SDNWR and could forage over portions of the Study Area; however, no known active nest sites occur within 4,000 feet of the Study Area. The closest golden eagle nest is the San Miguel Mountain pair, which nests over eight miles to the south/southwest of the site. A prime foraging area for this pair is the area around Sweetwater Reservoir, southwest of the project.		
Great Blue Heron (<i>Ardea herodias</i>)	/ County Group 2	Year-round resident of California occurring throughout most of the State in saline and freshwater wetlands and shallow estuaries. Nests as single pairs and in small colonies with nests located on the ground, in trees and bushes, and on artificial structures that are usually adjacent to water and secluded from human disturbance. Found in a wide variety of habitats foraging in various wetland habitats, water bodies, and occasionally uplands.	 High in Segments 1, 2, 4a, 4b, and 5. Suitable breeding and foraging habitat occur within and adjacent to the Study Area along Sweetwater River in Segments 1, 2, 4a, 4b, and 5. Numerous eBird sightings of the species occur within the project vicinity for these segments. Low in Segments 3, 4c, 6a, and 6b. Potential to occur in Segments 3, 4c, 6a, and 6b is low due to lack of suitable habitat. 		
Bell's sparrow (Artemisiospiza belli)	BCC/WL County Group 1	Non-migratory resident on the coastal ranges of California and western slopes of the central Sierra Nevada mountains. Occurs year-round in southern California. Breeds in dry coastal sage scrub and chaparral, desert scrub, and similar other open, scrubby habitats. In foothill chaparral, they tend toward younger, less dense stands that are recovering from recent fires; less common in older, taller stands that have remained unburned.	 High in Segments 2, 3, 4, 5, and 6b. Suitable sage scrub and chaparral habitat occurs within and adjacent to the Study Area Segments 2, 3, 4, 5, and 6b. In addition, the species has been observed within the San Diego National Wildlife Refuge, near McGinty Mountain to the west of the project. Not Expected in Segments 1 and 6a. Species is not expected to occur in Segments 1 and 6a due to lack of suitable habitat. 		

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Oak Titmouse (Baeolophus inornatus)	BCC/	Year-round resident found from southern Oregon south through California to northwestern Baja California, Mexico. Occurs throughout most of California but is generally absent from the northwestern coastal region and San Joaquin Valley. Inhabits dry oak and oak-pine woodlands and may use scrub oaks and other scrub habitat near woodlands. Also found in juniper woodlands and open pine forests.	 Present in Segment 2. One individual documented during the 2019 surveys singing immediately adjacent to the Segment 2 Study Area, within southern coast live oak riparian forest and coast live oak woodland habitat, along the Sweetwater River. Low in Segments 1, 3, 4, and 5. The species was not observed in Segments 1, 3, 4, and 5. Due to the lack of observations during the 2019 surveys within these segments, the species has a low potential to occur. Not Expected in Segments 6a and 6b. The species was not observed in Segments 6a and
			6b, and is not expected to occur within these segments due to lack of suitable habitat.
Red-shouldered Hawk (<i>Buteo lineatus</i>)	/ County Group 1	In California, the species occurs to the west of Sierra Nevada occupying mature oak and riparian woodlands, eucalyptus groves, and suburban areas near forested areas. Nests in trees, both native and non-native, often located near a water source such as stream or pond.	 Present in Segment 2. Documented calling from riparian habitat located along Sweetwater River to the east of Segment 2a/2b/2c and observed flying overhead in the area. High for breeding in Segments 1, and 5 Species was not observed in Segments 1 and 5; however, suitable breeding habitat includes riparian and woodland habitats found along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow along Segments 1 and 5. High for foraging in Segments 3, 4, 6a, and 6b. Species was not observed and suitable breeding
			habitat does not observed and suitable breeding habitat does not occur within Segments 3, 4, 6a, and 6b, but species could forage over these segments.

Species	Status ¹	Habitat Associations	Potential to Occur ²		
Birds (continued)					
Swainson's Hawk (Buteo swainsoni)	BCC/ST County Group 1 MSCP Covered	Uncommon breeding resident and migrant within California migrating from breeding grounds in North American to wintering areas in South America. Migrates and forages in flocks sometimes numbering up into the thousands. In California, breeds locally in the Central Valley and Great Basin regions within Shasta Valley, the Owens Valley, and the Mohave Desert. Inhabits open grasslands and shrub habitats, as well as canyons, foothills, and smaller interior valleys in otherwise mountainous regions. Increasingly becoming more depending on agriculture, especially alfalfa crops. Nests in stands with few trees, often on the edge of riparian habitats, though they also use lone trees in agriculture fields and pastures, and along roadsides with suitable foraging habitat nearby.	Not Expected in all Segments. Migrating hawks may incidentally occur within the general vicinity of the Study Area. However, the site is located outside of the known breeding and overwintering range of the species and lacks suitable grasslands or agriculture fields required for foraging.		
Green Heron (<i>Butorides virescens</i>)	/ County Group 2	In California, the species is a year-round found generally west of the Sierra Nevada and within the southern deserts. Found in a wide variety of wetland habitats such as swamps, marshes, riparian habitat along creeks and streams, lake edges, and man-made ditches, canals, and ponds preferring thick vegetation and avoiding open areas.	 High in Segments 1, 2, and 5. Single individual observed flying over open water of Lake Emma between stands of riparian habitat, more than 500 feet south of Segment 1 and west of Segment 2. Suitable breeding habitat includes riparian habitat found along Sweetwater River. Low in Segments 3, 4, 6a, and 6b. Species was not observed in Segments 3, 4, 6a, and 6b, and suitable habitat does not occur in these segments. 		

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Costa's Hummingbird (<i>Calypte costae</i>)	BCC/	Found in deserts and xeric habitats west of the Continental Divide and south of the Great Basin from southern Utah, western and southern Arizona, to southern California and further into Baja California and Mexico. Occurs year-round in southern California breeding along the coast in sage scrub and chaparral habitats from Santa Barbara County south to San Diego County, and east to desert regions of Inyo County south to Imperial County. Breeding habitats include Sonoran desert scrub, Mojave desert scrub, coastal sage scrub, and chaparral.	 Present in Segment 2. Individual detected within coastal sage scrub habitat to the east of Sweetwater River and west of Sloane Canyon Road, along Segment 2. High for breeding in Segments 1, 3, 4, 5, 6a, and 6b. Species was not observed in Segments 13, 4, 5, 6a, and 6b. However, suitable breeding habitat includes coastal sage scrub and chaparral habitats, which occur throughout the Study Area in these Segments.

Species	Status ¹	Habitat Associations	Potential to Occur ²		
Birds (continued)					
Coastal Cactus Wren (Campylorhynchus brunneicapillus sandiegensis)	BCC/SSC County Group 1 MSCP NE MSCP Covered	One of seven subspecies occurring in southern California from southern Orange County south to San Diego County. Occupies native scrub vegetation with thickets of mature cacti consisting of cholla (<i>Cylindropuntia</i> spp.) or prickly-pear cactus (<i>Opuntia</i> <i>littoralis</i>). Cacti must be tall enough to support and protect the bird's nest (typically 3 feet or more in beight). Surrounding upgetation usually apprict of	Not Expected for breeding in all Segments. Coastal sage scrub habitat within the Study Area lacks mature cacti stands required by the species for nesting. The closest documented location of the species is over five miles north of the Study Area, near Lake Jennings, and seven miles southwest, near Sweetwater Reservoir.		
		coastal sage scrub habitat with shrubs normally below the level of nest placement.			
Turkey Vulture (Cathartes aura)	/ County Group 1	Observed throughout San Diego County with the exception of extreme coastal San Diego where	Present in Segment 3. Individuals observed flying overhead within		
		most open habitats. Roosts communally preferring stands of large trees or hilly areas, usually away from human disturbance. Usually nests in caves or crevices on steep rocky slopes.	High for foraging and roosting in Segments 1, 2, 4, 5, 6a, and 6b. Species was not observed in Segments 1, 2, 4, 5, 6a, and 6b. Suitable foraging and roosting habitat occurs within riparian and woodland habitats along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow, but unlikely to nest within the Study Area.		
Species	Status ¹	Habitat Associations	Potential to Occur ²		
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Birds (continued)					
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	FE/SE County Group 1 MSCP NE MSCP Covered	Breeds in southern California, Arizona, New Mexico, southwestern Colorado, and extreme southern portions of Nevada and Utah. Riparian obligates that breed in relatively dense riparian habitats along rivers, streams, or other wetlands where surface water is present, or soils are very saturated. Breeding habitat can consist of monotypic stands of willows, a mixture of native broadleaf trees and shrubs, monotypic stands of exotics such as tamarisk (<i>Tamarix</i> spp.) or Russian olive (<i>Elaeagnus angustifolia</i>), or mixture of native broadleaf trees and shrubs with exotics. Restricted in San Diego County to two modest colonies at San Luis Rey River and Santa Margarita River, with a few scattered pairs.	Presumed Absent in all Segments. Suitable riparian habitat occurs within and adjacent to the Study Area along Sweetwater River and Beaver Hollow. However, there are no reported observations within the project vicinity. The last recorded breeding occurrence in the area is located over 7 miles southwest of the project along Sweetwater River, east of Sweetwater Reservoir. A single pair unsuccessfully nested in the area during the 1998 and 1999 breeding seasons. Migrants were observed in the same area between 2000 and 2002, but none were detected in 2003. Protocol surveys in 2019 were negative and the site is not occupied by this species.		
Caspian Tern (Hydroprogne caspia)	BCC/	In California, occurs commonly to very commonly along the coast and at scattered inland locations. Primarily a summer visitor but may also winter and occur year- round in southern California regions. Nests in dense colonies at a wide variety of habitats, ranging from coastal estuarine, salt marsh, and barrier islands to beaches and freshwater islands in inland rivers and salt lakes. Breeding adults often fly substantial distances to forage at rivers lakes, and fresh or saltwater wetland habitats. Nesting colonies occur at Humboldt Bay, San Francisco Bay, San Pablo Bay, San Diego Bay, Elkhorn Slough, and several lakes in Modoc and Lassen Counties. Present in large numbers at the Salton Sea during the breeding season, no longer nests there.	 Present in Segment 1. A single individual was observed flying over Lake Emma to the south of Segment 1. Not Expected to occur in Segments 2, 3, 4, 5, 6a, and 6b. This species was not observed and is not expected to occur along Segments 2, 3, 4, 5, 6a, and 6b due to lack of suitable habitat. 		

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Yellow-breasted Chat	/SSC	In California, occurs as a migrant and summer resident	Present in Segments 1, 2, and 5.
(Icteria virens)	County Group 1	breeding from the coastal regions in northern	Multiple individuals observed within and adjacent
		California, east of the Cascades, and throughout the	to the Study Area Segments 1, 2, and 5, within
		central and southern portions of the State. Breeds in early successional riparian habitats with well-	riparian habitat present along Sweetwater River.
		developed shrub layer and an open canopy nesting on	Not Expected to occur in Segments 3, 4, 6a, and
		the borders of streams, creeks, rivers, and marshes.	6b.
			Species was not observed and is not expected
			along Segments 3, 4, 6a, and 6b due to lack of
			suitable habitat.
Least Bittern	BCC/SCC	Primarily a summer resident in California breeding in	Not Expected in all Segments.
(Ixobrychus exilis)	County Group 2	the Sacramento Valley, San Joaquin Valley, Central	Suitable marsh habitat does not occur within the
		Valley, Salton Sink, lower Colorado River Valley, and	Study Area. A single reported occurrence of the
		coastal Orange and San Diego counties. Occurs year-	species, with an unspecified date and eight
		round in the southern California. Breeds in low-lying	kilometer accuracy, occurs within the project Study
		areas associated with large rivers, ponds, lakes, and	Area along Sweetwater River to the west of Sloane
		estuaries and is largely absent from higher elevations.	Canyon Road. However, no other occurrences are
		Inhabits freshwater and brackish marshes with dense,	reported within the vicinity of the project Study
		tall growths of aquatic or semiaquatic vegetation such	Area and there are no eBird sightings of the species
		as cattails, sedges (<i>Carex</i> ssp.), bulrush (<i>Scirpus</i>	within the surrounding area.
		ssp.), and arrowhead (Sagittaria ssp.) interspersed with	
		clumps of woody vegetation and open water, although	
		they also occasionally occur in salt marshes.	

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Lewis's Woodpecker	BCC/	In California, breeds locally from Siskiyou and Modoc	Present in Segment 2.
(Melanerpes lewis)	County Group 1	Counties south through the Warner Mountains,	A single individual was observed perched on a
		Cascades and Sierra Nevada Ranges; in inner Coast	Peruvian pepper (Schinus molle) tree within
		Ranges from Tehama County south to central San Luis	Segment 2, although the species is not expected to
		Obispo County; and occasionally south to San	breed within the Study Area.
		Bernardino Mountains and east to the Big Pine	
		Mountains in Inyo County. Uncommon, winter visitor in	High in Segment 5.
		the Central Valley, Modoc Plateau, and the Transverse	Not expected to breed within the Study Area, but
		and other Ranges in southern California. Occurs within	suitable wintering habitat occurs within the
		open ponderosa pine forest, open riparian woodland	southern portion of the Study Area where riparian,
		dominated by cottonwood, and logged or burned pine	woodland, and orchard habitats are present within
		forest. Breeding birds are also found in oak woodland,	and adjacent to Segment 5.
		nut and fruit orchards, piñon pine-juniper woodland,	
		pine and fir forests, and agricultural areas.	Not Expected in Segments 1, 3, 4, 6a, and 6b.
			Species was not observed and is not expected in
			Segments 1, 3, 4, 6a, and 6b. The species would not
			be expected to breed anywhere within the Study
			Area for the project, as the site is located outside
			of the species' known breeding range and there are
			no breeding records within San Diego County (Unitt
			2004).

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			·
American White Pelican (Pelecanus erythrorhynchos)	/SSC County Group 2	Mainly an overwintering visitor to California along the Pacific Coast and lowlands of central California, although also winters at the Salton Sea in Imperial County. In California, the species breeds at lakes and marshes in the Klamath Basin, Modoc Plateau, and Great Basin desert in the northeastern portion of the state. Breeds in colonies on isolated islands of freshwater lakes and overwinters at marine estuaries and inland lakes where suitable habitat for feeding, loafing, and roosting is present.	 Present in Segment 1. Single individual was observed on Lake Emma to the south of Segment 1. High in Segment 2. Species would be expected to utilize overwintering habitat within and adjacent to Segment 1 and west of Segment 2, mainly Lake Emma and open water along Sweetwater River. However, the species would not be expected to breed within the Study Area, as the project is located outside of the species' known breeding range and there are no breeding records of the species within San Diego (Unitt 2004).
Coastal California Gnatcatcher (Polioptila californica californica)	FT/SSC County Group 1 MSCP Covered	Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside Counties. Typically occurs in arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as dominant or co-dominant species. Mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though may occur more regularly in inland regions dominated by black sage.	 Not Expected in Segments 3, 4, 5, 6a, and 6b. Overwintering habitat for this species does not occur along Segments 3, 4, 5, 6a, and 6b. Present in Segments 2c, 3, and 6b. Protocol-level surveys conducted in spring and summer of 2019 detected the species at one location along Segment 2c, two locations along Segment 3, and two locations north of Segment 6b. Presumed Absent in Segments 1, 2a, 2b, 4, 5, and 6a. Protocol surveys conducted in 2019 were negative for the species for Segments 1, 2a, 2b, 4, 5, and 6a, and these segments are not occupied. Critical habitat for the species occurs within the western portion of Segment 6b.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Yellow Warbler (Setophaga petechia)	BCC/SSC County Group 2	Common to locally abundant species breeding throughout California at elevations below 8,500 feet, excluding most of the Mojave Desert, and all of the Colorado Desert. Breeds in riparian areas dominated by willows and cottonwoods, near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests at higher elevation areas.	Present in Segments 1, 2, and 5. Multiple individuals were detected within riparian habitat present along Sweetwater River, and within habitats adjacent to these areas, such as eucalyptus woodland, in or near the Study Area Segments 1, 2, and 5.
			Not Expected in Segments 3, 4, 6a, and 6b. Species was not observed and is not expected to occur in Segments 4, 6a, and 6b due to lack of suitable habitat.
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)	BCC/	Resident of California breeding from Tehama, Shasta, and Trinity Counties to the foothills surrounding Central Valley, south through the southern Coast Range to Santa Barbara County continuing into San Diego County and east to the western edge of the southern Mojave and Colorado Deserts. Found year-round in areas south of Kern County with wintering individuals observed further east into the desert regions and Colorado River valley. Inhabits arid and open woodlands adjacent to scrub or chaparral habitats, grasslands or meadows, and water resources such as a stream, pond, or lake from sea level up to 10,000 feet.	 Present in Segment 2. Several individuals were observed within the Study Area perched on top of vegetation within Segment 2. High in Segments 1 and 5. Suitable breeding habitat is present within and adjacent to the Study Area for Segments 1, 2, and 5, especially where coast live oak woodland and riparian habitats occur near grassland and open areas within these segments. Not Expected in Segments 3, 4, 6a, and 6b. Species was not observed and is not expected to occur in Segments 3, 4, 6a, and 6b due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (continued)			
Least Bell's Vireo	FE/SE	In California, breeds along the coast and western edge	Present in Segments 1 and 2.
(Vireo bellii pusillus)	County Group 1	of the Mojave Desert from Santa Barbara County south	Multiple individuals were detected within 500 feet
	MSCP NE	to San Diego County, and east to Inyo, San Bernardino,	of the proposed trail alignments within riparian
	MSCP Covered	and Riverside Counties. Breeding habitat consists of	habitat present along Sweetwater River and Lake
		early to mid-successional riparian habitat, often where	Emma. Singing males were detected in seven
		flowing water is present, but also found in dry	separate locations downstream of the Sweetwater
		watercourses within the desert. A structurally diverse	Bridge crossing to Lake Emma. Least Bell's vireos
		canopy and dense shrub cover is required for nesting	were located south of Segment 1 and west of
		and foraging. Dominant species within breeding habitat	Segment 2.
		includes cottonwood and willows with mule fat, oaks,	
		and sycamore, and mesquite (<i>Prosopis glandulosa</i>) and	Presumed Absent in Segments 3, 4, 5, 6a, and 6b.
		arrowweed (<i>Pluchea sericea</i>) within desert habitats.	Protocol surveys conducted in 2019 within suitable
		The species can be tolerant of the presence of non-	habitat for the species were negative for Segments
		native species such as tamarisk.	4 and 5. Segments 3, 6a and 6b do not contain
			suitable habitat and thus did not need to be
			surveyed to conclude absence.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals			
Pallid bat (<i>Antrozous pallidus</i>)	/SSC County Group 2	Locally common species found at low elevations in California. Associated with arid and open habitats including grasslands, shrublands, woodlands, and forests, often with open water nearby. Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts in caves, crevices, mines, and occasionally hollow trees and buildings. Appears to be intolerant of most human disturbances, being mostly absent from urban and suburban areas.	High in all Segments. Suitable foraging habitat occurs within and adjacent to the Study Area in all Segments, particularly along the Sweetwater River and at Lake Emma. Potential roosting habitat occurs within riparian and woodland habitats, and along steeper hillsides in the surrounding area where cliffs and crevices are available. Additionally, there are several occurrences of the species reported within the surrounding area.
Dulzura pocket mouse (Chaetodipus californicus femoralis)	/SSC County Group 2	Occurs in the foothills and mountains of San Diego County, although species can be found on the upper portions of mountain slopes extending into the desert regions. Ranges from the coastal regions (Oceanside to Del Mar, and possibly south to the Tijuana River Valley), eastwards to the Palomar and Cuyamaca Mountains, and extends to the desert slopes of San Felipe Valley, Cigarette Hills, and McCain Valley. Prefers gravelly substrates with sun exposure and can be found within open to dense vegetation. Inhabits chaparral habitats, but is occurs within coastal sage scrub, oak woodland, and at the edge of grasslands.	 High in Segments 2, 3, 4, 5, and 6b. Suitable soils and habitats occur within the Study Area Segments 2, 3, 4, 5, and 6b and the species has been documented within the project vicinity. A total of 10 adults and two juveniles were captured during trapping surveys conducted in 1994 within the community of Crest, approximately 1.6 miles northwest of the project. Low in Segments 1 and 6a. Potential to occur in Segments 1 and 6a is low due to lack of suitable habitat.
Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	/SSC County Group 2	Occurs throughout southwestern California from western Riverside County south to San Diego County at elevations below 6,000 feet. Inhabits coastal sage scrub, grasslands, and chaparral communities, and generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates. Forage for seeds from California sagebrush, California buckwheat, lemonade berry, and grasses under shrub and tree canopies, or around rock crevices.	 High in Segments 2, 3, 4, 5, and 6b. Suitable soils and habitats occur within the Study Area Segments 2, 3, 4, 5, and 6b and the species has been documented within the project vicinity. A total of four individuals were captured during trapping surveys conducted in 1994 within the community of Crest, approximately 1.6 miles northwest of the project. Low in Segments 1 and 6a. Potential to occur in Segments 1 and 6a is low due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
Mexican long-tongued bat (Choeronycteris mexicana)	/SSC County Group 2	Found in arid habitats at elevations from sea level to 2,625 feet. However, in San Diego County all occurrences are below 550 feet in urban and suburban environments along the coast and inland valleys. Often found in deep canyons in small, isolated mountain ranges. Occurs within a wide variety of habitats from palo verde-saguaro desert, semi-desert grassland, oak woodland, forests, and ponderosa pine forest. In San Diego County the species is found near ornamental plants that offer nectar as a food source. Primarily roosts in caves, but can also be found roosting in crevices, mines, buildings, and under exposed roots of trees. Exclusively found roosting in man-made structures in San Diego County	Low in all Segments. Occurrences of the species in small numbers are found approximately 3.8 miles west of the Study Area, within the communities of El Cajon and Mt. Helix. The Study Area is undeveloped and situated within open space, with rural development in the surrounding area. In San Diego County, the species has only been documented within urban and suburban areas, which are largely absent from the project vicinity.
Townsend's big-eared bat (Corynorhinus townsendii pallescens)	/SSC County Group 2	Occurs throughout California but distribution is strongly correlated with the availability of caves and cave-like roosting habitat. Found in a variety of habitats with presence of caves or cave-like structures (such as buildings, bridges, or hollows of large trees). In San Diego County, presumed absent from coastal areas being found more commonly in historic mining districts and boulder-strewn regions (i.e., Escondido, Lakeside, Dulzura, Jacumba, etc.). Roosts can be located within a variety of habitats but those well-protected from human disturbances near riparian, oak, and conifer woodlands and open water support larger numbers.	 High in Segments 1, 2, and 5. Suitable cave-like roosting habitat occurs within the Study Area, particularly where large trees are present along Sweetwater River and at the Sweetwater Bridge crossing in Segments 1, 2, and 5. Individuals have been detected within the project vicinity, with a single female collected at a residential property approximately 1.2 miles east of the project in 1991. Low in Segments 3, 4, 6a, and 6b. Potential to occur in Segments 4, 6a, and 6b is low due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
Western mastiff bat	/SSC	In California, the species occurs from Monterey County	High in all Segments.
(Eumops perotis californicus)	County Group 2	to San Diego County from the coast eastward to the Colorado Desert. Found in open, semi-arid to arid habitats including coastal and desert scrub, grasslands, woodlands, and palm oases. Prefers to roost in high situations above the ground on vertical cliffs, rock quarries, outcrops of fractured boulders, and occasionally tall buildings.	Suitable roosting habitat occurs within the project vicinity and high-quality foraging habitat is found within the Study Area in all Segments. Multiple occurrences are present in the vicinity of the Study Area, as well. Detected audibly with Anabat detectors during roosting and foraging surveys conducted in 2002 approximately 0.5 miles north of the project near Singing Hills Memorial Estates, and 1.3 miles east along Sweetwater River at Sycuan Peak Ecological Reserve.
Western red bat	/SSC	In California, the species is locally common occurring	High in Segments 1, 2, and 5.
(Lasiurus blossevillii)	County Group 2	from Shasta County south to San Diego County and west of the Sierra Nevada/Cascade Range and deserts. Mainly occurs in riparian woodlands populated by willows, cottonwoods, sycamores, and oak trees but can be found in non-native vegetation such as tamarisk, eucalyptus, and orchards. Primarily roosts in trees preferring heavily shaded areas which are open underneath. Also found in urban and suburban parks and neighborhoods were trees are present.	Suitable roosting and foraging habitat occur within and adjacent to the Study Area in Segments 1, 2, and 5. Multiple occurrences are present in surrounding area. Detected audibly with Anabat detector during foraging surveys conducted in 2002 approximately 1.3 miles east along Sweetwater River at Sycuan Peak Ecological Reserve.
			Potential to occur in Segments 3, 4, 6a, and 6b is low due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
Western yellow bat	/SSC	Occurs from southern California through southern	Low in all Segments.
(Lasiurus xanthinus)		Nevada, western Arizona, and southern New Mexico.	Fan palms are generally lacking from the Study
		Found in Los Angeles, San Bernardino, and San Diego	Area, though a few individual fan palms are
		Counties of California. In San Diego, commonly found in	sporadically located along Dehesa Road within
		Anza Borrego Desert but is also established west of the	Segment 1. Occurrences of the species are located
		desert within rural to suburban areas including	further east within residential communities of
		Escondido, Vista, Ramona, Lakeside, El Cajon, and La	Spring Valley, El Cajon, and Lake.
		Mesa. Roosts primarily on dead palm frond skirts of	
		native and non-native fan palms (<i>Washingtonia</i> spp.)	
		but has also been observed in cottonwoods and yuccas	
		(Yucca spp.; Hesperoyucca ssp.). Occurs within a variety	
		of habitats where palms are present including desert	
		riparian, desert washes, palm oasis, cottonwood-willow	
		riparian forest, and developed areas.	
San Diego black-tailed jackrabbit	/SSC	Occurs along the coastal regions of southern California	Low in all Segments.
(Lepus californicus bennettii)	County Group 2	south to northern Baja California. Found in arid regions	Potentially suitable scrub habitat within the Study
		preferring grasslands, agricultural fields, and sparse	Area is moderately to dense vegetated and
		scrub. Typically absent from areas with high-grass or	typically located on steep slopes. The nearest
		dense brush, such as closed-canopy chaparral, and too	occurrence of the species is located approximately
		rugged, rocky, and steep slopes. Primarily occupies	2.5 miles southwest of the project near Jamacha.
		short-grass and open scrub habitats.	

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
Small-footed myotis (<i>Myotis ciliolabrum</i>)	/ County Group 2	Found throughout California occurring in desert, chaparral, riparian areas, and forests. Presence of riparian areas and waters appears to be important in distribution. Strongly associated with chaparral and montane habitats in San Diego County. Roosts solitarily or in small numbers in rocky crevices, caves, mines, snags, buildings, and bridges.	High in all Segments. Suitable roosting and foraging habitat occur within and adjacent to the Study Area in all Segments. Multiple occurrences are present in surrounding area. Detected audibly with Anabat detector during foraging surveys conducted in 2002 approximately 1.3 miles east along Sweetwater River at Sycuan Peak Ecological Reserve.
Long-eared myotis (<i>Myotis evotis</i>)	/ County Group 2	Widespread in California, but generally believed to be uncommon in most of its range. Avoids the arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and coastal mountain ranges below 9,000 feet. Occurs in riparian zones and chaparral but is found primarily in oak woodlands and pine forests in the foothills and mountains. It roosts in crevices and cavities in rocks and trees and is sometimes found in man-made structures such as buildings, bridges, and mines.	Low in all Segments. Suitable roosting and foraging habitat occur within the Study Area; however, the species is more typically found at higher elevations within Palomar, Laguna, and Cuyamaca Mountains. The nearest occurrences of the species are over 4.5 miles south along Jamul Creek (detected in 2005 and 2006 with an Anabat detector) and 5.5 miles southwest near the Steele Canyon Bridge along Sweetwater River (detected in 2003 audibly with an Anabat detector).
Yuma myotis (<i>Myotis yumanensis</i>)	/ County Group 2	Widespread in California but uncommon in the Mojave and Colorado Deserts, except in the mountain ranges bordering the Colorado River valley. Found in a variety of habitats including juniper and riparian woodlands, riparian forests, and desert regions where bodies of water (i.e., rivers, streams, ponds, lakes, etc.) are present. Closely associated with water which it uses for foraging and sources of drinking water. Roosts in caves, attics, buildings, mines, underneath bridges, and other similar structures.	 High in Segments 1, 2, and 5. Suitable roosting and foraging habitat occur within and adjacent to the Study Area in Segments 1, 2, and 5. Multiple occurrences are present in the surrounding vicinity of the Study Area. Detected audibly with Anabat detector during foraging surveys conducted in 2002 approximately 1.3 miles east along Sweetwater River at Sycuan Peak Ecological Reserve. Low in Segments 3, 4, 6a, and 6b. Potential to occur in Segments 3, 4, 6a, and 6b is low due to lack of suitable habitat.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	/SSC County Group 2	Occurs along the coastal regions of California being found as far north as San Luis Obispo County, south to San Diego County, and in the western portions of San Bernardino and Riverside Counties. Inhabits a variety of shrub and desert habitats such as coastal sagebrush scrub, chaparral, pinyon-juniper woodland, and Joshua tree woodland among others. Often associated with rock outcroppings, boulders, cacti patches, and areas with dense understories. Construct dens used for shelter, food storage, and nesting around rock outcroppings and cacti using various materials such as twigs, sticks, and other debris.	 High in Segments 2, 3, 4, 5, and 6b. Suitable habitat, including rock outcroppings and boulders, occur within the Study Area in Segments 2, 3, 4, 5, and 6b, and reported occurrences of the species are present within the project vicinity. Low in Segments 1 and 6a. Potential to occur in Segments 1 and 6a is low due to lack of suitable habitat.
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	/SSC County Group 2	Rare in California occurring from Los Angeles County eastwards to San Bernardino County, and southwards to San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Sometimes roosts under tiled roofs and observed utilizing bat boxes. Habitat generalists foraging in grasslands, shrublands, riparian areas, oak woodlands, forests, meadows, and ponds favoring larger water bodes for drinking.	High in all Segments. Suitable roosting and foraging habitat occur within and adjacent to the Study Area in all Segments. Multiple occurrences are present in surrounding area. Detected audibly with Anabat detector during foraging surveys conducted in 2002, approximately 1.3 miles east along Sweetwater River at Sycuan Peak Ecological Reserve.
Big free-tailed bat (Nyctinomops macrotis)	/SSC County Group 2	Rare in California with species found in urban areas of San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Also roosts in buildings and occasionally holes in trees. Associated with coastal and desert scrub, forests, riparian zones, and montane woodlands. Probably does not breed in California.	Low in all Segments. Suitable roosting and foraging habitat occur within the Study Area; however, there are few records of the species within San Diego. The nearest occurrence is approximately six miles southwest, near the Steele Canyon bridge, along Sweetwater River, where the species was detected audibly in 2003 with an Anabat detector. Additionally, species were collected in the 1980s within La Mesa and El Cajon.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
Mule deer	/	Found throughout California with the species lacking	Present in Segments 2 and 4.
(Odocoileus hemionus)	County Group 2 MSCP Covered	from only completely urbanized areas and the desert floor. Distribution determined by vegetation type, water availability, and quality and quantity of foraging habitat. Inhabits a wide array of habitats from grasslands, meadows, coastal sage scrub, chaparral, riparian and montane forests. Crepuscular activity and movements are along routes that provide the greatest amount of protective cover.	Multiple tracks and scat were observed within the Study Area and adjacent areas during 2019 surveys. Sign was observed to the east of Segment 2 along Sweetwater River and an individual was observed within riparian habitat along Sweetwater River, to the east of Segment 4. High in Segments 1, 3, 5, 6a, and 6b. Species was not observed along Segments 1, 3, 5, 6a, and 6b, but could move through those
Mountain Lion	/	Uncommon permanent resident found throughout	Segments. Present in Segment 2
(Puma concolor)	, County Group 2 MSCP Covered	California in nearly all habitats, expect xeric regions of Mojave and Colorado deserts. Requires extensive riparian vegetation and brushy habitats with interspersed irregular terrain, rocky outcrops, and tree or brush edges. Main prey is mule deer.	Fresh scat was observed along Sweetwater River upstream of the Sweetwater Bridge crossing and east of Segment 2. Furthermore, multiple occurrences of the species are reported within the vicinity of the Study Area for the project.
			High in Segments 1, 3, 4, 5, 6a, and 6b. Species was not observed along Segments 1, 3, 4, 5, 6a, and 6b, but could move through those Segments.

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (continued)			
American badger	/SSC	Uncommon, permanent resident found through	High in Segments 2, 3, 4, 5, and 6b.
(Taxidea taxus)	County Group 2 MSCP Covered	California, except for the extreme north coast areas. Associated with large blocks of undeveloped land composed of open valleys, alluvial fans, meadows, grasslands, and sandy desert. Dens function as sites for resting and parturition. Friable, easily crumbled soils are important for denning.	The Study Area for Segments 2, 3, 4, 5, and 6b is composed of large expanses of undeveloped habitat that abuts the San Diego National Wildlife Refuge and other open space areas. Suitable habitat and soils occur within the Study Area for these segments. Tracks and scat, positively confirmed by DNA test, were detected approximately 2.5 acres north of the project near Granite Hills in 2014.
			Not Expected in Segments 1 and 6a.
			Species is not expected in Segments 1 and 6a due
			to lack of suitable habitat.

¹ F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected

County of San Diego Sensitivity Status: Animals are divided into Groups I and II on the Sensitive Animal List. **Group I** Animals include those that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met. **Group 2** Animals include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

MSCP Covered Species: Covered Species under County's Subarea Plan.

² Potential to Occur is assessed as follows. None: Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; Not Expected: Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur in the Study Area; Low: Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; High: Suitable habitat occurs in the Study Area and the species has been recorded recently on or near the Study Area, but was not observed during project surveys; Present: The species was observed during biological surveys for the project and is assumed to occupy the project site. Presumed Absent: Protocol surveys were conducted for the species with negative results, and the project site/Segment is considered unoccupied.

Appendix E

Explanation of Status Codes for Plant and Animal Species

Appendix E Explanation of Status Codes for Plant and Animal Species

FEDERAL, STATE, AND LOCAL CODES

U.S. FISH AND WILDLIFE SERVICE (USFWS)

- FE Federally listed endangered
- FT Federally listed threatened
- FC Federal candidate for listing
- BCC Birds of Conservation Concern (discussed in more detail, below)
- BGEPA Bald and Golden Eagle Protection Act (discussed in more detail below)

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

- SE State listed endangered
- SR State listed rare
- ST State listed threatened
- SSC State species of special concern
- WL Watch List

Fully Protected Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

COUNTY OF SAN DIEGO

Plant sensitivity

List A	Plants rare, threatened, or endangered in California or elsewhere
List B	Plants rare, threatened, or endangered in California but more common elsewhere
List C	Plants that may be quite rare, but more information is needed to determine rarity status
List D	Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal sensitivity

- Group 1 Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met
- Group 2 Animals include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types

Appendix E (cont.) Explanation of Status Codes for Plant and Animal Species

MULTIPLE SPECIES CONSERVATION PROGRAM (MSCP) COVERED

Multiple Species Conservation Program covered species for which the County has take authorization within the MSCP area.

MSCP NARROW ENDEMIC (NE)

Narrow endemic species are native species that have "restricted geographic distributions, soil affinities, and/or habitats." The MSCP participants' subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.

OTHER CODES AND ABBREVIATIONS

USFWS BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle "at any time or in any manner."

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

USFWS BIRDS OF CONSERVATION CONCERN (BCC)

This report from 2002 aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities and draw attention to species in need of conservation action. USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at http://migratorybirds.fws.gov/reports/bcc2002.pdf.

Appendix E (cont.) Explanation of Status Codes for Plant and Animal Species

CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CALIFORNIA RARE PLANT RANKING (CRPR)

Lists

- 1A = Presumed extinct.
- 1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.
- 2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.
- 3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.
- 4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

- .1 Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

Appendix F

Coastal California Gnatcatcher 2019 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 8, 2019

CSD-06.09

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

Subject: 2019 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the Sycuan Sloane Canyon Trail 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 as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Sycuan Sloane Canyon Trail Project (project). The project proposes a multi-use, non-motorized trail that would provide a regional and community trail connection between two existing regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. 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 TE778195-13.

PROJECT LOCATION

The project is located within the unincorporated community of Crest-Dehesa in eastern San Diego County (County), California (Figure 1, *Regional Location*). It lies within Sections 9, 14, 15, 16, 23, and 24 of Township 16 South, Range 1 East, on the U.S. Geological Survey (USGS) 7.5-minute Alpine and El Cajon quadrangle maps (Figure 2, *Project Vicinity [USGS Topography]*). The project is located along Dehesa Road, Sloane Canyon Road, and the Sweetwater River to the north and east of Singing Hills Golf Resort, and to the north and west of Beaver Hollow Road (Figure 3, *Project Vicinity [Aerial Vicinity]*). The project occurs on lands within County right-of-way (ROW) and the National Wildlife Refuge, and on lands owned by the Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy. The project is composed of six proposed trail segments, which includes potential alternative trail alignments, and USFWS-designated critical habitat for CAGN is present within the survey area at the west end of Segment 3 and western portion of Segment 6 (Figure 4a, *2019 Coastal California Gnatcatcher Survey Results*).

METHODS

The survey consisted of three visits that were performed by HELIX biologists Erica Harris (TE 778195-13), Mandy Mathews (TE 778195-13), and Tara Baxter (TE 87004B-0) in accordance with the current USFWS protocol¹. The CAGN survey area included all potential CAGN habitat located within 500 feet of the proposed trail alignments. Approximately 191.1 acres of potential CAGN habitat was surveyed consisting of Diegan coastal sage scrub (including Baccharis dominated) and coastal sage-chaparral transition (Figure 4a). Based on the relatively large amount of habitat present, the survey was divided into two separate survey areas: (1) trail segments 1, 2, 6, and 6b located north of Dehesa Road and along the northern portion of Sloane Canyon Road extending slightly past the Sweetwater River bridge crossing (also referred to as the Southern Bridge), and (2) trail segments 3, 4, and 5 located generally west of Sloane Canyon Road, to the south of the Southern Bridge, with small amounts of suitable habitat located to the north of Sweetwater River (Figure 4a).

The surveys were conducted by walking within and along the perimeter of suitable CAGN habitat present within the survey area (Figures 4a through 4g, *2019 Coastal California Gnatcatcher Survey Results*). The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by CAGN. Surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If a CAGN was detected before playing recorded vocalizations, the recordings were not played. Once CAGNs were initially detected in an area, use of playback was discontinued. The approximate survey route is depicted on Figure 4a.

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

 U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.



Table 1 SURVEY INFORMATION

Site Visit	Survey Date	Biologist(s)	Start/Stop Time	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions	Survey Results
1a (Segments 1, 6 and 6b)	5/31/19	Mandy Mathews ¹	0615/1200	84.2 ac/ 12.2 ac/hr	59°F, wind, 1-3 mph, 100% cloud cover 70°F, wind, 0-2 mph, 0% cloud cover	 Individual male, presumed to be the same male later observed in association with Pair No. 4, observed approximately 240 feet north of the western portion of Segments 6 and 6b, to the north of Dehesa Road. One female, presumed to be the same female belonging to Pair No. 5 observed feeding two fledglings approximately 420 feet north of the western portion of Segments 6 and 6b, north of Dehesa Road, and approximately 600 feet east of Pair No. 4
1b (Portions of Segments 2, 3, 4, and Segment 5)	5/31/19	Tara Baxter ²	0620/1200	37.0 ac/ 6.4 ac/hr	63°F, wind, 0-1 mph, 100% cloud cover 81°F, wind, 0-2 mph, 0% cloud cover	No CAGN observed.
1c (Portions of Segment 2, 3, and 4)	6/5/19	Mandy Mathews	0630/1030	69.9 ac/ 17.5 ac/hr	61°F, wind, 0-2 mph, 100% cloud cover 73°F, wind, 1-4 mph, 0% cloud cover	 Single juvenile (Juvenile No. 1) heard calling approximately 500 feet west of Segment 2 and 280 feet north of Segment 3, to the west of Sloane Canyon Road.
2a (Segments 1, 2, 6, and 6b)	6/13/19	Mandy Mathews	0600/1200	100.0 ac/ 16.7 ac/hr	64°F, wind, 0-1 mph, 100% cloud cover 78°F, wind 1-4 mph, 0% cloud cover	 Pair (Pair No. 4 observed feeding two fledglings in western portion Segments 6 and 6b in the same general area where male was previously detected. Engaged in a territorial behavior with male from Pair No. 5 Pair (Pair No. 5) observed foraging in western portion of Segments 6 and 6b in the same general location where the female and fledglings were previously detected. Male flew west and initiated territorial display to male from Pair No. 4. Male from Pair No. 4 chased male from Pair No. 5 back to the east.



Site Visit	Survey Date	Biologist(s)	Start/Stop Time	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions	Survey Results
2b (Segments 3, 4, and 5)	6/13/19	Erica Harris ¹	0600/1130	91.1 ac/ 16.6 ac/hr	64°F, wind, 0-1 mph, 100% cloud cover 78°F, wind, 1-4 mph, 0% cloud cover	 Pair (Pair No. 1 observed approximately 330 feet north of the survey area, northwest of Segment 3, within the San Diego National Wildlife Refuge. Pair (Pair No. 2) observed at the very western portion of the survey area, approximately 445 feet northwest of Segment 3, within the San Diego National Wildlife Refuge. Single male, presumed to be the same male belonging to Pair No. 3, observed approximately 150 feet south of Segment 3 on the north facing slope.
3a (Segments 1, 2, 6, and 6b)	6/24/19	Mandy Mathews	0600/1200	100.0 ac/ 16.7 ac/hr	63°F, wind, 0-1 mph, 100% cloud cover 75°F, wind, 2-4 mph, 0% cloud cover	 Pair No. 4 observed feeding two fledglings in western portion of Segments 6 and 6b in the same general area where previously detected. Pair No. 5 observed in western portion of Segments 6 and 6b in same general area where previously detected.
3b (Segments 3, 4, and 5)	6/24/19	Erica Harris	0600/1130	91.1 ac/ 16.6 ac/hr	63°F, wind, 0-1 mph, 100% cloud cover 75°F, wind, 2-4 mph, 0% cloud cover	 Male from Pair No. 1 observed outside of the survey area, to the northwest Segment 3, where previously detected Pair (Pair No. 3) observed carrying food material and feeding one fledgling in same general location where male was previously detected.

¹ USFWS Permit TE-778195-13

² USFWS Permit TE 87004B-0



COASTAL CALIFORNIA GNATCATCHER HABITAT

Diegan coastal sage scrub (including Baccharis dominated) and coast sage-chaparral transition were the only vegetation communities within the survey area determined to be suitable for CAGN (Figure 4a).

Diegan Coastal Sage Scrub

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*). Diegan coastal sage scrub within the survey area is dominated primarily by California sagebrush, California buckwheat, black sage, white sage (*Salvia apiana*), San Diego County sunflower (*Bahiopsis laciniata*), and California encelia (*Encelia californica*). A portion of the Diegan coastal sage scrub in the survey area was dominated by broom Baccharis (*Baccharis sarothroides*).

Coastal Sage-Chaparral Transition

Coastal sage-chaparral transition is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities in the survey area including California sagebrush, California buckwheat, black sage, chaparral beardtongue (*Keckiella antirrhinoides*), chamise (*Adenostoma fasciculatum*), Mission manzanita (*Xylococcus bicolor*), and scrub oak (*Quercus berberidifolia*).

RESULTS

A total of five pairs of CAGN and one single juvenile CAGN were detected during the survey effort, although not all individuals were detected during each survey visit, and one of the pairs was observed outside of the survey area within adjacent habitat (Figures 4a through 4g). Three CAGN pairs and the single juvenile CAGN were detected adjacent to Segments 2 and 3, and two pairs of CAGN were detected adjacent to the western portion of Segments 6 and 6b. No CAGN were detected within or adjacent to Segments 1, 4, or 5. A detailed description of the CAGN observations and locations from each weekly survey is included below.

One juvenile CAGN was observed adjacent to Segments 2 and 3 during the first and third survey visits but was not detected during the second survey visit (Figures 4c and 4d). The juvenile was heard calling and observed foraging to the west of Sloane Canyon Road and south of Sweetwater River approximately 500 feet west of Segment 2 and 280 feet north of Segment 3.

A total of three CAGN pairs were detected adjacent to Segment 3 (Figure 4d). One pair of CAGN (Pair No. 1) was detected outside of the survey area to the northwest of Segment 3 during the second survey visit. An individual male was detected in the same general location during the third survey visit. The pair was observed approximately 770 feet northwest of Segment 3 within the San Diego National Wildlife Refuge in USFWS-designated critical habitat for the species.



Another CAGN pair (Pair No. 2) was observed approximately 600 feet south of Pair No. 1, within the very western portion of the survey area, during the second survey visit but was not detected during the third survey visit (Figure 4d). The pair was detected approximately 445 feet northwest of Segment 3 within the San Diego National Refuge in USFWS-designated critical habitat for the species.

A third pair of CAGN (Pair No. 3) was detected approximately 150 feet south of the central portion of Segment 3 on a north-facing slope (Figure 4d). No CAGN were detected in the area during the first survey visit and then only the male was detected during the second survey visit. During the third survey visit, a male and female were both observed making multiple trips back and forth in the area, carrying food material and feeding one fledgling.

Two pairs of CAGN were observed adjacent to the western portion of Segments 6 and 6b (Figure 4g). One pair (Pair No. 4) was detected north of Dehesa Road, just east of Willow Glen Drive, approximately 60 feet north of the western portion of Segment 6b and 240 feet north of the western portion of Segment 6. Only a male was detected in the area during the first survey visit. A male and female were both observed during the second and third survey visits feeding two fledglings.

Another pair (Pair No. 5) was detected, north of Dehesa Road and approximately 600 feet east of Pair No. 1. The pair was approximately 90 feet north of Segment 6b and approximately 420 feet north of the Segment 6. An adult female was observed feeding two fledglings during the first survey visit, and then a male and female were observed together in the same area during the second and third survey visits (without fledglings).

The Dehesa fire occurred on July 28, 2019, after CAGN surveys were complete. It burned the eastern portion of the survey area north of Dehesa Road (adjacent to Segment 6b). No CAGN were detected within or adjacent to the vicinity of the fire perimeter during the surveys.

CERTIFICATION

I certify that the information in this survey report and enclosed exhibit fully and accurately represent our work.

Sincerely,

Elríca Harris Biologist

Mandy Mathews Biologist

Tara Baxter Biologist



Attachments

Figure 1: Regional Location	
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- Figure 2: Project Vicinity (USGS Topography)
- Figure 3: Project Vicinity (Aerial Photograph)
- Figure 4a: 2019 Coastal California Gnatcatcher Survey Results
- Figure 4b: 2019 Coastal California Gnatcatcher Survey Results Segments 1 and 6b-East
- Figure 4c: 2019 Coastal California Gnatcatcher Survey Results Segment 2
- Figure 4d: 2019 Coastal California Gnatcatcher Survey Results Segment 3
- Figure 4e: 2019 Coastal California Gnatcatcher Survey Results Segment 4
- Figure 4f: 2019 Coastal California Gnatcatcher Survey Results Segment 5
- Figure 4g: 2019 Coastal California Gnatcatcher Survey Results Segments 6 and 6b-West



Sycuan Sloane Canyon Trail Project



HELIX Environmental Planning

Regional Location

Figure 1





Sycuan Sloane Canyon Trail Project

Property Vicinity (USGS Topography) Figure 2





Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Property Vicinity (Aerial Photograph) Figure 3



Pair No. 5 5/31/2019 - Female with 2 fledglings 6/13/2019 - Pair 6/24/2019 - Pair

C
Prop

the second s	
\bigcirc	Survey Area
	Survey Route
Propos	ed Trail Alignment
	Segment 1
	Segment 2
	Segment 3
	Segment 4
	Segment 5
	Segment 6
—	Segment 6b
0	San Diego National Wildlife Refuge

Coastal California Gnatcatcher Final Critical Habitat

1,200 Feet

Coastal California Gnatcatcher Habitat*

- Coastal Sage-Chaparral Transition Diegan Coast Sage Scrub-Baccharis dominated
- Diegan Coastal Sage Scrub
- **Coastal California Gnatcatcher Sightings**
- \wedge Pair No. 1 \triangle Pair No. 2 \mathbf{A} Pair No. 3
- \triangle Pair No. 4 \triangle Pair No. 5
- Juvenile No. 1

*The Coastal California Gnatcatcher was not detected adjacent to Segments 1, 4, 5 and the eastern portion of 6b during the 2019 protocol-level survey effort.

Pair No. 1

6/5/19 - Not Detected 6/13/19 - Pair 6/24/19 - Male

Pair No. 2 6/5/19 - Not Detected 6/13/19 - Pair 6/24/19 - Not Detected

> Pair No. 3 6/5/19 - Not Detected 6/13/19 - Male 6/24/19 - Pair with 1 Fledgling



Sycuan Sloane Canyon Trail Project

Juvenile No. 1 6/5/19 - Heard Only 6/13/19 - Not Detected 6/24/19 - Single Juvenile

Source: Aerial (SanGIS, 2017).

2019 California Gnatcatcher Survey Results

Figure 4a



400 Feet

\$

HELIX

2019 California Gnatcatcher Survey Results - Segments 1 and 6b-East

Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Figure 4b



Juvenile No. 1



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Juvenile No. 1

Segment 1

Northern Bridge

6/5/19 - Heard Only 6/13/19 - Not Detected 6/24/19 - Single Juvenile

Segment 3

Segment 2

Pair No. 1 6/5/19 - Not Detected 6/13/19 - Pair 6/24/19 - Male

Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

2019 California Gnatcatcher Survey Results - Segment 2

Figure 4c



0 200 Feet

¢



Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

2019 California Gnatcatcher Survey Results - Segment 3

Figure 4d



0 250 Feet

¢



Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

2019 California Gnatcatcher Survey Results - Segment 4

Figure 4e



*The Coastal California Gnatcatcher was not detected adjacent to Segment 5 during the 2019 protocol-level survey effort.



0 250 Feet



Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

2019 California Gnatcatcher Survey Results - Segment 5

Figure 4f



500 Feet ____

4



2019 California Gnatcatcher Survey Results - Segments 6 and 6b-West

Source: Aerial (SanGIS, 2017).

Figure 4g
Appendix G

Southwestern Willow Flycatcher 2019 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 20, 2019

CSD-06.09

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
Sycuan Sloane Canyon Trail 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 Sycuan Sloane Canyon Trail Project (project). The project proposes a multi-use, non-motorized trail that would provide a regional and community trail connection between two existing regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. 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 proposed project is located within the unincorporated community of Crest-Dehesa in eastern San Diego County (County), California (Figure 1, *Regional Location*). It lies within Sections 9, 14, 15, 16, 23, and 24 of Township 16 South, Range 1 East, on the U.S. Geological Survey (USGS) 7.5-minute Alpine and El Cajon quadrangle maps (Figure 2, *Project Vicinity [USGS Topography]*). The project is located along Dehesa Road and Sloane Canyon Road, to the north and east of Singing Hills Golf Resort, and to the north and west of Beaver Hollow Road (Figure 3, *Project Vicinity [Aerial Vicinity]*). The project occurs on lands within County right-of-way (ROW), National Wildlife Refuge, and owned by the Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy. The project is composed of six proposed trail segments, which includes potential alternative trail alignments. It is not located within USFWS-designated critical habitat for the species.



The survey consisted of five site visits conducted by HELIX biologist Erica Harris (TE778195-13) in accordance with the current USFWS approved survey protocol¹. The SWFL survey area included all potential SWFL habitat located within 500 feet of the proposed trail alignments. Approximately 128.2 acres of potential SWFL habitat was surveyed consisting of mule fat scrub, tamarisk scrub, southern willow scrub, southern riparian forest, southern coast live oak riparian forest, coast live oak woodland, open coast live oak woodland, non-vegetated channel, and open water located along the Harbison Canyon Creek, Sweetwater River, and Beaver Hollow (Figure 4, *2019 Southwestern Willow Flycatcher Survey Results*). Based on the relatively large amount of habitat present, the study area was divided into two separate survey areas: (1) north of Sweetwater River bridge crossing (also referred to as Southern Bridge); and (2) south of the Sweetwater River bridge crossing. Each survey area was surveyed separately during each survey visit.

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 during 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 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.

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	1a (north)	5/21/19	Erica Harris	0645/1030	67.4 ac/ 18.0 ac per hr.	56°F, wind 0-1 mph, 90% clouds 61°F, wind 2-6 mph,100% clouds	No flycatchers detected
Ţ	1b (south)	5/23/19	Erica Harris	0700/1030	60.8 ac/ 17.4 ac per hr.	57°F, wind 0-1 mph, 100% clouds 60°F, wind 1-4 mph, 100% clouds	No flycatchers detected
	2a (north)	6/5/19	Erica Harris	0615/1030	67.4 ac/ 15.9 ac per hr.	53°F, wind 0-1 mph, 100% clouds 74°F, wind 0-1 mph, 0% clouds	No flycatchers detected
2	2b (south)	6/9/19	Erica Harris	0630/1000	60.8 ac/ 17.4 ac per hr.	54°F, wind 0-1 mph, 0% clouds 67°F, wind 0-2 mph, 0% clouds	No flycatchers detected
Z	3a (north)	6/19/19	Erica Harris	0630/1030	67.4 ac/ 16.9 ac per hr.	57°F, wind 0-1 mph, 100% clouds 75°F, wind 2-4 mph, 0% clouds	No flycatchers detected
	3b (south)	6/22/19	Erica Harris	0630/1000	60.8 ac/ 17.4 ac per hr.	58°F, wind 0-1 mph, 100% clouds 66°F, wind 1-3 mph, 100% clouds	No flycatchers detected
	4a (north)	7/2/19	Erica Harris	0630/1030	67.4 ac/ 16.9 ac per hr.	66°F, wind 0-1 mph, 100% clouds 84°F, wind 2-5mph, 0% clouds	No flycatchers detected
2	4b (south)	7/3/19	Erica Harris	0630/1000	60.8 ac/ 17.4 ac per hr.	58°F, wind 1-3 mph, 100% clouds 68°F, wind 0-2 mph, 0% clouds	No flycatchers detected
3	5a (north)	7/16/19	Erica Harris	0630/1030	67.4 ac/ 16.9 ac per hr.	61°F, wind 0-1mph, 100% clouds 88°F, wind 1-2 mph, 0% clouds	No flycatchers detected
	5b (south)	7/17/19	Erica Harris	0730/1030	60.8 ac/ 20.3 ac per hr.	56°F, wind 0-2 mph, 100% clouds 84°F, wind 1-3 mph, 0% clouds	No flycatchers detected

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: Project Vicinity (USGS Topography)
- Figure 3: Project Vicinity (Aerial Photograph)
- Figure 4: 2019 Southwestern Willow Flycatcher Survey Results

Attachment A: Willow Flycatcher Survey and Detection Form



Sycuan Sloane Canyon Trail Project



Figure 1





Sycuan Sloane Canyon Trail Project

Project Vicinity (USGS Topography) Figure 2





Sycuan Sloane Canyon Trail Project

Project Vicinity (Aerial Photograph) Figure 3



HELIX

Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

2019 Southwestern Willow Flycatcher Survey Results

Figure 4

	W	illow F	lycatche	r (WIFL)) Survey	y and Detection Form (revi	ised April,	2010)		
Site Name:	Sycuan S	loane Ca	nyon Trai	1		State: CA	County:	San Di	iego	
USGS Quad Na	ame:	Alpine/F	El Cajon	~ ~	- ~		Elevation:	134-	170 (1	meters)
Creek, River, or	r Lake Nan	ne:	Harbison	Canyon C	reek, Sw	eetwater River, Beaver Hollow	Var	v	Ma	
Survey Coordin	uses maj nates:	Start:	E :	ey area ana 512045 515478	WIFLSI N	<u>3626714</u> UTM	Datum:		<u>G84</u> (\$	See instructions)
If su	irvey coord	linates ch	anged betw	veen visits,	enter coo	rdinates for each survey in comme	ents section o	n back of	of this p	age.
· · · · · · · · · · · · · · · · · · ·	1		···r III IN			ijormation on back of this p	Jage ···			
Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;-potential threats [livestock, cowbirds, <i>Diorhabda</i> spp.]). If <i>Diorhabda</i> found, contact USFWS and State WIFL coordinator.	GPS Coordinates an optional colum groups of birds fo each survey). Incl	for WIFL I n for docur und on ude additic	Detections menting ind onal sheets i	(this is ividuals, pairs, or f necessary.
Survey # 1a	Date:						# Birds	Sex	UTN	1 E UTM N
Observer(s):	5/21/2019									
Enca Hams	Start: 6:45	0	0	0	N	n/a				
	Stop:	0	Ŭ	Ŭ		10 4				
	Total hrs:									
	3.75									
Survey # 1b	Date:						# Birds	Sex	UTN	1 E UTM N
Erica Harris	5/23/2019 Start:									
	7:00	0	0	0	Ŋ	,				
	Stop:	0	0	0	N	n/a				
	10:30									
	Total hrs:									
Survey # 2a	Date:						# Birds	Sex	UTN	1 E UTM N
Observer(s):	6/5/2019									
Erica Harris	Start:									
	6:15	0	0	0	Ν	n/a				
	10:30									
	Total hrs:									
	4.25									
Survey # 2b	Date:						# Birds	Sex	UTN	1 E UTM N
Erica Harris	6/9/2019 Start:									
	6:30	0	0	0	Ŋ					
	Stop:	0	0	0	IN	n/a				
	10:00 Total brs:									
	3.5									<u> </u>
Survey # 3a	Date:		1				# Birds	Sex	UTN	1 E UTM N
Observer(s):	6/19/2019									
Erica Harris	Start:									
	Stop:	0	0	0	Ν	n/a				
	10:30									
	Total hrs:									
Summer: # 21	4.0							<u> </u>	•	(D
Survey # 3D Observer(s):	6/22/2010						# Birds	Sex	UTN	IE UTM N
Erica Harris	Start:									
	6:30	0	0	0	N	n/a				
	Stop:	Ŭ	Ŭ	Ť						
	Total hrs:									
	3.5									

whow Flycatcher (wifth) Survey and Detection Form (revised April, 20.	Survey and Detection Form (revised April, 20)	d April, 201	(revised	Form (r	Detection .	and	Survey	WIFL)	ycatcher	W IIIOW
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Site Name:	Sycuan S	loane Ca	nyon Trai	1		State: CA	County:	San Die	ego	
USGS Quad Na	ame:	Alpine/H	El Cajon				Elevation:	134-1	170 (meter	s)
Creek, River, or	r Lake Nan	ne:	Harbison	Canyon C	reek, Sw	eetwater River, Beaver Hollow				
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, <i>Diorhabda</i> spp.]). If <i>Diorhabda</i> found, contact USFWS and State WIFL coordinator.	GPS Coordinates f an optional column groups of birds for each survey). Incl	for WIFL D n for docum and on ude addition	etections nenting individuals, nal sheets if necess	(this is pairs, or ary.
Survey # 4a	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/2/2019									
Erica Harris	Start:									
	6:30	0	0	0	Ν	n/a				
	Stop: 10.20									
	Total bre:									
	4.0									
Survey # 4b	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/3/2019							0011	011112	0 IIIII
Erica Harris	Start:									
	6:30	0	0	0	N	n/2				
	Stop:	0	Ū	Ŭ		11/ a				
	10:00									
	Total hrs:									
Survey # 59	Date [.]						# Rirde	Sov	UTME	UTM N
Observer(s):	7/16/2019						# Dilus	Sex	UTWE	UTWIN
Erica Harris	Start:									
	6:30	0	0	0	N					
	Stop:	0	0	0	N	n/a				
	10:30									
	Total hrs:									
a	4.0									
Survey # 50							# Birds	Sex	UTM E	UTM N
Erica Harris	//1//2019 Start:									
	7:30									
	Stop:	0	0	0	N	n/a				
	10:30									
	Total hrs:									
	3.0									
Overall Site Sum	mary	m . 1 . 7 .								
Include only resident adult	s. Do not include	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFL's color handed) Vac		No	
migrants, nestlings, and flo	edglings.					were any wirths color-ballded	i es		INU	
Be careful not to double count individuals.			-							
Total survey brs:	37.0	0	0	0	0	section on back	of form and repo	rt to USFV	WS.	
Reporting Individue	al·			L Erica Harrie	I	Date Report Com	nleted:		8/20/2019	
US Fish & Wildlife	Service Perm	nit #:		TE-778	195-13	State Wildlife Agency	y Permit #:		0,20,201)	

<u>Submit</u> form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.

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

Reporting Individua	1	Erica Harris		Phone #	619-462-1515	
Affiliation	HELIX Environ	mental Planning, Inc.		E-mail	EricaH@helixepi.com	_
Site Name	Sycuan Sloane Canyon	Trail		Date report Completed	8/20/2019	
Was this site survey	ed in a previous year? Yes No	D_X_Unknown				
Did you verify that this	s site name is consistent with that used i	n previous yrs?	Yes	No	Not Applicable X	
If name is different, w	hat name(s) was used in the past?			N/A		
If site was surveyed la	st year, did you survey the same general	area this year?	Yes	No	If no, summarize below.	
Did you survey the sar	ne general area during each visit to this	site this year?	Yes	No	If no, summarize below.	
Management Authority	y for Survey Area: Fede	ral Municipal/Co	inty X	State	Tribal X Private	
	·	Kume	aay Dieg	ieno Land Conservancy; S	Sycuan Indian Reservation;	_
Name of Management	Entity or Owner (e.g., Tonto National H	Forest)		County of San Die	go	
Length of area surveye	.d: 5.3	(cm)			
Vegetation Characteris	stics: Check (only one) category that be	est describes the predomina	nt tree/shr	ub foliar layer at this site:		
X	Native broadleaf plants (entirely or almo	ost entirely, > 90% native)				
]	Mixed native and exotic plants (mostly	native, 50 - 90% native)				
1	Mixed native and exotic plants (mostly	exotic, 50 - 90% exotic)				
]	Exotic/introduced plants (entirely or alm	nost entirely, > 90% exotic)			
Identify the 2-3 predor	ninant tree/shrub species in order of do	ninance. Use scientific nai	ne.			
	Salix go	ooddingii, Salix laevigata,	Populus fr	remontii		
		<u> </u>	1 5			
Average height of cano	opy (Do not include a range):	4	.6	(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.

Survey area was separated into two segments based on the large amount of habitat to be surveyed. Survey Area 1 is between Lake Emma and Sweetwater River Bridge Crossing (Survey A) to the south Dehesa Road and west of Sloane Canyon Road. Survey Area 1 Start UTM: 512045 Easting and 3626714 Northing. Survey Area 1 Stop UTM: 514041 Easting and 3626241 Northing. Survey Area 2 is located south (upstream) of the Sweewater River bridge crossing to the east and north of Sloane Canyon Road. Survey Area 2 Start UTM: 514041 Easting and 3626241 Northing. Survey Area 2 Stop UTM: 515478 Easting and 3625271 Northing.

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)
No territories present						

Attach additional sheets if necessary

Appendix H

Least Bell's Vireo 2019 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



September 12, 2019

CSD-06.09

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 pusillus) Survey Report for the Sycuan Sloane CanyonTrail 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 Sycuan Sloane Canyon Trail Project (project). The project proposes a multi-use, non-motorized trail that would provide a regional and community trail connection between two existing regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. The proposed trail includes six segments totaling approximately 5.1 miles. This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The project is located within the unincorporated community of Crest-Dehesa in eastern San Diego County (County), California (Figure 1, *Regional Location*). It lies within Sections 9, 14, 15, 16, 23, and 24 of Township 16 South, Range 1 East, on the U.S. Geological Survey (USGS) 7.5-minute Alpine and El Cajon quadrangle maps (Figure 2, *USGS Topography*). The project is located along Dehesa Road, Sloane Canyon Road, and the Sweetwater River to the north and east of Singing Hills Golf Resort, and to the north and west of Beaver Hollow Road (Figure 3, *Aerial Photograph*). The project occurs on lands within County right-of-way (ROW), National Wildlife Refuge, and owned by the Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy. The project is composed of six proposed trail segments and is not located within USFWS-designated critical habitat for the LBVI.

METHODS

The survey consisted of eight site visits conducted by HELIX biologists Benjamin Rosenbaum, Laura Moreton, Katie Bellon, Mandy Mathews, and Tara Baxter between May 15 and July 29, 2019 (Table 1), in

Letter to Ms. Stacey Love September 12, 2019

1

accordance with the current USFWS survey protocol¹. The LBVI survey area included all potential LBVI habitat located within 500-feet of the proposed trail alignments. Approximately 128.2 acres of potential LBVI habitat was surveyed consisting of mule fat scrub, tamarisk scrub, southern willow scrub, southern riparian forest, southern coast live oak riparian forest, coast live oak woodland, and non-vegetated channel located along the Harbison Canyon Creek, Sweetwater River, and Beaver Hollow (Figure 4, 2019 Least Bell's Vireo Survey Results). Based on the relatively large amount of habitat present, the study area was divided into two separate survey areas for each site visit.

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.

Table 1 details the survey dates, times, and conditions. Locations of LBVI are depicted on Figure 4.



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

Table 1 SURVEY INFORMATION

Site Visit	Survey	Biologist	Time	Approx. Acres Surveved/Acres per	Start/Stop Weather Conditions	Survey Result	
	Date		Start/End	Hour		Least Bell's Vireo (LBVI) ¹	Brown-Headed Cowbird ²
1a (Segments 1 and 2)	5/15/19	Tara Baxter	0615/1130	71.5 ac/ 13.6 ac per hr.	63.5°F, wind 0-1 mph, 100% clouds 70°F, wind 3-7 mph, 60% clouds	 Individual male (Male No. 1) heard singing within the western portion of Segment 1. Individual male (Male No. 4) heard singing in the western portion of Segment 1. Individual male (Male No. 7) heard singing to the center of Segment 1. Individual male (Male No. 9) heard singing to the west of the eastern portion of Segment 1. Individual male (Male No. 9) heard singing to the west of the eastern portion of Segment 1. Individual male (Male No. 10) heard singing in the northern portion of Segment 2. Individual male (Male No. 12) heard singing in the center of Segment 2. Individual male (Male No. 13) heard singing in the center of Segment 2. 	22
1b (Segments 4 and 5)	5/15/19	Benjamin Rosenbaum	0615/1045	56.6 ac/ 12.5 ac per hr.	63.5°F, wind 0-1 mph, 100% clouds 70°F, wind 0-1 mph, 60% clouds	No LBVI detected	2
2a (Segments 1 and 2)	5/28/19	Laura Moreton	0615/1050	71.5 ac/ 15.0 ac per hr.	47°F, wind 0 mph, 0% clouds 59°F, wind 1-2 mph, 1% clouds	 Individual male (Male No. 2) heard singing in the western portion of Segment 1. Individual male (Male No. 3) heard singing within the western portion of Segment 1. Individual male (Male No. 5) heard singing to the west of the center of Segment 1. Individual male (Male No. 6) heard singing to the west of the center of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. 	0

Sito Vicit	Survey	Irvey Biologist Time Approx. Acres Start/Stop Weather Conditions		Survey Result			
Site visit	Date	Biologist	Start/End	Hour	Starty stop weather conditions	Least Bell's Vireo (LBVI) ¹	Brown-Headed Cowbird ²
2b (Segments 4 and 5)	5/28/19	Benjamin Rosenbaum	0615/1045	56.6 ac/ 12.6 ac per hr.	47°F, wind 1-2 mph, 0% clouds 69°F, wind 1-2 mph, 0% clouds	No LBVI detected	0
3a (Segments 1 and 2)	6/07/19	Mandy Mathews	0645/1100	60.8 ac/ 14.3 ac per hr.	64°F, wind 0-1 mph, 100% clouds 68°F, wind 0-1 mph, 0% clouds	 Individual male (Male No. 1) heard singing in the western portion of Segment 1. Individual male (Male No. 2) heard singing in the western portion of Segment 1. Male No. 3 / Pair No. 1 heard singing in the western portion of Segment 1. Individual male (Male No. 4) heard singing in the western portion of Segment 1. Individual adult (Male No. 4) heard singing in the western portion of Segment 1. Individual adult (Male No. 5) observed to the west of the center of Segment 1. Individual male (Male No. 6) heard singing to the west of the center of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. Individual male (Male No. 8) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. 	3
3b (Segments 2, 4, and 5)	6/07/19	Katie Bellon	0645/1100	67.4 ac/ 15.9 ac per hr.	64°F, wind 0-1 mph, 100% clouds 68°F, wind 1-3 mph, 0% clouds	 Individual male (Male No. 10) heard singing in the northern portion of Segment 2. Individual male (Male No. 11) heard singing in the northern portion of Segment 2. Individual male (Male No. 12) heard singing within the southeast portion of Segment 2. Individual male (Male No. 13) heard singing within the southeast portion of Segment 2. 	0



Site Visit	Survey	Biologist	Time	Approx. Acres Surveved/Acres per	Start/Stop Weather Conditions	Survey Result	
	Date	210102.00	Start/End	Hour		Least Bell's Vireo (LBVI) ¹	Brown-Headed Cowbird ²
4a (Segments 1 and 2)	6/17/18	Benjamin Rosenbaum	0640/1055	60.8 ac/ 14.3 ac per hr.	60°F, wind 1-2 mph, 100% clouds 65°F, wind 1-3 mph, 100% clouds	 Individual male (Male No. 3) heard singing in the western portion of Segment 1. Individual adult (Male No. 5) observed to the west of the center of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. Individual male (Male No. 8) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. 	1
4b (Segments 2, 4, and 5)	6/17/18	Katie Bellon	0640/1055	67.4 ac/ 15.9 ac per hr.	60°F, wind 1-2 mph, 100% clouds 69°F, wind 1-2 mph, 100% clouds	 Individual male (Male No. 11) heard singing in the northern portion of Segment 2. Individual male (Male No. 12) heard singing within the southeast portion of Segment 2. Individual male (Male No. 13) heard singing within the southeast portion of Segment 2. 	0
5a (Segments 1 and 2)	6/27/19	Benjamin Rosenbaum	0615/1050	71.5 ac/ 15.9 ac per hr.	57°F, wind 0-1 mph, 100% clouds 72°F, wind 3-5 mph, 0% clouds	 Individual male (Male No. 2) heard singing in the western portion of Segment 1. Male No. 3 / Pair No. 1 heard singing in the western portion of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. Individual male (Male No. 10) heard singing in the northern portion of Segment 2. Individual male (Male No. 11) heard singing in the northern portion of Segment 2. Individual male (Male No. 12) heard singing within the southeast portion of Segment 2. Individual male (Male No. 13) heard singing within the southeast portion of Segment 2. 	0

Sito Vicit	Site Visit Survey Biologist Time Surveyed/Acres		Approx. Acres	Start/Stan Weather Conditions	Survey Result		
Site visit	Date	Biologist	Start/End	Hour	Start/Stop Weather Conditions	Least Bell's Vireo (LBVI) ¹	Brown-Headed Cowbird ²
5b (Segments 4 and 5)	6/27/19	Laura Moreton	0640/1050	56.6 ac/ 14.2 ac per hr.	60°F, wind 1-3 mph, 100% clouds 74°F, wind 1-3 mph, 0% clouds	No LBVI detected	1
6a (Segment 1)	7/08/19	Mandy Mathews	0615/1100	44.4 ac/ 9.3 ac per hr.	61°F, wind 1-3 mph, 100% clouds 76°F, wind 1-3 mph, 0% clouds	 Individual male (Male No. 2) heard singing in the western portion of Segment 1. Male No. 3 / Pair No. 1 heard singing with female nearby in the western portion of Segment 1. Male No. 4 / Pair No. 2 heard singing with female nearby in the western portion of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. 	3
6b (Segments 2, 4 and 5)	7/08/19	Benjamin Rosenbaum	0620/1050	83.9 ac/ 18.6 ac per hr.	61°F, wind 1-3 mph, 100% clouds 76°F, wind 1-3 mph, 0% clouds	 Individual male (Male No. 10) heard singing in the northern portion of Segment 2. Individual male (Male No. 11) heard singing in the northern portion of Segment 2. Individual male (Male No. 12) heard singing within the southeast portion of Segment 2. 	6
7a (Segment 1)	7/18/19	Mandy Mathews	0625/1055	44.4 ac/ 9.9 ac per hr.	60°F, wind 1-3 mph, 100% clouds 83°F, wind 1-2 mph, 0% clouds	 Individual male (Male No. 1) heard singing in the western portion of Segment 1. Individual male (Male No. 2) heard singing in the western portion of Segment 1. Male No. 3 / Pair No. 1 heard singing with female nearby in the western portion of Segment 1. Individual male (Male No. 4) heard singing in the western portion of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. Individual male (Male No. 9) heard singing in the eastern portion of Segment 1. 	0

Site Visit	Survey	y Biologist Time Approx. Acres Surveyed/Acres per Start/Stop Weather Conditions		ey Biologist Time Approx. Acres Surveyed/Acres per Start/Stop Weather Conditions				vey Biologist Time Approx. Acres Surveyed/Acres per Start/Stop Weather Conditions	gist Time	Start/Stop Weather Conditions	Survey Result	
	Date	2.0.08.00	Start/End	Hour		Least Bell's Vireo (LBVI) ¹	Brown-Headed Cowbird ²					
7b (Segments 2, 4 and 5)	7/18/18	Benjamin Rosenbaum	0630/1055	83.9 ac/ 18.6 ac per hr.	60°F, wind 1-3 mph, 100% clouds 83°F, wind 1-3 mph, 0% clouds	No LBVI detected	2					
8a (Segments 1 and 2)	7/29/19	Mandy Mathews	0625/1055	60.8 ac/ 13.5 ac per hr.	63°F, wind 0-2 mph, 0% clouds 85°F, wind 0-2 mph, 0% clouds	 Individual male (Male No. 1) heard singing in the western portion of Segment 1. Individual male (Male No. 2) heard singing in the western portion of Segment 1. Male No. 3 / Pair No. 1 heard singing in the western portion of Segment 1. Male No. 4 / Pair No. 2 heard singing in the western portion of Segment 1. Individual adult (Male No. 5) observed to the west of the center of Segment 1. Individual male (Male No. 7) heard singing in the center of Segment 1. 	4					
8b (Segments 2, 4, and 5)	7/29/19	Benjamin Rosenbaum	0625/1055	67.4 ac/ 15.0 ac per hr.	63°F, wind 0-2 mph, 0% clouds 85°F, wind 0-2 mph, 0% clouds	 Individual male (Male No. 10) heard singing in the northern portion of Segment 2. 	0					

¹ The numbering of each LBVI is based on the overall sightings within the survey area (ordered from west to east; Figure 4)
 ² Number of brown-headed cowbird (*Molothrus ater*; BHCO) detected during survey.



SURVEY RESULTS

A total of 13 LBVI locations were documented during the survey effort, although not all individuals were detected during each survey visit, one location was observed outside of the survey area within adjacent habitat, and it was not certain that the same males were observed at the same locations during each survey (Figure 4). Seven individual males (Male No. 1, No. 2, No. 5, No. 6, No. 7, No. 8, and No. 9) were detected adjacent to Segment 1 and four individual males were detected adjacent to Segment 2 (No. 10, No. 11, No. 12, and No. 13). No LBVI were detected within or adjacent to Segments 4 and 5. Female LBVI were detected with Male No. 3 (Pair No. 1) and Male No. 4 (Pair No. 2), and juvenile LBVI were detected with Male No. 10. Surveys were not conducted adjacent to Segments 3 and 6 due to lack of suitable habitat for LBVI within 500 feet. No banded individuals were observed during the survey. A detailed description of LBVI locations and observations is included below.

Trail Segment 1

An individual male (Male No. 1) was detected singing within the western portion of Segment 1 during surveys 1-3, 7, and 8 of the 2019 LBVI surveys.

An individual male (Male No. 2) was detected singing within the western portion of Segment 1 during surveys 2, 3, and 5-8 of the 2019 LBVI surveys.

Male No. 3 was detected singing within the western portion of Segment 1 during surveys 3-8 of the 2019 LBVI surveys. A female LBVI was observed with Male No. 3 during surveys 3, 5, 6, and 7 (Pair No. 1).

Male No. 4 was detected singing within the western portion of Segment 1 during surveys 1, 3, 6, and 7 of the 2019 LBVI surveys. A female LBVI was observed with Male No. 4 during surveys 6 and 8 (Pair No. 2).

An individual male (Male No. 5) was detected singing to the west of the center of Segment 1 during surveys 3, 4, and 8 of the 2019 LBVI surveys.

An individual male (Male No. 6) was detected singing to the west of the center of Segment 1 during survey 3 of the 2019 LBVI surveys.

An individual male (Male No. 7) was detected singing within the center portion of Segment 1 during all eight 2019 LBVI surveys.

An individual male (Male No. 8) was detected singing within the eastern portion of Segment 1 during surveys 3 and 4 of the 2019 LBVI surveys.

An individual male (Male No. 9) was detected singing within the eastern portion of Segment 1 during surveys 1 and 3-7 of the 2019 LBVI surveys.



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Twenty-two BHCO were observed within Segment 1 during the first survey on May 15, 2019, three BHCO were detected during the third survey on June 7, 2019, one BHCO was detected during the fourth survey on June 17, 2019, three BHCO were detected on the sixth survey on July 8, 2019, and four BHCO were detected during the eighth survey on July 29, 2019.

Trail Segment 2

An individual male (Male No. 10) was detected singing within the northern portion of Segment 2 during all eight 2019 LBVI surveys. Two juveniles were observed with Male No. 10 during survey 7 on July 18, 2019.

An individual male (Male No. 11) was detected singing within the northern portion of Segment 2 during surveys 2-6 of the 2019 LBVI surveys.

An individual male (Male No. 12) was detected singing within the center of Segment 2 during survey 1 and 3-6 of the 2019 LBVI surveys.

An individual male (Male No. 13) was detected singing within the center of Segment 2 during survey 1 and 3-5 of the 2019 LBVI surveys.

Six BHCO were detected during the sixth survey on July 8, 2019 and two BHCO were detected during the seventh survey on July 18, 2019.

Trail Segment 3

This segment was excluded from the 2019 LBVI survey due to lack of suitable habitat within 500 feet.

Trail Segment 4

There were no LBVI observations within Trail Segment 4 during the 2019 LBVI survey effort; however, two BHCO were detected on the first survey on May 15 and a single BHCO was detected on the fifth survey on June 27, 2019.

Trail Segment 5

There were no LBVI or BHCO observations within Trail Segment 5 during the 2019 LBVI survey effort.

Trail Segment 6

This segment was excluded from the 2019 LBVI survey due to lack of suitable habitat within 500 feet.

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Letter to Ms. Stacey Love September 12, 2019

CERTIFICATION

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

Sincerely,

Benjamin Rosenbaum Biologist

-21

Laura Moreton Biologist

Arch

Tara Baxter

Biologist

Mandy Mathews Biologist

Katie Bellon Biologist

Attachments:

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

Environmental Planning

Sycuan Sloane Canyon Trail Project



HELIX Environmental Planning **Regional Location**





Sycuan Sloane Canyon Trail Project

Project Vicinity (USGS Topography) Figure 2







Sycuan Sloane Canyon Trail Project

Project Vicinity (Aerial Photograph) Figure 3



HELIX

Sycuan Sloane Canyon Trail Project

2019 Least Bell's Vireo Survey Results

Figure 4

Appendix I

Arroyo Toad 2019 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 12, 2019

CSD-06.09

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 Sycuan Sloane Canyon
Trail Project

Dear Ms. Love:

This letter presents the results of focused surveys for the federally endangered arroyo toad (*Anaxyrus californicus*) conducted by HELIX Environmental Planning, Inc. (HELIX) and subconsultant Klutz Biological Consulting (KBC) for the Sycuan Sloane Canyon Trail Project (project). The project proposes a multi-use, non-motorized trail that would provide a regional and community trail connection between two existing regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. This letter describes the survey methods and results and is being submitted to the U.S. Fish and Wildlife Service (USFWS) in accordance with protocol survey guidelines (USFWS 1999).

PROJECT LOCATION

The proposed project is located within the unincorporated community of Crest-Dehesa in eastern San Diego County (County), California (Figure 1, *Regional Location*). It lies within Sections 9, 14, 15, 16, 23, and 24 of Township 16 South, Range 1 East, on the U.S. Geological Survey (USGS) 7.5-minute Alpine and El Cajon quadrangle maps (Figure 2, *USGS Topography*). The project is located along Dehesa Road, Sloane Canyon Road, and the Sweetwater River to the north and east of Singing Hills Golf Resort, and to the north and west of Beaver Hollow Road (Figure 3, *Aerial Photograph*). The project occurs on lands within County right-of-way (ROW), National Wildlife Refuge, and owned by the Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy. The project is composed of six proposed trail segments, which includes potential alternative trail alignments, and the southeastern portion of the project (a portion of Segment 4 and all of Segment 5) is located within USFWS-designated critical habitat for the arroyo toad (Figure 4, *2019 Arroyo Toad Critical Habitat and Survey Area*).



Letter to Ms. Stacey Love July 12, 2019

METHODS

HELIX and KBC completed a habitat assessment for arroyo toad within the survey area prior to the commencement of protocol surveys. The survey area consists of the six proposed trail segments and a 500-foot survey buffer, though the general floodplain of Sweetwater River to the east of Sloane Canyon Road was surveyed as toads potentially present would be expected to inhabit and move throughout the entire area (Figure 4). Based on this habitat assessment, Segments 1, 6, and 6b were excluded from the survey area as they lack potentially suitable breeding habitat (i.e., a naturally flooding regime, shallow breeding pools, and vegetated sand and gravel bars were not present) for the species. The arroyo toad survey area included the portions of Segments 2, 3, 4, and 5 that contained suitable breeding habitat located along Harbison Canyon Creek, Sweetwater River, and Beaver Hollow.

The survey consisted of four site visits conducted by HELIX biologists Jasmine Bakker, Samantha Edgley, and Dane van Tamelen, and KBC biologist Korey Klutz between May 23 and June 13, 2019 (Table 1, *Survey Information*). The survey generally followed the recommended survey guidelines in the current USFWS Survey Protocol for the Arroyo Toad (dated May 19, 1999). However, a survey was not completed in April, as required by the survey protocol, because arroyo toads were initially assumed to be occupy the survey area based on the presence of the species' critical habitat and numerous reported occurrences of the species within Sloane Canyon. The species was detected upstream of the survey area in 2003 during focused arroyo toad surveys conducted by USGS but were not found to be further downstream of the survey area within the portions of the San Diego National Wildlife Refuge and Cottonwood Golf Course (USGS 2005a). It was later determined that focused surveys would help inform the environmental constraints that potentially affect the public's desired trail alignment. The USFWS was consulted and the late start of focused surveys were approved based on the high likelihood of a positive survey.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 where breeding pools may occur. Biologists crossed the stream either on the downstream ends of potential breeding pools or 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.



¹ Personal communication with Eric Porter (USFWS) to Jasmine Bakker (HELIX) on May 16, 2019.

Nighttime surveys were conducted by carefully walking slowly and methodically along stream banks while making repeated stops to listen quietly 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 was kept to a minimum and only used to confirm species identity of any observed toadlets or toads. The locations of any arroyo toad detected during the survey were either marked on an aerial photograph or recorded with a hand-held global positioning system (GPS) unit.

Vegetation communities within the survey area consisted of non-vegetated channel, mule fat scrub, southern willow scrub, southern riparian forest, southern cottonwood-willow riparian forest, coast live oak woodland, open coast live oak woodland, Diegan coastal sage scrub (including Baccharis dominated), and non-native grassland located along the Harbison Canyon Creek, Sweetwater River, and Beaver Hollow (Figure 5a, 2019 Arroyo Toad Survey Results).

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



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Table 1 SURVEY INFORMATION

Site Visit	Date	Biologists	Survey Type	Survey Time (Start/Stop)	Weather Conditions (Start/Stop)	Results
			Daytime Survey	1700/2025	57°F, wind 0-3 mph, 30% clouds 56°F, wind 0-3 mph, 70% clouds	No arroyo toad detected
1	5/23/19	Korey Klutz Jasmine Bakker	Nighttime Survey	2120/2430	55°F, wind 0-1 mph, 70% clouds 51°F, wind 0-1 mph, 70% clouds	 One juvenile arroyo toad observed approximately 220 feet east of the survey area along Sweetwater River. Located approximately 770 feet east of Segment 2.
n	E/20/10	Korov Klutz	Daytime Survey	1700/2000	65°F, wind 0-5 mph, 25% clouds 60°F, wind 0-1 mph, 25% clouds	No arroyo toad detected
2	5/30/19	Korcy Klutz	Nighttime Survey	2100/2330	57°F, wind 0-1 mph, 25% clouds 55°F, wind 0-1 mph, 25% clouds	No arroyo toad detected
			Daytime Survey	1630/1930	70°F, wind 0-1 mph, 0% clouds 65°F, wind 0-1 mph, 0% clouds	 One arroyo toad toadlet observed approximately 390 feet east of the survey area at the confluence of North Fork and Sweetwater River. Located approximately 920 feet east of Segment 2.
3	6/6/19	Korey Klutz Samantha Edgley ¹	Nighttime Survey	2030/2355	64°F, wind 2 mph, 0% clouds 65°F, wind 1.5 mph, 0% clouds	 Eight (8) arroyo toad toadlets observed approximately 275 feet east of the survey area along Sweetwater River. Located approximately 770 feet east of Segment 4. Thirteen (13) adult arroyo toad observed to the east of Segments 2 and 4, both within and outside of the survey area, along Sweetwater River.

Site Visit	Date	Biologists	Survey Type	Survey Time (Start/Stop)	Weather Conditions (Start/Stop)	Results
4	6/13/19	Korey Klutz Dane van Tamelen ¹	Daytime Survey	1630/1930	67°F, wind 0-1 mph, 0% clouds 63°F, wind 0-1 mph,0% clouds	 One arroyo toad toadlet observed approximately 275 feet north of Segment 5 within Sweetwater River just downstream of its confluence with Beaver Hollow.
			Nighttime Survey	2030/2330	60°F, wind 0-1 mph, 0% clouds 57°F, wind 0-1 mph, 0% clouds	 One adult arroyo toad observed approximately 290 feet east of Segment 2 along Harbison Canyon Creek, to the east of Sloane Canyon Road. Eight (8) adult arroyo toad east of Segments 2 and 4, both within and outside of the survey area, along Sweetwater River.

¹ Conducted nighttime survey only.



Arroyo toad toadlets, juveniles, and adults were detected along Harbison Canyon Creek and Sweetwater River during the 2019 survey effort (Figure 5a). The arroyo toad was detected adjacent to Segments 2, 3, 4, and 5, during three of the four site visits. A total of 10 toadlets, one juvenile, and 22 adult arroyo toads were observed during the surveys, though some of these observations may represent the same individuals. Adult arroyo toads were not heard calling, and no arroyo toad eggs or tadpoles were observed within, or adjacent to, the survey area during the survey effort. A detailed description of arroyo toad sightings by trail segment is included below.

Segment 1 extends from the eastern end of Segment 6 to the Northern Bridge at northern end of Segment 2 (Figure 5a). It is located mostly along an existing dirt path south of Dehesa Road and north of Lake Emma, that appears to be regularly used by vehicles and pedestrians. The survey area adjacent to Segment 1 contains aquatic and riparian habitat but does not support suitable breeding habitat for arroyo toad (Figure 5b, *2019 Arroyo Toad Survey Results – Segment 1*). The portion of this survey area lacks the species' primary consistent elements (USFWS 2011) such as a naturally flooding regime, shallow breeding pools, and vegetated sand and gravel bars. Therefore, Segment 1 was excluded from the arroyo toad survey area, but portions of the survey area could be used for arroyo toad foraging.

Segment 2 extends from the Northern Bridge at the eastern end of Segment 1 to the northern end of Segment 4 and is located mostly immediately adjacent to Sloane Canyon Road (Figure 5a). A portion of Segment 2 south of the Southern Bridge occurs within an existing dirt trail. Segment 2 is located to the east and west of Sweetwater River and west of Harbison Canyon Creek (Figure 5b, 2019 Arroyo Toad Survey Results – Segment 2) and suitable foraging, aestivation, and breeding habitat for arroyo toad was found to be present within 500-feet of the proposed trail alignment. A single foraging adult toad was detected approximately 290 feet east of Segment 2 within Harbison Canyon Creek on June 13, 2019 (Figure 5c, 2019 Arroyo Toad Survey Results – Segment 2). Marginal suitable breeding habitat is present within Harbison Creek; however, sufficient hydrology to support breeding activities (i.e., flowing water and the presence of shallow breeding pools) was not observed during biological surveys conducted for the project between February and June 2019. Therefore, it is unlikely that Harbison Canyon Creek, and this portion of Segment 2, supports breeding habitat for the species. The portion of Sweetwater River to the east of Segment 2 and west (downstream) of the southern bridge crossing contains low quality suitable breeding habitat for arroyo toad. Riparian habitat along this portion of Sweetwater River is dense and contains large ponded areas that are unsuitable breeding pools for arroyo toad. Additionally, arroyo toads have not been detected west of Sloane Canyon Road since 1997 (USFWS 2014; USGS 2005b). The portion of the survey area west of Segment 2 and east (upstream) of the southern bridge crossing contain high quality arroyo toad habitat and arroyo toad was found to be occupying the area. One juvenile arroyo toad was detected on May 23 approximately 770 feet east of Segment 2, one arroyo toad toadlet and five adults to were detected on June 6 to the east of Segment 2, and five adults were detected on June 13 east of Segment 2. The presence of the juvenile and toadlets confirms breeding within this reach of the river and within 500 feet of Segment 2. The nearest toad observation is located approximately 290 feet east of Segment 2.

Segment 3 is located to the west of Sweetwater River and Sloane Canyon Road and is generally situated in uplands (Figure 5d, 2019 Arroyo Toad Survey Results – Segment 3). The proposed trail alignment continues up the hillside to the west. The eastern portion of Segment 3 located approximately 280 feet east of the Sweetwater River floodplain, and approximately 440 feet west of the closet toad





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observation. Occupied arroyo toad breeding habitat is located within 500 feet of Segment 3, though Segment 3 does not contain suitable arroyo toad breeding habitat and most likely would not be used for foraging or aestivation activities due to its higher position on the landscape and distance from riparian habitat.

Segment 4 is located along an existing dirt trail to the west of Sloane Canyon Road, extending from the southern end of Segment 2 to the northern end of Segment 5 (Figure 5a). Segment 4 is to the west Sweetwater River and suitable foraging, aestivation, and breeding habitat for arroyo toad was found to be present within 500 feet of the proposed trail alignment (Figure 5e, *2019 Arroyo Toad Survey Results – Segment 4*). Eight toadlets and eight adult arroyo toads were observed on June 6, and five adults were observed on June 19 to the east of Segment 4, both within and outside of the survey area, all east of Segment 4 along Sweetwater River. The presence of the toadlets confirms breeding within this reach of the river and within 500 feet of Segment 4. The closest toad observation is located approximately 300 feet east of Segment 4.

Segment 5 is located immediately south of Sloane Canyon Road, extending from the southern end of Segment 4 to the intersection with Beaver Hollow Road. Segment 5 is located to the south of Sweetwater River (Sloane Canyon Road exists between the proposed trail segment and the river), and suitable foraging, aestivation, and breeding habitat for arroyo toad was found to be present within 500 feet of the proposed trail alignment (Figure 5f, *2019 Arroyo Toad Survey Results – Segment 5*). One arroyo toad toadlet was observed on June 13, 2019 approximately 275 feet north of Segment 5 within the Sweetwater River, just downstream of its confluence with Beaver Hollow. The presence of the toadlet confirms breeding within this reach of the river and within 500 feet of Segment 5.

Segment 6 is located immediately south of Dehesa Road and north of the Singing Hills Golf Course, extending from Willow Glen Drive at the western end to the western end of Segment 1 on the eastern end (Figure 5a). It is located entirely within uplands and does not contain suitable breeding, foraging, or aestivation habitat for arroyo toad (Figure 5g, 2019 Arroyo Toad Survey Results – Segment 6). Therefore, this segment was excluded from the arroyo toad survey area.

The alternative Segment 6b is located immediately north of Dehesa Road from Willow Glen Drive to Sloane Canyon Road (Figures 5a). It is located entirely within uplands and does not contain suitable breeding, foraging, or aestivation habitat for arroyo toad (Figures 5b and 5g, *2019 Arroyo Toad Survey Results – Segment 6*). Therefore, this segment was excluded from the arroyo toad survey area.

CONCLUSION

Based on results of the focused 2019 arroyo toad surveys, suitable and occupied breeding habitat, foraging habitat, and aestivation habitat were found within 500 feet of portions of proposed Segments 2, 3, 4, and 5. Portions of the Segment 1 survey area would be considered suitable foraging habitat, although Segment 1 is currently a dirt trail that appears to be regularly used by vehicles and pedestrians. No suitable foraging, aestivation, or breeding habitat occurs within 500 feet of Segment 6.



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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 (949) 234-8792 should you have any questions.

Sincerely,

Jasmine Bakker Biology Project Manager

Dane van Tamelen Biologist

Toney Hotel

Korey Klutz Biologist

Samantha Edgley Biologist

Attachments:

Figure 1:	Project Location
Figure 2:	USGS Topography
Figure 3:	Aerial Photograph
Figure 4:	Arroyo Toad Critical Habitat and Survey Area
Figure 5a:	2019 Arroyo Toad Survey Results
Figure 5b:	2019 Arroyo Toad Survey Results – Segments 1 and 6b-East
Figure 5c:	2019 Arroyo Toad Survey Results – Segment 2
Figure 5d:	2019 Arroyo Toad Survey Results – Segment 3
Figure 5e:	2019 Arroyo Toad Survey Results – Segment 4
Figure 5f:	2019 Arroyo Toad Survey Results – Segment 5
Figure 5g:	2019 Arroyo Toad Survey Results – Segments 6 and 6b-West


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2011. Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Arroyo Toad; Final Rule. Federal Register. Volume 26, Number 27. February 9.

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2005b. 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: <u>https://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/Toad_Turtle_Distribution_</u> and Status.pdf.



Sycuan Sloane Canyon Trail Project



Regional Location





Sycuan Sloane Canyon Trail Project

Project Vicinity (USGS Topography) Figure 2







Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Project Vicinity (Aerial Photograph) Figure 3







Source: Aerial (SanGIS, 2017).





Survey Area	Vegetation
Trail Alignment	Agriculture
Segment 1	Coast Live Oak Woodland
Segment 2	Coastal Sage-Chaparral Transition
Segment 3	Diegan Coast Sage Scrub-Baccharis Dominated
Segment 4	Diegan Coastal Sage Scrub
Segment 5	Disturbed Habitat
Segment 6	Eucalyptus Woodland
Segment 6b	— Mule Fat Scrub
Arroyo Toad Critical Habitat	Non-native Grassland
Arroyo Toad Detections	Non-native Vegetation
May 23, 2019	Non-vegetated Channel
	Open Coast Live Oak Woodland
	Open Water
Tradict	Scrub Oak Chaparral
	Southern Coast Live Oak Riparian Forest
Adult	Southern Riparian Forest
June 13, 2019	Southern Willow Scrub
Toadlet	Tamarisk Scrub
Adult	Urban/Developed
1,200 Feet	





Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

2019 Arroyo Toad Survey Results

Figure 5a



0 400 Feet

\$



Source: Aerial (SanGIS, 2017).

2019 Arroyo Toad Survey Results - Segments 1 and 6b-East

Figure 5b



0 400 Feet



Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

2019 Arroyo Toad Survey Results - Segment 2

Figure 5c





0 200 Feet



Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

2019 Arroyo Toad Survey Results - Segment 3

Figure 5d







Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

2019 Arroyo Toad Survey Results - Segment 4

Figure 5e



HELIX Environmental Plan

Sycuan Sloane Canyon Trail Project

2019 Arroyo Toad Survey Results - Segment 5

Figure 5f



HELIX Environmental Plan

2019 Arroyo Toad Survey Results - Segments 6 and 6b-West

Sycuan Sloane Canyon Trail Project

Figure 5g

Appendix J

Quino Checkerspot Butterfly 2019 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



June 14, 2019

CSD-06.09

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

Subject:2019 Quino Checkerspot Butterfly (*Euphydryas editha quino*) Survey Report for the
Sycuan Sloane Canyon Trail Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey of the federally listed as endangered Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Sycuan Sloane Canyon Trail 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 80.0-acre study area is located within the unincorporated community of Crest-Dehesa in eastern San Diego County (County), California (Figure 1, *Regional Location*). It lies within Sections 9, 14, 15, 16, 23, and 24 of Township 16 South, Range 1 East, on the U.S. Geological Survey (USGS) 7.5-minute Alpine and El Cajon quadrangle maps (Figure 2, *USGS Topography*). The study area is located along Dehesa Road and Sloane Canyon Road to the north and east of Singing Hills Golf Resort, and north of Beaver Hollow Road (Figure 3, *Aerial Photograph*). The study area occurs in public (County of San Diego) right-of-way, National Wildlife Refuge, and Bureau of Indian Affairs Lands (Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy) and is composed of six proposed trail segments (Figure 4, *2019 Quino Checkerspot Butterfly Survey Area*). The project is not located within USFWS-designated critical habitat for the QCB.

METHODS

Focused presence/absence surveys for the QCB were conducted in accordance with the *Quino Checkerspot Butterfly Survey Guidelines* (USFWS 2014). The survey protocol calls for weekly surveys to be conducted between the third week of February through the second Saturday in May. However,

surveys were not initiated the third week of February due to inclement weather. Eric Porter of the USFWS approved delaying surveys on February 20, 2019¹, and the first protocol survey was conducted the following week on February 27, 2019. The first observation of adult QCB in San Diego County was on February 24, 2019, near Otay Lakes (Quino Biologists United 2019). A total of 10 site visits were conducted between February 27 and May 3, 2019, by HELIX biologists Jasmine Bakker (TE 778195-13), Erica Harris (TE 778195-13), Benjamin Rosenbaum (TE 778195-13), Laura Moreton (TE 778195-13), Tara Baxter (TE 87004B-0), and independent biologist Korey Klutz (TE 036065-2). No surveys were conducted during the second week in May because of inclement weather. Susan Wynn of the USFWS approved termination of the surveys based on the forecasted weather and lack of recent QCB observations at reference sites within the area²; the last publicly reported observation of QCB was on May 1, 2019 near Potrero which is located over 18 miles southeast of the project near the U.S./Mexico border (Quino Biologist United 2019).

The QCB survey area encompassed 29.8 acres and consisted of all potential QCB habitat (i.e., Diegan coastal sage scrub, scrub oak chaparral, coast live oak woodland, non-native vegetation, non-native grassland, and disturbed habitat [including dirt roads and trails]) present in the study area (Figure 4). Areas unsuitable for QCB were excluded from the QCB survey area and included eucalyptus woodland, coast live oak woodland, riparian habitat, and developed areas. Larval host plants within the QCB survey area were mapped on March 28 and April 30, 2019 (Figures 5a through 5g, *2019 Quino Checkerspot Butterfly and Host Plant Locations*). Biologists walked meandering transects within the survey area recording the location, size, and conditions of host plants. Host plants were mapped with the aid of hand-held global positioning system (GPS) units. Patches of host plants larger than approximately 250 square feet were mapped as polygons. Patches of host plants were categorized as low density (less than 10 plants per square meter), medium density (10 to 99 plants per square meter), high density (100 to 1,000 plants per square meter), or very high density (greater than 1,000 plants per square meter). Host plants were also mapped incidentally when encountered during protocol surveys.

The surveys were conducted by walking through appropriate habitat and identifying all butterflies observed by sight and with the aid of binoculars. Larval host plants encountered during the surveys were recorded and mapped with hand-held GPS units, and potential nectar plant species were also documented. All QCB locations were mapped on an aerial photograph. A minimum of five continuous weekly surveys were conducted pursuant to the survey protocol. If QCB were observed within a portion of the survey area within, or following, the first five weekly surveys, surveys for that portion of the survey area were discontinued. Weekly surveys continued for all remaining portions of the survey area where QCB had not been observed until the end of the protocol survey period. Surveys covered between 1.5 and 5.8 acres per hour. Dates, times, and weather conditions at the beginning and end of each of the 10 surveys are presented in Attachment A, *Survey Information*. Copies of field forms are provided as Attachment B, *Survey Forms*.

Identification of butterflies was based on personal knowledge, museum specimens, the San Diego Natural History Museum website, and field guides by Shiraiwa (2009) and Glassberg (2001). Other nomenclature for this report is taken from Holland (1986) and Oberbauer (2008) for vegetation communities, and Baldwin et al. (2012) and the Jepson eFlora (Jepson Flora Project 2019) for plants.



¹ Email from Eric Porter (USFWS) to Shelby Howard (HELIX), dated February 20, 2019.

² Personal communication with Susan Wynn (USFWS) to Jasmine Bakker (HELIX) on May 7, 2019.

RESULTS

One QCB was observed during the 2019 surveys (Figure 5a). The QCB was observed south of Dehesa Road and west of Sloane Canyon Road by independent biologist Korey Klutz on April 8, 2019 (Figure 5d). The QCB was observed along an existing dirt trail within Segment 3.

A total 1,859 butterflies representing at least 30 species were recorded during the surveys. The most common butterflies observed were Pacific Sara orangetip (*Anthocharis sara sara*), Behr's metal mark (*Apodemia mormo virgulti*), and painted lady (*Vanessa cardui*). A list of all butterflies observed during the survey effort is included as Attachment C, *Butterfly Checklist*.

Three larval host plants were observed within the QCB survey area: purple owl's clover (*Castilleja exserta*), Chinese houses (*Collinsia* sp.), and dwarf plantain (*Plantago erecta*). Dwarf plantain was the most abundant larval host plant recorded during the survey effort. The species was observed within Segments 2, 3, 4, and 5 (Figures 5c through 5f) in small patches of low density, medium density, high density, and very high density. Chinese houses were observed in two low density patches at the western portion of trail Segment 3 to the south of the existing dirt trail (Figure 5e). Purple owl's clover was present in trail Segment 5 in patches of low density, medium density, and very high density, primarily to the south of Sloane Canyon Road (Figure 5f). No host plants were observed in Segments 1 or 6.

Seven potential nectar resources were noted within the QCB survey area: onion (*Allium* sp.), fiddleneck (*Amsinckia intermedia; A. menziesii*), goldenstar (*Bloomeria* sp.), popcorn flower (*Cryptantha* sp.; *Plagiobothrys* sp.), California buckwheat (*Eriogonum fasciculatum*), goldfields (*Lasthenia* sp.), and ground pink (*Linanthus dianthiflorus*). Nectar resources were observed within each Segment and were relatively abundant during the survey effort.

Segment 1 contains low-quality habitat for QCB as it is situated along the bottom of the foothills, there was generally little bare ground present, and non-native cover by annual grasses (*Avena* sp. and *Bromus* ssp.) was high. No larval host plants were observed within the survey area, although there were some nectaring resources observed such as popcorn flower, onion, and California buckwheat.

Segment 2 contained low- to moderate-quality habitat for QCB. The northern portion of Segment 2 parallels Sloane Canyon Road and generally lacked larval host plants except for two small patches of dwarf plantain. Coastal sage scrub within the survey area was fairly dense with more open patches present near the Sweetwater River bridge crossing. The southern portion of Segment 2 is situated on an east facing slope and contained high non-native cover by annual grasses. However, patches of dwarf plantain were present near the existing trail that runs through Segment 3. Nectaring resources were more abundant in the southern portion of Segment 2 consisting of popcorn flower, fiddleneck, California buckwheat, and patches of ground pink.

Segment 3 contained low- to high-quality QCB habitat. Lower quality habitat was present in the western portion of Segment 3 where dense scrub oak chaparral is present and generally shades the trail. High quality habitat is present in the eastern portion of Segment 3, particularly at the hilltop where two existing trails converge. Dwarf plantain was observed along the sides of the existing dirt trail and there were abundant nectaring resources available including several patches of ground pink that were



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Letter to Ms. Stacey Love June 14, 2019

observed within the study area. This section of high quality habitat is where the single QCB was observed in April 8, 2019 (Figure 5d).

Segment 4 contains low- to moderate-quality QCB habitat. The study area is situated along a steep south facing slope that contains little bare ground and higher cover by non-native annual grasses. The area generally lacked larval host plants with only two patches of dwarf plantain observed at the northern portion of Segment 4. Several nectaring resources were observed including popcorn flower, fiddleneck, and California buckwheat.

Segment 5 contains low-quality to unsuitable habitat for QCB within the non-native grassland and moderately-dense scrub oak chaparral present south of Sloane Canyon Road. Although scattered patches of larval host plants, primarily purple owl's clover, were observed along the southern edge of Sloane Canyon Road, chaparral habitat within the survey area is moderately dense and the existing dirt road is generally shaded by taller shrubs and coast live oaks (Quercus agrifolia) that line the road leaving few open patches.

Segment 6 contains low- to moderate-quality habitat for QCB. There was little bare ground and high cover by non-native grasses within the coastal sage scrub north of Dehesa Road. There were no larval host plants observed within Segment 6, although nectaring resources such as popcorn flower, fiddleneck, and California buckwheat was present within the survey area.

CERTIFICATION

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

Sincerely,

asmine Bakker **Biology Project Manager**

Benjamin Rosenbaum Biologist

Biologist

Biologist

aura Moreton

Biologist

read Korey Klutz

Independent Biologist



Letter to Ms. Stacey Love June 14, 2019

Attachments:

Figure 1:	Regional Location
Figure 2:	USGS Topography
Figure 3:	Aerial Photograph
Figure 4:	2019 Quino Checkerspot Butterfly Survey Area
Figure 5a:	2019 Quino Checkerspot Butterfly and Host Plant Locations
Figure 5b:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 1
Figure 5c:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 2
Figure 5d:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 3
Figure 5e:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 4
Figure 5f:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 5
Figure 5g:	2019 Quino Checkerspot Butterfly and Host Plant Locations – Segment 6
Attachment A:	Survey Information
Attachment B:	Survey Forms
Attachment C:	Butterfly Checklist



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CheckerspotButterfly_SurveyGuidelines_20141215.pdf.



Sycuan Sloane Canyon Trail Project





0 2,000 Feet



USGS Topography





Source: Aerial (SanGIS, 2017).

Aerial Photograph







Source: Aerial (SanGIS, 2017).





Study Area

Proposed Trail Alignment

Quino Checkerspot Butterfly Survey Area

Quino Survey Exclusion Area

Quino Checkerspot Butterfly (Euphydras editha quino)

1 Individual

Host Plants

Chinese Houses (Collinsia spp.) Density

★ Low density (<10 plants per m²)

Dwarf Plantain (Plantago erecta) Density

- Low density (<10 plants per m²)
- Medium density (10-99 plants per m²)
- High density (100-999 plants per m²)
- Very high density (>=1,000 plants per m²

Purple Owl's Clover (Castilleja exserta) Density

- Low density (<10 plants per m²)
- Medium density (10-99 plants per m²)
- High density (100-999 plants per m²)
- Very high density (>=1,000 plants per m²)

0 1,100 Feet

HELIX

ensity	
m²)	
ts per m²)	
per m²)	
lants per m ²)	

Vegetation

- Agriculture
 Coast Live Oak Woodland
- Coastal Sage Chaparral Scrub
- Diegan Coast Sage Scrub-Baccharis dominated
- Diegan Coastal Sage Scrub
- Disturbed Habitat
- Eucalyptus Woodland
- Mule Fat Scrub
- Non-native Grassland
- Non-native Vegetation
- Open Coast Live Oak Woodland
- Open Water
- Scrub Oak Chaparral
- Southern Coast Live Oak Riparian Forest
- Southern Riparian Forest
- Southern Willow Scrub
- Tamarisk Scrub
- Unvegetated Channel
- Urban/Developed

ater River

Seg Single Quino Checkerspot Butterfly observed

MODEL A FORD W

Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

2019 Quino Checkspot Butterfly and Host Plant Locations

Figure 5a



0 400 Feet

\$



2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 1

Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Figure 5b



HELIX

2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 2

Sycuan Sloane Canyon Trail Project

Figure 5c

Study Area

Proposed Trail Alignment

- Quino Checkerspot Butterfly Survey Area
- Quino Survey Exclusion Area

Quino Checkerspot Butterfly (*Euphydras editha quino*)

1 Individual

Host Plants

- Chinese Houses (Collinsia spp.) Density
- \bigstar Low density (<10 plants per m²)

Dwarf Plantain (Plantago erecta) Density

- Low density (<10 plants per m²)
- Medium density (10-99 plants per m²)
- High density (100-999 plants per m²)
- Vegetation Coast Live Oak Woodland Diegan Coast Sage Scrub-Baccharis dominated Diegan Coastal Sage Scrub **Disturbed Habitat** Non-native Grassland Non-native Vegetation Open Coast Live Oak Woodland Scrub Oak Chaparral Southern Coast Live Oak Riparian Forest
 - Southern Riparian Forest
- Unvegetated Channel
- Urban/Developed

ter River

Single Quino Checkerspot Butterfly observed on April 8, 2019



2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 3



200 Feet

6

Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

Figure 5d



0 250 Feet

4



2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 4

Sycuan Sloane Canyon Trail Project

Source: Aerial (SanGIS, 2017).

Figure 5e

Study Area

Proposed Trail Alignment

Quino Checkerspot Butterfly Survey Area

Quino Survey Exclusion Area

Host Plants

Dwarf Plantain (Plantago erecta) Density

- Medium density (10-99 plants per m²)
- \bigcirc High density (100-999 plants per m²)
- Very high density (>=1,000 plants per m²)

Purple Owl's Clover (Castilleja exserta) Density

- Low density (<10 plants per m²)
- Medium density (10-99 plants per m²)
- High density (100-999 plants per m²)
- Very high density (>=1,000 plants per m²)

- Vegetation
 - Agriculture
 - Coast Live Oak Woodland
 - Coastal Sage Chaparral Scrub Diegan Coastal Sage Scrub
 - Disturbed Habitat
 - Non-native Grassland
 - Open Coast Live Oak Woodland
 - Scrub Oak Chaparral
 - Southern Coast Live Oak Riparian Forest

Southern Riparian Forest Urban/Developed





¢

2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 5

Sycuan Sloane Canyon Trail Project



Source: Aerial (SanGIS, 2017).

Figure 5f



4



2019 Quino Checkspot Butterfly and Host Plant Locations - Segment 6

Source: Aerial (SanGIS, 2017).

Figure 5g

Appendix A Survey Information

Site	Site Data Biologict(c)		Acros	Acres/	Time*	Weather Conditions		Results ⁺
Visit	lisit	DIDIOGIST(S)	Acres	Hour	(Start/Stop)	Start	End	
1	Echruppy 27, 2010	Erica Harris ¹	14	4.2	1105/1435	68°F, wind 1-2 mph, 0% clouds	71°F, wind 0-2 mph, 0% clouds	No QCB Observed
T	February 27, 2019	Jasmine Bakker ¹	15.8	4.9	1055/1435	64°F, wind 1-4 mph, 0% clouds	71°F, wind 0-2 mph, 0% clouds	No QCB Observed
ſ	March E 2010	Jasmine Bakker	14	3.7	0930/1335	62°F, wind 0-2 mph, 0% clouds	74°F, wind 1-4 mph, 20% clouds	No QCB Observed
Z	March 5, 2019	Benjamin Rosenbaum ¹	15.8	4.3	0930/1335	62°F, wind 0-2 mph, 0% clouds	74°F, wind 1-4 mph, 20% clouds	No QCB Observed
n	March 12, 2010	Korey Klutz ²	18.1	4.5	1100/1500	62°F, wind 0-6 mph, 40% clouds	68°F, wind 2-8 mph, 40% clouds	No QCB Observed
5	IVIAICII 15, 2019	Erica Harris ¹	11.7	3.7	1110/1435	62°F, wind 0-1 mph, 35% clouds	73°F, wind 1-3 mph, 30% clouds	No QCB Observed
4	March 22, 2010	Korey Klutz ²	18.1	4.0	1015/1445	62°F, wind 0-6 mph, 5% clouds	68°F, wind 2-9 mph, 40% clouds	No QCB Observed
4	Warch 22, 2019	Erica Harris ¹	11.7	3.2	1115/1505	63°F, wind 2-5 mph, 5% clouds	68°F, wind 3-6 mph, 5% clouds	No QCB Observed
F	March 20, 2010	Benjamin Rosenbaum ¹	18.1	5.8	1055/1430	70°F, wind 0-2 mph, 10% clouds	76°F, wind 4-8 mph, 10% clouds	No QCB Observed
5	Walch 29, 2019	Korey Klutz ²	117	2.9	1100/1500	65°F, wind 0-6 mph, 0% clouds	70°F, wind 0-8 mph, 0% clouds	No QCB Observed
								1 QCB observed
6	April 8, 2019	Korey Klutz ²	29.8	3.6	0830/1645	70°F, wind 0-8 mph, 0% clouds	92°F, wind 4-8 mph, 0% clouds	along an existing
								trail in Segment 3
7	April 11 2019	Korey Klutz ²	12.6	1.5	0830/1645	64°F, wind 0-10 mph, 0% clouds	75°F, wind 2-8 mph, 0% clouds	No QCB Observed
7 April 11, 2019	April 11, 2015	Benjamin Rosenbaum ¹	13.1	4.0	0940/1330	65°F, wind 0-2 mph, 0% clouds	74°F, wind 0-2 mph, 10% clouds	No QCB Observed
Q	April 18, 2010	Benjamin Rosenbaum ¹	18.1	4.5	0845/1245	69°F, wind 0-4 mph, 15% clouds	92°F, wind 3-7 mph, 15% clouds	No QCB Observed
0	April 18, 2019	Tara Baxter ³	7.6	1.9	0845/1245	69°F, wind 0-4 mph, 15% clouds	92°F, wind 3-7 mph, 15% clouds	No QCB Observed
0	April 26, 2010	Korey Klutz ²	12.6	2.1	1100/1500	71°F, wind 0-4 mph, 0% clouds	83°F, wind 2-8 mph, 0% clouds	No QCB Observed
9	April 20, 2019	Laura Moreton ¹	13.2	4.1	1135/1500	76°F, wind 2-5 mph, 0% clouds	78°F, wind 0-1 mph, 0% clouds	No QCB Observed
10	May 3 2019	Korey Klutz ²	25.7	45	1100/1645	70°E wind 0-6 mph 0% clouds	79°F wind 0-8 mph 0% clouds	No OCB Observed
10	1014 3, 2013	Samantha Edgley ⁴	23.7	4.5	1100/ 1045			

* Total Survey Time = 84 hours and 57 minutes; Survey Rate = 1.5 to 5.8 acres per hour

+ QCB = Quino checkerspot butterfly (*Euphydryas editha quino*)

¹ HELIX biologist (USFWS Permit TE-778195-13)
 ² Independent biologist (USFWS Permit TE-036065-2)

³ HELIX biologist (USFWS Permit TE 87004B-0)

⁴ Supervised individual

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	2019 Quin	o Checkers	pot Butterfly Survey Form	
Surveyor:	Erica Harris		Date: 2/27/19	
, Site Name	CSD-06.09 Sycuan/Sloane Canyon Trail		Site Visit No: 1	
Area(s) Su	irveved 1 (west) 2.3.6 Acres Surveyed	14	Survey Time: 3.3 Acres per Hour: 4	4.2
Other Sur	Veyors Present: Jasmine Bakker (Areas 1	[east], 3, 4, and 5)		
		Field	Conditions	
	Time (24 hr) T	emperature (°F)	Wind Speed (mph) Cloud	Cover (%)
Start	1105	68	1-2	0
End	1315			
Start	1333			
Start	1333			
End	1435	71	0-2	0
Vegetatio	n Communities Surveyed (inc. dominant spp.)		
Diegan co	astal sage scrub, scrub oak chaparral, non-nat	ive grassland, open	coast live oak woodland, disturbed babitat	
Diegunico		ive grassiand, open		
Host Plan	te	Obs	Nector Plants	Obs
dwarf nlar	ntain (Plantago erecta)	0.03.	popcorn flower (Cryptantha/Plagiobothrys spp.)	X
nurple ow	l's clover (Castilleia exserta)		goldfields (Lasthenia spp.)	
snapdrago	on (Antirrhinum coulterianum)		goldenstar (<i>Bloomeria</i> spp.)	
birds-beal	< (Cordylanthus rigidus)		fiddleneck (Amsinckia intermedia; A. menziesii)	X
woolly pla	Intain (<i>Plantago patagonica</i>)		onion (Allium spp.)	Х
Chinese h	ouses (<i>Collinsia</i> spp.)		buckwheat (Eriogonum fasciculatum)	
			ground pink (Linanthus dianthiflorus)	Х
Host Plan	t Mapping Updated (circle) Yes No)	New Area or Existing Area (circle) New Existing	Both
Species up	odated (list)			
Duttoufly C	veries.	No	Putterfly Species	No
Checkeren	pecies	INO.	Butterny Species	NO.
California	ous		great nurnle bairstreak (Atlides balesus corcorani)	
Gabb's che	eckerspot (C aabbii)		brown elfin (Callonbrys augustinus)	
Ouino che	ckerspot (Euphydryas editha quino)		bramble (perplexing) bairstreak (C. dumetorum affinis)	
chalcedon	checkerspot (E. chalcedona chalcedona)		grav hairstreak (Strymon melinus pudica)	
Leanira che	eckerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta cre	scent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues			Lorquin's admiral (Limenitis lorquini)	
western py	gmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western ta	iled blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern b	lue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	1
Edward's b	lue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blu	e (Icaricia acmon acmon)	1	unidentified lady (Vanessa sp.)	24
marine blu	e (Leptotes marina)		Swallowtails	
unidentifie	d blue	2	pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		12	western tiger swallowtail (<i>P. rutulus</i>)	
Sara orang	der's) erangetin (A. sethurg)	13		
common C	uer sy urangeny (A. Letinuru) alifornia ringlet (Coenonympha californica)		monarch (Danaus nlexinnus)	1
cabhage w	hite (Pieris ranae)		common buckeye (Junonia coenia arisea)	2
checkered	(common) white (<i>Pontia protodice</i>)		mourning cloak (Nymphalis antiona)	
spring whit	te (P. sisymbrii)	2	Skippers	
unidentifie	d white		funereal duskywing (Erynnis funeralis)	
Metalmar	<s< td=""><td></td><td>mournful duskywing (Erynnis tristis)</td><td></td></s<>		mournful duskywing (Erynnis tristis)	
Behr's met	almark (<i>Apodemia mormo virgulti</i>)		fiery skipper (Hylephila phyleus)	
Wright's m	etalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs			Other	

orange sulphur (Colias eurytheme) sleepy orange (Eurema nicippe)

unidentified sulphur

cloudless sulfur (Phoebus sennae marcellina)

Column Subtotal

18

Column Subtotal

Total

28

46

6.001 0 100 5 -% 5,68°F 101 I ST 20 THE 85 2 C 3 RE 2 0 2 A M 121 HOME UP. MPEN NA JI 2 (DDD)) Wat er re NB 112) NM ONO 1 N IT Rite in the Rain.

(SDD6.09 (COPT.) 2/27/19 -POIL 11(2 ictors Acmor Crany CAP the III (B) BUNE 11(2 Sphr 2 F HOUTOY: F tradium IUD SOH Brassico ampmer mit laev cus burpas encial marmaic HIVINC calmer Yucuhip astragalus Chiptanth Diccop Sonohu esciq applisor aus aff NO XUIDIC India cal mac pom cle Luphir Lup bic Nicala icmala allium Phatelia Hedre Æ -1 1 · +. + -F

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2019 Quinc	Checkerspo	t Butterfly	Survey	/ Form
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Surveyor:	Jasmine Bakker			Date: 2/27/2019		
Site Name: Sycuan Sloane Canyon Trail Project (CSD-06.09)				Site Visit No: 1		
Area Surv	eved 1 (east), 3, 4, and 5 Acr	es Surveyed 1	.5.8	Survey Time: 3.25 Acres per Hour: 4.9		
Othor Sur	voverc Procent: Frice Harris (A)	road 1 [wort] 2	2 6)			
Other Sur		reas I [west], 2,	3, 0)			
			Fie	Id Conditions		
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph) Cloud Cover (%)	
Start	1055		64	1-4 0		
End	1310					
Start	1335					
Start	1333		74			
End	1435		/1	0-2 0		
Vegetatio	n Communities Surveyed (inc. do	minant snn)				
vegetatio	in communicies Surveyed (inc. do					
Diegan co	astal sage scrub, scrub oak chapar	ral, non-native	grassland, op	en coast live oak woodland, disturbed habitat		
Host Plan	ts		Obs.	Nectar Plants	Obs.	
awart plai	ntain (Plantago erecta)			popcorn flower (<i>Cryptantna/Plaglobothrys</i> spp.)	X	
purple ow	n s ciover (custilleja exserta)			goldonstar (<i>Plaameria</i> spp.)		
hirds-bool	(Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia: A menziacii)	Y	
woolly pla	ntain (Plantago natagonica)			onion (Allium spn.)	×	
Chinese h	ouses (Collinsia spp.)			buckwheat (Friogonum fasciculatum)	× ×	
ennièse n				ground pink (Linanthus dianthiflorus)		
Host Plan	t Mapping Updated (circle) Ye	es No		New Area or Existing Area (circle) New Existing Both		
Species u	pdated (list)					
			1			
Butterfly S	pecies		No.	Butterfly Species	No.	
Checkersp	ots			Hairstreaks		
California p	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)		
Gabb's che	eckerspot (<i>C. gabbii</i>)	`		brown elfin (<i>Callophrys augustinus</i>)		
Quino cheo	ckerspot (Euphydryas editha quinc)) 		bramble (perplexing) hairstreak (C. dumetorum affinis)		
chaicedon	checkerspot (E. chaicedona chaice	eaona) hti)		gray nairstreak (strymon melinus puaica)		
Leanira che	eckerspot (messana leanna wrigh	(1)		California sister (Adalaba bradowij salifornica)		
Blues	scent (Phyclodes myntta)			Lorquin's admiral (Limenitis lorquini)		
western n	gmy-blue (Brephidium exila)			west coast lady (Vanessa, annabella)	4	
western ta	iled blue (Everes amvntula)			red admiral (V. atalanta rubria)	!	
southern b	lue (Glaucopsyche lygdamus aust	ralis)		painted lady (V. cardui)		
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	6	
marine blu	e (Leptotes marina)			Swallowtails		
unidentifie	ed blue			pale swallowtail (Papilio eurymedon)		
Whites				western tiger swallowtail (P. rutulus)		
Sara orang	etip (Anthocharis sara sara)		19	anise swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)	1:6		Miscellaneous		
common C	antornia ringlet (<i>Coenonympha ca</i>	ujornica)		monarch (<i>Danaus piexippus</i>)		
checkorod	(common) white (Pontia protodia	٥	1	mourning clock (Nymphalis antiona)		
spring whit	te (P sisvmhrii)	-,	1	Skinners		
unidentifie	ed white			funereal duskywing (Ervnnis funeralis)		
Metalmar	ks			mournful duskywing (Erynnis tristis)		
Behr's met	almark (Apodemia mormo virgulti	i)		fiery skipper (Hylephila phyleus)		
Wright's m	netalmark (Calephelis wrighti)			white (common) checkered-skipper (<i>Pyrgus albescens</i>)		
Sulphurs				Other		
orange sul	ohur (Colias eurytheme)			California tortoiseshell (Nymphalis californica)	1	
sleepy orar	nge (Eurema nicippe)					
cloudless s	ulfur (Phoebus sennae marcellina)					
unidentifie	d sulphur					
	Co	olumn Subtotal	20	Column Subtotal	11	
				Total	21	
CSD-06.09 27 Feb 19 Sychan Sloane Cyn Tail JB, EH QCB Survey #1 START 1055 64°, 1-4mpt, 0% douds STOP 235 71°, 0-2mph-0% douds (SEGMENT 5 /1055-1135), 4 (1135-1240) 3 (1250-10 BUTTERELIES. Sara Orangetip Hill III (P) Calif Tortoishell 1 D W Coast Lady 1111 O Lody SP. Htt.] 6 Sement (135-235) - JB-TEH Common white D PLANT SPP. FLOWERING WILDLIFE 10 Calcil Dic cap NUWÓ Camisnippis. BUSH Erobot Mircul Ansphia went SPTO CALT Credim Cryptintha Perbanya CASJ WREN BLPH GRRD Stened Lupspp. Medport 1 Claper Phapan Rapsot RTHA Lamamp Lot Hetga mustard Salcol Allium + Escal Lepidium 5

	2019	Quino C	Checke	rspot Butterfly Survey Form	
Surveyor:	Benjamin Rosenbaum			Date: 3/5/2019	
Site Name	e: Sycuan Sloane Canyon Trail I	Project (CSD-06.	.09)	Site Visit No: 2	
Area Surv	eyed 1, 4, and 5 Acres	Surveyed 15.8	3	Survey Time: 3.7 Acres per Hour: 4.3	
Other Sur	veyors Present: Jasmine Bakke	r (portion of Are	ea 1, and Are	eas 2, 3, and 6)	
			Fic	Nd Conditions	
	Time (24 hr)	Temper	FIE ature (°F)	Wind Speed (mph) Cloud Cover	(%)
Start	0930	femper	52		(70)
Find	1125		72	1.0	
Ena	1125		/2	1-8 50	
Start	1150	7	72	1-8 50	
End	1335	7	74	1-4 20	
Vegetatio	n Communities Surveyed (inc. do	minant spp.)			
Diegan co	astal sage scrub scrub oak chapar	ral_non-native	arassland or	nen coast live oak woodland, disturbed habitat	
Diegan co		rai, non-native į	grassiariu, of		
Host Plan	ts		Obs.	Nectar Plants	Obs.
dwarf plan	ntain (<i>Plantago erecta</i>)		X	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	X
purple ow	l's clover (<i>Castilleja exserta</i>)			goldfields (<i>Lasthenia</i> spp.)	
snapdrago	on (Antirrhinum coulterianum)			goldenstar (<i>Bloomeria</i> spp.)	
birds-beal	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	Х
woolly pla	ntain (<i>Plantago patagonica</i>)			onion (Allium spp.)	Х
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)	Х
				ground pink (Linanthus dianthiflorus)	Х
Host Plan	t Mapping Updated (circle) (Ye	es) No		New Area or Existing Area (circle) (New) Existing Both	I
Species u	pdated (list)				
Butterfly S	pecies		No.	Butterfly Species	No.
Checkersp	ots			Hairstreaks	
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (<i>Callophrys augustinus</i>)	
Quino che	ckerspot (Euphydryas editha quina)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon	checkerspot (E. chalcedona chalce	, dona)		gray hairstreak (Strymon melinus pudica)	
Leanira che	eckerspot (<i>Thessalia leanira wrigh</i>	ti)		Ladies/Admirals	
Mylitta cre	escent (Phyciodes mylitta)			California sister (Adelpha bredowii californica)	
Blues				Lorquin's admiral (Limenitis lorquini)	
western py	/gmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)	
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)	
southern b	lue (Glaucopsyche lygdamus austr	ralis)		painted lady (V. cardui)	8
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)	
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	
marine blu	e (Leptotes marina)			Swallowtails	
unidentifie	ed blue			pale swallowtail (Papilio eurymedon)	
Whites				western tiger swallowtail (P. rutulus)	
Sara orang	etip (Anthocharis sara sara)		20	anise swallowtail (P. zelicaon)	
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous	
common C	alifornia ringlet (<i>Coenonympha ca</i>	lifornica)		monarch (Danaus plexippus)	
cabbage w	hite (Pieris rapae)	,		common buckeye (Junonia coenia grisea)	2
cneckered	(common) white (Pontia protodice	2)		mourning cloak (<i>Nymphalis antiopa</i>)	1
spring whit	të (P. sisymbrii)			Skippers	1
Motolmor				mouroful duskywing (Erynnic trictic)	1
Rehr's mot	almark (Anodemia mormo viroulti)		fiery skinner (Hylenhila nhyleus)	
Wright's met	netalmark (Calenhelic wrighti)	1		white (common) checkered-skinper (Duraus albaceans)	
Sulphurs				Unidentified skipper	1
orange sult	ohur (Colias eurvtheme)			Other	
sleepv orar	nge (Eurema nicippe)			California tortoiseshell (Nymphalis californica)	
cloudless s	ulfur (Phoebus sennae marcellina)				
unidentifie	d sulphur				
	Co	lumn Subtotal	20	Column Subtotal	13
				Total	33

03/05/19 (SD-06.09) QCB #2 Ben Q. (Jaymire B.) Tenp: 62°F tenp: 72°F Wind Orzuph Windis-Suph 3Kg ! Clenr Kgi 50% ytert' 0930 Stop! 11:30 Windlife BUSH, NUMO, SPTO, ANHU, LEGO MODO, LASE, LAGN, CORA, FINA ficilia canons frog fonce 1.2003 Butterflig # fainted lady 144 111 Saray orangets HI AT HT HAT WER. Mooning Usak T theekerer Wie 1 Lumin Prickeye Frecenthakying

(40-06:09 QUB# 2 Bent. 03/05/19 Nector flants Glaece, bandia, --ELAS 1:35pm tenp: 74th F Windil-Ymph 4A17:1150: am 1 FER2'-72°F + Wind'1-8 reb Sty: 50% 5 hky: 15% ----

	2019	Quino C	Checke	rspot Butterfly Survey Form	
Surveyor:	Jasmine Bakker			Date: 3/5/2019	
Site Name	e: Sycuan Sloane Canyon Trail P	roject (CSD-06	.09)	Site Visit No: 2	
Area Surv	eyed 1, 2, 3, and 6 Acres S	urveyed 14		Survey Time: 3.75 Acres per Hour: 3.7	
Other Sur	veyors Present: Ben Rosenbaun	n (portion of Ar	ea 1, and Are	eas 4 and 5)	
	•	N.			
	Time (24 hr)	Tomnor	Fie aturo (°E)	Id Conditions	(9/)
Chart	0020	remper			(78)
Start	0930		52	0-2	
End	1125		72	1-8 50	
Start	1145	-	72	1-8 50	
End	1335	-	74	1-4 20	
Manatatia	- Communities Communed lines dow				
vegetatio	n Communities Surveyed (inc. dor	ninant spp.)			
Diegan co	astal sage scrub, scrub oak chaparr	al, non-native	grassland, op	en coast live oak woodland, disturbed habitat	
Host Dian	**		Ohc	Nostar Diante	Ohc
dwarf plan	ntain (Plantago erecta)		v v	noncorn flower (Cruntantha/Plagiobothrys spn)	V V
purple ow	l's clover (Castilleia exserta)		Λ	eoldfields (Lasthenia spp.)	~
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeria spp.)	
birds-beal	k (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	х
woolly pla	antain (<i>Plantago patagonica</i>)			onion (Allium spp.)	
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)	Х
				ground pink (Linanthus dianthiflorus)	Х
Host Plan	t Mapping Updated (circle) (Ye	s) No		New Area or Existing Area (circle) (New) Existing Both	ı
Species u	pdated (list)				
Butterfly S	pecies		No.	Butterfly Species	No.
Checkersp	ots			Hairstreaks	
California p	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys augustinus)	
Quino cheo	ckerspot (<i>Euphydryas editha quino</i>)			bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon	checkerspot (E. chalcedona chalced	dona)		gray hairstreak (Strymon melinus pudica)	
Leanira che	eckerspot (Thessalia leanira wright	i)		Ladies/Admirals	
Nylitta cre	escent (Phyciodes mylitta)			California sister (Adeipna bredowii californica)	
western ny	ygmy-blue (Brenhidium exila)			vest coast lady (Vanesca, annahella)	3
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)	5
southern b	olue (Glaucopsyche lygdamus austri	alis)	1	painted lady (V. cardui)	4
Edward's b	olue (Hemiargus ceraunus gyas)	,		American (Virginia) lady (V. virginiensis)	
Acmon blu	e (Icaricia acmon acmon)		1	unidentified lady (Vanessa sp.)	7
marine blu	ie (Leptotes marina)			Swallowtails	
unidentifie	ed blue		2	pale swallowtail (Papilio eurymedon)	
Whites				western tiger swallowtail (P. rutulus)	1
Sara orang	etip (Anthocharis sara sara)		32	anise swallowtail (<i>P. zelicaon</i>)	
desert (Fel	der s) orangetip (A. cetnura)	ifornica)		Miscellaneous	
cabbage w	allornia ringlet (Coenonympria can bite (Pieris range)	jornica)		common huckeye (Junonia coenia arisea)	2
checkered	(common) white (Pontia protodice)		mourning cloak (Nymphalis antiona)	2
spring whit	te (P. sisymbrii)	/		Skippers	
unidentifie	ed white			funereal duskywing (Erynnis funeralis)	1
Metalmar	ks			mournful duskywing (Erynnis tristis)	
Behr's met	talmark (Apodemia mormo virgulti)			fiery skipper (Hylephila phyleus)	
Wright's m	netalmark (<i>Calephelis wrighti</i>)			white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs				Other	
orange sul	phur (Colias eurytheme)			California tortoiseshell (Nymphalis californica)	
sleepy oran	nge (Eurema nicippe)				
unidontifio	dilui (Prioebus serinde marcenina)		2		
andentine	Col	umn Subtotal		Column Subtotal	18
		Justoldi	50	Total	56

5 Mar 2019 CSD-06.09 Sycuan Sloane Cyn Marl OCR Surney #2 JB, BR 0-2 mph, 0% clivits 1-8 mph, 50% clovids START: 930 62°. STOP: 1125, 72; START /145 STOP 135 74°, 1-4mph 20% Juls Segments 2,3,6, 1-South BUTTERFLIES Painted Lady 111 1000 Blue sp. Saca Orangetip HIT JHT JHT JHT JHT IK II (32) 0 Sauthern blue 1 D Lady sp. Htt / Common Buelleye 11 2 West Carst Lady III 3 Fun Duskming | Acmon Blue 1 0 Sulphur sp. 11 15402 0 Armon blue 1 2 Tiger swallowtil 1 O FLOWERING PLANTS Phere* WILDLIFE Ansment Mircal Dodocathan CURA CASJ Luptra studia Erodium 1.1 LEGF BUSH Sisynbrum Lepidium Tamissonickis SPTO Bullfrog Capptanthat Hirinc hertowaryou PHAI BLPH Dic cap Pho mem VRWA SOSP Excal CALT RTHA Asteughtus Marmar las afre - 5 Encal HOFI NOMO Lamamp Lyphit phapat Salcol Oxilis, Phainteen de has Linaria

Surveyor:	Erica Harris			Date:3/13/19		
Site Name	e: CSD-06.09 Sycuan/Sloane Canyor	n Trail		Site Visit No: 3		
Area(s) Su	arveyed 2, 3, 6 Acres	Surveyed 11.7	7	Survey Time: 3.2	Acres per Hour: 3.7	
Other Sur	vevors Present: Korev Klutz (Ar	eas 1. 4. 5)				
	<u></u>			-		
	T ' (24 h .)	-	Field	Conditions		o()
<u></u>	Time (24 hr)	Temper	ature (F)	Wind Speed (mph)	Cloud Cover (%)
Start	1110		62	0-1	35	
End	1315					
Start	1130					
End	1435		73	1-3	30	
Vegetatio	n Communities Surveyed (inc. domir	ant spp.)				
Diegan co	astal sage scrub, scrub oak chaparral,	non-native gra	ssland, open	coast live oak woodland, disturbed hab	pitat	
]
Host Plan	ts		Obs.	Nectar Plants		Obs.
dwarf pla	ntain (<i>Plantago erecta</i>)			popcorn flower (Cryptantha/Plagiob	othrys spp.)	Х
purple ow	ıl's clover (Castilleja exserta)			goldfields (Lasthenia spp.)		
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeria spp.)		
birds-beal	k (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A.	menziesii)	Х
woolly pla	antain (<i>Plantago patagonica</i>)			onion (<i>Allium</i> spp.)		
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)	
Host Dian	t Manning Undated (sizela) Voc			ground pink (Linanthus alanthijiorus)) Now Existing Both	X
Spacios u	r wapping Opdated (circle) fes			New Area of Existing Area (Circle)	New Existing Both	
species u						
Butterfly S	pecies		No.	Butterfly Species		No.
Checkersp	ots			Hairstreaks		
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesu	ıs corcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (<i>Callophrys augustinus</i>)		
Quino che	ckerspot (Euphydryas editha quino))		bramble (perplexing) hairstreak (C. du	imetorum affinis)	
chalcedon	checkerspot (E. chaicedona chaicedo	na)		gray hairstreak (Strymon melinus pudi	ica)	1
Mylitta cre	eckerspot (messuita leanina wrighti)			California sister (Adelnha hredowii cal	lifornica)	
Blues				Lorquin's admiral (Limenitis lorquini)	ijonneuj	
western py	ygmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)			red admiral (<i>V. atalanta rubria</i>)		
southern b	olue (Glaucopsyche lygdamus australi	s)		painted lady (V. cardui)		8
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiens	is)	
Acmon blu	ie (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)		92
marine blu	ie (Leptotes marina)			Swallowtails		
unidentifie	ed blue		6	pale swallowtail (Papilio eurymedon)		
Whites	notin (Anthochasic case and)		10	western tiger swallowtail (<i>P. rutulus</i>)		
docort (Fol	dor's) orangotin (A. cathura)		10	Miscellanoous		
common (alifornia ringlet (Coenonympha califo	rnica)		monarch (Dangus plexinnus)		
cabbage w	hite (Pieris rapae)		3	common buckeye (Junonia coenia aris	sea)	4
checkered	(common) white (<i>Pontia protodice</i>)			mourning cloak (<i>Nymphalis antiopa</i>)	,	
spring whi	te (P. sisymbrii)			Skippers		
unidentifie	ed white		3	funereal duskywing (Erynnis funeralis))	5
Metalmar	ks			mournful duskywing (Erynnis tristis)		
Behr's met	talmark (Apodemia mormo virgulti)		7	fiery skipper (Hylephila phyleus)		1
Wright's m	netalmark (Calephelis wrighti)			white (common) checkered-skipper (F	Pyrgus albescens)	
Sulphurs				Other		
orange sul	pnur (<i>Collas eurytheme</i>)					
sleepy oran	ige (Eurerina nicippe)					
unidentifia	anar (Fridebus sennue murcenna) d sulphur					
amacifuile	Со	lumn Subtotal	29		Column Subtotal	111
			-	l	Total	140

3000 X H 6 3/10 E 35% 737 35 2 RI Da St MR NULDO U MEIN X -146 TUT 7 - NOMO HEISCH (D) er NO 111 DEER SCOTTWACKS SIC DIDK 10 112) 01 M THE THE THE THE THE THE THE THE THE (10) with which with the with the inter 11(92) orchatt 0年(10) HT 111 (8 NING BI 0 (0) HHT J. HT (5 011 K 111 (4) B YOL R 10re 111(3 S HT 11 (7) Behr white micz Gray Fuirstreak FICH SKIPPE Rite in the Rain .

(SDD6.09 (10MT.) 3/13/19 cus bur peter Hir Inc mmm Dicap Lindia endium mir klev properter sigumbhum gilmuc. marma anjotan it OKO des-COP mmaur PSC ralbiew Clar MISQH Micala SOZ Codumo Haunp er eup mac 100 801 doma rap sat com bist H uphil X TTY Pho par Up bc leck ant AUIO cali HEQUI Tho att Brania Senecio Eucry chrys ta F. INS 1 N 2 122 05 25 F 22 4 triai 1.02.0

Surveyor:	Korey Klutz			Date: 3/13/19			
Site Name	Sycuan Sloane Canyon Trail Project (CSD-06.09) Site Visit No: 3						
Area Surv	eved 1.4. and 5 Acres	Surveved 18.1		Survey Time: 4.0 Acres per Hour: 4.5			
Other Sur	vevors Present: Frica Harris (Ar	reas 2 3 and 6)	1				
other sur		cu3, 2, 3, and 0					
			Fie	eld Conditions	4.0		
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph) Cloud Cover	· (%)		
Start	1100	6	52	0-6 40			
End	1500	6	58	2-8 40			
Start							
End							
Vegetatio	n Communities Surveyed (inc. do	minant spp.)					
Diegan co	astal sage scrub, scrub oak chanar	ral_non-natives	arassland or	pen coast live oak woodland, disturbed babitat			
Diegunico			5103510110, 00				
Host Plan	ts		Obs.	Nectar Plants	Obs.		
dwarf plai	ntain (<i>Plantago erecta</i>)		X	popcorn flower (Cryptantha/Plagiobothrys spp.)	X		
purple ow	l's clover (Castilleja exserta)		х	goldfields (<i>Lasthenia</i> spp.)			
snapdrago	on (Antirrhinum coulterianum)			goldenstar (<i>Bloomeria</i> spp.)			
birds-beal	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	x		
woolly pla	intain (<i>Plantago patagonica</i>)			onion (<i>Allium</i> spp.)			
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)			
		~		ground pink (Linanthus dianthiflorus)	x		
Host Plan	t Mapping Updated (circle)	No No		New Area or Existing Area (circle)	h		
Species u	pdated (list)						
Butterfly S	pecies		No.	Butterfly Species	No.		
Checkersp	ots		-	Hairstreaks			
California	oatch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)			
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys augustinus)			
Quino che	ckerspot (<i>Euphydryas editha quinc</i>)		bramble (perplexing) hairstreak (C. dumetorum affinis)			
chalcedon	checkerspot (E. chalcedona chalce	edona)		gray hairstreak (Strymon melinus pudica)			
Leanira che	eckerspot (<i>Thessalia leanira wrigh</i>	ti)		Ladies/Admirals			
Mylitta cre	escent (Phyciodes mylitta)			California sister (Adelpha bredowii californica)			
Blues				Lorquin's admiral (<i>Limenitis lorquini</i>)			
western py	/gmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)			
western ta	iled blue (Everes amyntula)	<i>u</i> >		red admiral (<i>V. atalanta rubria</i>)	50		
southern b	lue (Glaucopsyche lygaamus austi	ralis)	2	painted lady (V. coroul)	50		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	5		
marine blu	e (Lentotes marina)			Swallowtails	5		
unidentifie	ed blue			pale swallowtail (Papilio eurymedon)			
Whites				western tiger swallowtail (<i>P. rutulus</i>)			
Sara orang	etip (Anthocharis sara sara)			anise swallowtail (P. zelicaon)			
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous			
common C	alifornia ringlet (<i>Coenonympha ca</i>	lifornica)		monarch (Danaus plexippus)			
cabbage w	hite (Pieris rapae)			common buckeye (Junonia coenia grisea)	1		
checkered	(common) white (Pontia protodice	e)		mourning cloak (Nymphalis antiopa)			
spring whit	te (P. sisymbrii)		2	Skippers			
Motolman			1	mouroful duckywing (Erynnis funeralis)	4		
Rehr's mot	no ralmark (Anodemia mormo virgulti	.)		fiery skinner (Hylenhila nhyleys)			
Wright's m	netalmark (Calenhelis wrighti)	1		white (common) checkered-skinner (Pyraus albescens)			
Sulphurs				Other			
orange sult	ohur (Colias eurytheme)						
sleepy orar	nge (Eurema nicippe)						
cloudless s	ulfur (Phoebus sennae marcellina)						
unidentifie	d sulphur						
	Co	lumn Subtotal	5	Column Subtotal	60		
				Total	65		

Surveyor:	Erica Harris			Date: 3/22/19		
Site Name: CSD-06.09 Sycuan/Sloane Canyon Trail				Site Visit No:		
Area(s) Su	arveyed 2, 3, 6 Acres Su	rveyed 11.7	7	Survey Time: 3.7 Acres per Hour: 3.2		
Other Sur	vevors Present: Korev Klutz (Area	is 1. 4. 5)				
		- / / - /				
			Field	Conditions		
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph) Cloud Cover (%	»)	
Start	1115		63	2-5 5		
End	1405					
Start	1415					
End	1505	(68	3-6 5		
vegetatio	on Communities Surveyed (Inc. domina	nt spp.)				
Diegan co	astal sage scrub, scrub oak chaparral, n	on-native gra	ssland, open	coast live oak woodland, disturbed habitat		
			_			
Host Plan	ts		Obs.	Nectar Plants	Obs.	
awart plai	ntain (<i>Plantago erecta</i>)		Х	popcorn Tiower (<i>Cryptantha/Plagiobothrys</i> spp.)	Х	
purple ow	n s ciover (<i>castilleja exserta</i>)			goldonstar (Ricomeria spp.)		
birds-bool	k (Cordylanthus rigidus)			fiddlonock (Amsinckia intermedia: A. manziacii)	v	
woolly pla	antain (Plantago natagonica)			onion (Allium snn)	^	
Chinese h	ouses (Collinsia spn.)			buckwheat (Friogonum fasciculatum)		
chinese h				ground nink (Lingerhuis dianthiflorus)	х	
Host Plan	t Mapping Updated (circle) (Yes)	No		New Area or Existing Area (circle) (New) Existing Both	~	
Species u	pdated (list)					
Butterfly S	opecies		NO.	Butterfly Species	NO.	
California	nots (Chlosuna californica)			Hairstreaks		
Gabb's che	paten (Chiosyne cunjornicu)			brown elfin (Callonbrus quaustinus)		
Ouino che	ckerspot (C. gubbii)			bramble (nernlexing) bairstreak (C dumetorum affinis)	3	
chalcedon	checkerspot (E. chalcedona chalcedona	1)		grav hairstreak (Strymon melinus pudica)	3	
Leanira ch	eckerspot (<i>Thessalia leanira wriahti</i>)	· /		Ladies/Admirals		
Mylitta cre	escent (<i>Phyciodes mylitta</i>)			California sister (Adelpha bredowii californica)		
Blues				Lorquin's admiral (<i>Limenitis lorquini</i>)		
western py	ygmy-blue (<i>Brephidium exila</i>)			west coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)	1	
southern b	olue (Glaucopsyche lygdamus australis)			painted lady (V. cardui)	17	
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)		
Acmon blu	ie (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	172	
marine blu	ie (Leptotes marina)			Swallowtails		
unidentifie	ed blue		9	pale swallowtail (Papilio eurymedon)		
Whites				western tiger swallowtail (P. rutulus)	1	
Sara orang	getip (Anthocharis sara sara)		6	anise swallowtail (P. zelicaon)		
desert (Fel	lder's) orangetip (A. cethura)			Miscellaneous		
common C	alitornia ringlet (Coenonympha californ	ica)	2	monarch (Danaus plexippus)		
cabbage w	(nite (Pieris rapae)		2	common buckeye (Junonia coenia grisea)	1	
cneckered	(common) white (<i>Pontia protodice</i>)			mourning cloak (<i>ivymphalis antiopa</i>)		
spring whi	ie (r. sisymorii)			Skippers funoroal duskywing (Eruppis funoralia)	15	
Metalmar				mournful duskywing (Erynnis tristic)	12	
Rehr's mot	talmark (Anodemia mormo virgulti)		11	fiery skinner (Hylenhila nhyleys)	1	
Wright's m	netalmark (<i>Calenhelis wrighti</i>)			white (common) checkered-skinner (Pyraus albescens)	-	
Sulphurs				Other		
orange sult	phur (Colias eurytheme)					
sleepv oran	nge (Eurema nicippe)					
cloudless s	ulfur (Phoebus sennae marcellina)					
unidentifie	ed sulphur		1			
	Colu	mn Subtotal	31	Column Subtotal	211	
				Total	242	

= SIDP: 1505 00 TYPEOS' 3)5(115 40 A 1415-E)5(50 H TH CORA LECO LEDO TI SPID RIVH AMUR CAI NOTL TH WISU IKWA RSHA Acuo ANTIL SEKISPHONUS BOME HOFT WEENS MODO (AST CAKI ROKI = NUWO RCSP LEGO *LBV AWDO RUBL NRW SATTH *(AGN S NOMO mutedourfact western fonce liz COUDTE (SCAT) side blotch liz grunite spiny 12 BUDGET(nacks emesti # FLBN: Single male singing TO 0 is with at steane anyof Rar first broke * A BASEMI ADATA OF AVER LE

CSDDG,OG(LONT.) Elaver: amhirt Lasthonia Kent Branig ammen HIY IN ONTR It LL endum im Hed are nm osymbri Cal proteste CMPCINI DODC in Y ONE *Pa er marahmac mirtally gilia anu escral as at cal m mimaur OKIN 10 Ron a LOT DUL PORT Neck ar 11 MACHENDODAL. cam bist er FIC. Joh m rap set sonchus MIK patt IUP DIE itr NICAICI Pha Kappya Lupmun 10 ral tuc ohn ted admiral LIV SUD 1 Capkage 11(2) 01 0 SILLO mr(9 11(O HHT NS HATI(11 111(3 aver 445 INT 11H (15 HT11.(0) HTT th 1 (17)un un the the the the the the the the 110 104 F the wei wei the the the M CI72

BIR

Surveyor:	Korey Klutz			Date:3/22/19			
Site Name	lame: Sycuan Sloane Canyon Trail Project (CSD-06.09) Site Visit No: 4						
Area Surv	eved 1.4. and 5 Acres	Surveyed 18.1	1	Survey Time: 4.5 Acres per Hour: 4.0			
Other Sur	vevors Present: Frica Harris (A)	reas 2 3 and 6)	-				
Other Sur		1eas 2, 5, and 6)					
			Fie	eld Conditions			
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph) Cloud Cover	(%)		
Start	1015	e	52	0-6 5			
End	1445	6	58	2-9 40			
Start							
End							
Vegetatio	n Communities Surveyed (inc. do	minant spp.)					
Diegan co	astal sage scrub, scrub oak chapar	rral, non-native g	grassland, op	pen coast live oak woodland, disturbed habitat			
Host Plan	ts		Obs.	Nectar Plants	Obs.		
dwarf plar	ntain (<i>Plantago erecta</i>)		Х	popcorn flower (Cryptantha/Plagiobothrys spp.)	x		
purple ow	l's clover (<i>Castilleja exserta</i>)		х	goldfields (Lasthenia spp.)			
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeria spp.)			
birds-beal	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	x		
woolly pla	ntain (<i>Plantago patagonica</i>)			onion (Allium spp.)			
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)	x		
		<u></u>		ground pink (Linanthus dianthiflorus)	x		
Host Plan	t Mapping Updated (circle)	es No		New Area or Existing Area (circle) New Existing Both	1		
Species u	odated (list)						
Butterfly S	pecies		No.	Butterfly Species	No.		
Checkersp	ots			Hairstreaks			
California	oatch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)			
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys augustinus)			
Quino che	ckerspot (<i>Euphydryas editha quinc</i>)		bramble (perplexing) hairstreak (C. dumetorum affinis)			
chalcedon	checkerspot (E. chalcedona chalce	edona)		gray hairstreak (Strymon melinus pudica)			
Leanira che	eckerspot (<i>Thessalia leanira wrigh</i>	ti)		Ladies/Admirals			
Mylitta cre	scent (Phyciodes mylitta)			California sister (Adelpha bredowii californica)			
Blues				Lorquin's admiral (Limenitis lorquini)			
western py	gmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)			
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)			
southern b	lue (Glaucopsyche lygdamus aust	ralis)	1	painted lady (V. cardui)	50 plus		
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)			
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	10		
marine blu	e (Leptotes marina)			Swallowtails			
unidentifie	d blue			pale swallowtail (Papilio eurymedon)			
Whites				western tiger swallowtail (<i>P. rutulus</i>)			
Sara orang	etip (Anthocharis sara sara)			anise swallowtail (<i>P. zelicaon</i>)			
desert (Fel	aer s) orangetip (A. cethura)	1:6		IVIISCEIlaneous			
common C	alitornia ringlet (<i>Coenonympha ca</i>	iifornica)		monarcn (<i>Danaus plexippus</i>)			
capbage w	(common) white (Dortin protection)	al		common buckeye (Junonia coenia grisea)			
checkered	(common) white (Pontia protodica	<i>e</i>)		Skinners			
spring will	ie (P. sisymbrii)			Skippers	10		
Metalmar	(c			mournful duskywing (Erynnis tristis)	10		
Behr's met	almark (Apodemia mormo virgulti	i)		fiery skipper (Hylephila phyleus)			
Wright's m	etalmark (Calenhelis wrighti)	,		white (common) checkered-skinner (Pyraus albescens)			
Sulphurs				Other			
orange sult	ohur (Colias eurytheme)						
sleepv orar	nge (Eurema nicippe)						
cloudless s	ulfur (Phoebus sennae marcellina))					
unidentifie	d sulphur						
	Co	olumn Subtotal	1	Column Subtotal	70		
				Total	71		

	2019	9 Quino C	hecke	erspot Butterfly Survey Form	
Surveyor:	Benjamin Rosenbaum			Date: 3/29/2019	
Site Name	Sycuan Sloane Canyon Trail	Project (CSD-06.	09)	Site Visit No: 5	
Area Surv	eyed 1, 4, and 5 Acres	Surveyed 18.1		Survey Time: 3.1 Acres per Hour: 5.8	
Other Sur	veyors Present: Korey Klutz (A	eas 2, 3, 6)			
			Eiz	ald Conditions	
	Time (24 hr)	Tomnor	FIE	ela conditions Wind Sneed (mph) Cloud Cove	r (%)
Chart	1055	Tempera			(70)
Start	1055	/	0	0-2 10	
End	1230	7	'1	0-2 5	
Start	1300	7	2	1-2 10	
End	1430	7	6	4-8 10	
Vegetatio	n Communities Surveyed (inc. do	minant snn.)			
Diogon co	astal sago scrub, scrub oak chapar	ral non-nativo d	rassland or	pop coast live oak woodland, disturbed babitat	
Diegan Co	astal sage scrub, scrub oak chapai	i al, liuli-liative §	si assialiu, of		
Host Plan	ts		Obs	Nectar Plants	Obs
dwarf plar	ntain (<i>Plantaao erecta</i>)		X	popcorn flower (Cryptantha/Plagiobothrys spp.)	X
purple ow	l's clover (<i>Castilleja exserta</i>)		Х	goldfields (<i>Lasthenia</i> spp.)	Х
snapdrago	on (Antirrhinum coulterianum)			goldenstar (<i>Bloomeria</i> spp.)	
birds-beak	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	
woolly pla	ntain (<i>Plantago patagonica</i>)			onion (<i>Allium</i> spp.)	Х
Chinese h	ouses (<i>Collinsia</i> spp.)			buckwheat (Eriogonum fasciculatum)	
				ground pink (Linanthus dianthiflorus)	Х
Host Plan	t Mapping Updated (circle) Ye	es No		New Area or Existing Area (circle) New Existing Bo	th
Species up	odated (list)				
Butterfly S	necies		No	Butterfly Species	No
Checkersp	ots			Hairstreaks	
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)	1
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (<i>Callophrys augustinus</i>)	
Quino cheo	ckerspot (Euphydryas editha quinc)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon	checkerspot (E. chalcedona chalce	edona)		gray hairstreak (Strymon melinus pudica)	
Leanira che	eckerspot (<i>Thessalia leanira wrigh</i>	ti)		Ladies/Admirals	
Mylitta cre	scent (Phyciodes mylitta)			California sister (Adelpha bredowii californica)	
Blues				Lorquin's admiral (Limenitis lorquini)	
western py	/gmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)	
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)	
southern b	lue (Glaucopsyche lygdamus aust	ralis)		painted lady (V. cardui)	37
Edward's b	olue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)	
Acmon blu	e (lantatas maring)			unidentified lady (vanessa sp.)	
unidentifie	ad blue			nale swallowtail (Panilio eurymedon)	
Whites				western tiger swallowtail (P rutulus)	2
Sara orang	etip (Anthocharis sara sara)		7	anise swallowtail (P. zelicgon)	
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous	
common C	alifornia ringlet (<i>Coenonympha ca</i>	lifornica)		monarch (Danaus plexippus)	
cabbage w	hite (Pieris rapae)	-		common buckeye (Junonia coenia grisea)	
checkered	(common) white (Pontia protodic	e)		mourning cloak (Nymphalis antiopa)	
spring whit	te (P. sisymbrii)			Skippers	
unidentifie	d white		4	funereal duskywing (Erynnis funeralis)	3
Metalmari	(S			mournful duskywing (Erynnis tristis)	
Behr's met	almark (Apodemia mormo virgult	i)	5	fiery skipper (Hylephila phyleus)	
Wright's m	ietalmark (Calephelis wrighti)			white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs	abur (Colice curthered)			Utner	
orange sulp	onur (Collas eurytheme)			California tortoisesneli (<i>ivymphälis californica</i>)	+
sleepy orar	ige (Eureniu nicippe)				╡────┤
unidentifia	d sulnhur				+
amaentine	د عماله الدار ۲۰	lumn Subtotal	16	Column Subtota	42
				Tota	58

03/29/19 (SD-06.09) QUB#5 Benk (Kovey K.) Start: 1055 End: 12:30 tenpi 70°F tapiti wind: D-Luph wind: 0.2 4Kg: 10°10 4Kg: 5% Species Behrsilt for where looking HT with the the Her Her II Weifern tiges !!! Fureres.) Duty wing !!! Unite 32." 1/11 Scranger anytoilt 11 WEEN, LADO, CALT, AMAN, LEGIO Torkey PTHA, COLA, BUSH, ALWO TELA YEROA MODO, CASL Flowering DiB Plants Couptonthe bollicity Groundank, Allium E-1:1430 StorA: 1: 20m wins'il-zeh wind' 4-8 5×10% Sty. 10%. ters. 72°F tero: 76 Rite in the Rei

2019 Qu	Jino Chec	kerspot B	utterfly S	Survev	Form
			•		

Surveyor:	Korey Klutz			Date:	/29/19	
Site Name	e: Sycuan Sloane Canyon Trail Pro	oject (CSD-06.	09)	Site Visit No:	5	
Area Surv	eyed 2, 3, and 6 Acres Su	rveyed 11.7	,	Survey Time: 4.0	Acres per Hour: 2.9	
Other Sur	veyors Present: Benjamin Rosenb	aum (Areas 1	, 4, and 5)	·	·	
			Fie	Id Conditions		
	Time (24 hr)	Temper	Fie ature (°F)	Wind Speed (mph)	Cloud Cover	(%)
Start	1100	femper	5	0-6	0	,,,,
End	1500	-	20	0.8	O: hazy to cloar	skips
Ellu	1500	/	0	0-8	0, 11829 10 Clear	SKIES
Start						
End						
Vegetetie	n Communities Cumunad line domi					
vegetatio	n communities Surveyed (inc. domi	nant spp.)				
Diegan co	astal sage scrub, scrub oak chaparral	, non-native g	grassland, op	en coast live oak woodland, disturbed hab	vitat	
	•		Oha	Nactor Diants		Oha
dwarf play	ntain (Plantago erecta)		v 005.	poncorn flower (Cryptantha/Plagichoth	arvs spn)	
	I's clover (Castilleia exserta)		×	goldfields (<i>Lasthenia</i> spp.)	, yy yph.)	^
snapdrago	on (Antirrhinum coulterianum)		~	goldenstar (<i>Bloomeria</i> spp.)		
birds-beal	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. ma	enziesii)	х
woolly pla	intain (Plantago patagonica)			onion (<i>Allium</i> spp.)		
Chinese h	ouses (<i>Collinsia</i> spp.)		х	buckwheat (Eriogonum fasciculatum)		х
	\frown			ground pink (Linanthus dianthiflorus)	~	х
Host Plan	t Mapping Updated (circle) Yes	No		New Area or Existing Area (circle)	ew Existing Both	
Species u	pdated (list)					
Butterfly S	pecies		No.	Butterfly Species		No.
Checkersp	ots			Hairstreaks		
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus c	corcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys augustinus)		
Quino che	ckerspot (Euphydryas editha quino)			bramble (perplexing) hairstreak (C. dume	etorum affinis)	5
chalcedon	checkerspot (E. chalcedona chalcedo	ona)		gray hairstreak (Strymon melinus pudica))	
Leanira ch	eckerspot (Thessalia leanira wrighti)			Ladies/Admirals		
Mylitta cre	escent (Phyciodes mylitta)			California sister (Adelpha bredown califo	rnica)	
western n	ugmu-hlue (Brenhidium evila)			Lorquin's admiral (Linenitis lorquini)		
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)		
southern b	lue (Glaucopsyche Ivadamus australi	is)	10	painted lady (V. cardui)		200 plus
Edward's b	olue (Hemiargus ceraunus gyas)	- /	-	American (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)		10
marine blu	e (Leptotes marina)			Swallowtails		
unidentifie	ed blue			pale swallowtail (Papilio eurymedon)		
Whites				western tiger swallowtail (P. rutulus)		
Sara orang	etip (Anthocharis sara sara)		10	anise swallowtail (<i>P. zelicaon</i>)		
common C	alifornia ringlet (Coenonympha califo	ornica)		monarch (Dangus plexingus)		
cabbage w	hite (Pieris rapae)	, , iicu j		common buckeve (Junonia coenia arisea)	
checkered	(common) white (<i>Pontia protodice</i>)			mourning cloak (<i>Nymphalis antiopa</i>)	, 	
spring whi	te (P. sisymbrii)			Skippers		
unidentifie	ed white		1	funereal duskywing (Erynnis funeralis)		10
Metalmar	ks			mournful duskywing (Erynnis tristis)		
Behr's met	almark (Apodemia mormo virgulti)		30	fiery skipper (Hylephila phyleus)		
Wright's m	netalmark (Calephelis wrighti)			white (common) checkered-skipper (Pyre	gus albescens)	
Sulphurs	abur (Caliac autothana)			Other		
orange sul	onur (Collas eurytheme)					
cloudless s	ulfur (Phoebus sennae marcelling)					
unidentifie	d sulphur					
	Colu	mn Subtotal	51		Column Subtotal	225
				•	Total	276

Surveyor:	Korey Klutz			Date:4/08/19		
Site Name	Sycuan Sloane Canyon Trail	Project (CSD-06.	09)	Site Visit No: _6		
Area Surv	Area Surveyed 1, 2, 3, 4, 5, and 6 Acres Surveyed 29.8			Survey Time: 8.25 Acres per Hour: 3.6		
Other Sur	vevors Present: N/A	·				
• •						
			Fie	Id Conditions	(n.)	
	Time (24 hr)	Tempera	ature (°F)	Wind Speed (mph) Cloud Cover	(%)	
Start	0830	7	70	0-8 0		
End	1645	ç	92	4-8 0		
Start						
End						
Vegetatio	n Communities Surveyed (inc. do	minant spp.)				
Diegan co	astal sage scrub, non-native grassl	and, scrub oak o	chaparral, op	en coast live oak woodland, eucalyptus woodland, disturbed habitat		
Host Plan	ts		Obs.	Nectar Plants	Obs.	
dwarf plar	ntain (<i>Plantago erecta</i>)		x	popcorn flower (Cryptantha/Plagiobothrys spp.)	x	
purple ow	l's clover (Castilleja exserta)		x	goldfields (Lasthenia spp.)		
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeria spp.)		
birds-beak	(Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. menziesii)	x	
woolly pla	ntain (<i>Plantago patagonica</i>)			onion (Allium spp.)	х	
Chinese h	ouses (Collinsia spp.)		Х	buckwheat (Eriogonum fasciculatum)	Х	
	C			ground pink (Linanthus dianthiflorus)	х	
Host Plan	t Mapping Updated (circle)	xs No		New Area or Existing Area (circle) New Existing Both	١	
Species up	odated (list)					
Butterfly S	pecies		No.	Butterfly Species	No.	
Checkersp	ots			Hairstreaks		
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus corcorani)		
Gabb's che	ckerspot (<i>C. gabbii</i>)			brown elfin (<i>Callophrys augustinus</i>)		
Quino cheo	ckerspot (Euphydryas editha quino)	1	bramble (perplexing) hairstreak (C. dumetorum affinis)	5	
chalcedon	checkerspot (E. chalcedona chalce	dona)	1	gray hairstreak (Strymon melinus pudica)		
Leanira che	eckerspot (<i>Thessalia leanira wrigh</i>	ti)		Ladies/Admirals		
Mylitta cre	scent (Phyciodes mylitta)			California sister (Adelpha bredowii californica)		
Blues				Lorquin's admiral (Limenitis lorquini)		
western py	gmy-blue (Brephidium exila)			west coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)		
southern b	lue (Glaucopsyche lygdamus austr	ralis)	10	painted lady (V. cardui)	50 plus	
Edward's b	lue (Hemiargus ceraunus gyas)			American (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)	1	
marine biu	e (Leptotes marina)		2	swallowtails		
Whites			2	western tiger swallowtail (P rutulus)		
Sara orang	etip (Anthocharis sara sara)		10	anise swallowtail (<i>P. zelicaon</i>)		
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous		
common C	alifornia ringlet (<i>Coenonympha ca</i> l	lifornica)		monarch (Danaus plexippus)		
cabbage w	hite (Pieris rapae)			common buckeye (Junonia coenia grisea)	5	
checkered	(common) white (Pontia protodice	2)		mourning cloak (Nymphalis antiopa)		
spring whit	te (P. sisymbrii)			Skippers		
unidentifie	d white			funereal duskywing (Erynnis funeralis)	25	
Metalmar	s			mournful duskywing (Erynnis tristis)		
Behr's met	almark (Apodemia mormo virgulti)	50	fiery skipper (Hylephila phyleus)		
Wright's m	etalmark (Calephelis wrighti)			white (common) checkered-skipper (<i>Pyrgus albescens</i>)		
Sulphurs	hun (Colline et al. 1997)			Other		
orange sulp	onur (Collas eurytheme)					
sleepy orar	ige (<i>Eurema nicippe</i>)					
unidentifie	d sulnhur		5			
amaentine	د عمارتان ۲۵	lumn Subtotal	79	Column Subtotal	86	
				Total	165	

	2019 0	Quino C	hecker	spc	ot Butterfly Survey Form	1		
Surveyor: Benjamin Rosenbaum					Date: 04/11/19			
Site Name: CSD-06.09 Sycuan/Sloane Canyon Trail				Site Visit No: 7				
Area (s) S	urveyed 2, 4, and 6 Acres Su	rveyed 13.1	1		Survey Time: 3.25 A	cres per Hour: 4.0		
Other Sur	vevors Present: Korev Klutz (Area	s 1. 5)						
			Fiel	d Con	ditions		(0/)	
<u></u>	1 ime (24 hr)	Temper	ature (F)		Wind Speed (mph)	Cloud Cover	(%)	
Start	0940		65		0-2	0		
End	1145		74		0-2	30		
Start	1210		74		0-2	30		
End	1330		74		0-2	10		
Vegetatio	n Communities Surveyed (inc. domina	nt spp.)						
Diegan co	astal sage scrub, scrub oak chaparral, n	on-native gra	issland, open	n coas	t live oak woodland, eucalyptus woodla	nd, disturbed habitat		
							0	
Host Plan	ts		Ubs.	ne	ectar Plants	s snn)	Ubs.	
purple ow	l's clover (<i>Castilleia exserta</i>)		^	go	Idfields (Lasthenia spp.)	s spp.)	×	
snapdrago	on (Antirrhinum coulterianum)			go	Idenstar (<i>Bloomeria</i> spp.)			
birds-beal	k (Cordylanthus rigidus)			fid	dleneck (Amsinckia intermedia; A. men	ziesii)	Х	
woolly pla	antain (<i>Plantago patagonica</i>)			on	ion (Allium spp.)			
Chinese h	ouses (<i>Collinsia</i> spp.)			bu	ckwheat (Eriogonum fasciculatum)		Х	
		Ne		gr	ound pink (<i>Linanthus dianthiflorus</i>)	. Fuisting Dati	X	
Host Plan	t Mapping Updated (circle) Yes	NO		Ne	ew Area or Existing Area (circle)	Existing Boti	1	
species u	poated (list)							
Butterfly S	pecies		No.	But	terfly Species		No.	
Checkersp	ots			Hai	rstreaks			
California p	patch (Chlosyne californica)			gre	at purple hairstreak (Atlides halesus cor	corani)		
Gabb's che	eckerspot (C. gabbii)			bro	wn elfin (Callophrys augustinus)	serves affinic)		
Cuino cheo	ckerspot (<i>Euphyaryas eaitha quino</i>)	r)		gra	mble (perplexing) hairstreak (C. dumeto	orum affinis)		
Leanira che	eckerspot (<i>Thessalia leanira wriahti</i>)	')		Lad	ies/Admirals		 	
Mylitta cre	escent (Phyciodes mylitta)			Cali	fornia sister (Adelpha bredowii californi	ica)		
Blues				Lor	quin's admiral (<i>Limenitis lorquini</i>)			
western py	ygmy-blue (<i>Brephidium exila</i>)			wes	st coast lady (<i>Vanessa annabella</i>)			
western ta	iled blue (Everes amyntula)			red	admiral (V. atalanta rubria)			
southern b	olue (Glaucopsyche lygdamus australis)			pail Am	nted lady (V. cardul)		5	
Acmon blu	ne (Icaricia acmon acmon)			uni	dentified lady (Vanessa sp.)			
marine blu	ie (Leptotes marina)			Swa	allowtails		 I	
unidentifie	ed blue			pale	e swallowtail (Papilio eurymedon)			
Whites				wes	stern tiger swallowtail (P. rutulus)		1	
Sara orang	etip (Anthocharis sara sara)		40	anis	se swallowtail (P. zelicaon)			
desert (Fel	der's) orangetip (A. cethura)	· \		Mis	cellaneous			
common C	alifornia finglet (Coenonympha californ bite (Pieris range)	100)		mo	narch (Danaus piexippus)			
checkered	(common) white (<i>Pontia protodice</i>)			mo	urning cloak (Nymphalis antiopa)		 	
spring whit	te (P. sisymbrii)			Skij	opers		 	
unidentifie	ed white			fun	ereal duskywing (Erynnis funeralis)		4	
Metalmar	ks			mo	urnful duskywing (Erynnis tristis)			
Behr's met	talmark (Apodemia mormo virgulti)		12	fier	y skipper (Hylephila phyleus)			
Wright's m	netaimark (<i>Calephelis wrighti</i>)			whi	te (common) checkered-skipper (<i>Pyrgu</i> dentified skipper	s albescens)	1	
orange sub	nhur (Colias eurytheme)			Oth	er		1	
sleepy orar	nge (Eurema nicippe)							
cloudless s	ulfur (Phoebus sennae marcellina)							
unidentifie	d sulphur							
	Colu	mn Subtotal	52			Column Subtotal	11	
						Total	63	

AUB #7 (50-060) factions (1,20,26,6 04/14/19 Benk. (Korey K.) Stace ogyo 1145 1210 12,50 tere real FYPF THOF 74ºF 5Ky: Clear = 30% 3% 10% Wind'or happy drangh 0-2mph 0-2mph Batterflies Som orangerip' Hit 141 wer with that they that Behrs HIT H Printed Lady : HAT Funeren Diskyming: 1111 NO dus Tipe avallowtrin [-] skipper spill Taranthhumk Wild & cattonial , spring) ANTH LAON, CASE MODO, ESHA LAKE LEGO, BUGH, A WO, LAED, BHLO, BUPH Nector plants Enploythey Conson 2 pint Landal, Entras Rete in the Rain

Surveyor:	Korey Klutz			Date: 4	/11/19	
Site Name	ne: Sycuan Sloane Canyon Trail Project (CSD-06.09) Site Visit No: 7					
Area Surv	eyed 1 and 5 Acres	Surveyed 12.6	i	Survey Time: 8.25	Acres per Hour: 1.5	1
Other Sur	veyors Present: Ben Rosenbau	m (Areas 2, 4, ar	nd 6)			
			Fie	eld Conditions		
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph)	Cloud Cover	(%)
Start	0830	(54	0-10	0	
End	1645		75	2-8	0	
Start			-			
Start						
End						
Vegetatio	n Communities Surveyed (inc. do	minant spp.)				
Diogon co	astal sago scrub, scrub oak chapar	ral non-nativo	traceland or	on coast live oak woodland, oucalyptus w	odland disturbed habitat	
Diegan Co	astal sage scrub, scrub oak chapar	I di, IIUII-IIdlive	grassianu, op	Sen coast ive oak woodiand, eucaryptus w	ooulaliu, uistui beu habitat	
Host Plan	ts		Obs.	Nectar Plants		Obs.
dwarf plar	ntain (<i>Plantago erecta</i>)		x	popcorn flower (<i>Cryptantha/Plagioboth</i>	nrys spp.)	x
purple ow	l's clover (Castilleja exserta)		х	goldfields (<i>Lasthenia</i> spp.)	, , , ,	
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeria spp.)		x
birds-beak	< (Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia; A. m	enziesii)	x
woolly pla	ntain (<i>Plantago patagonica</i>)			onion (Allium spp.)		x
Chinese h	ouses (<i>Collinsia</i> spp.)		х	buckwheat (Eriogonum fasciculatum)		х
Lie et Die et				ground pink (<i>Linanthus dianthiflorus</i>)		х
Host Plan		NO NO		New Area or Existing Area (circle)	ew Existing Both	1
Species up	odated (list)					
Butterfly S	pecies		No.	Butterfly Species		No.
Checkersp	ots			Hairstreaks		
California p	oatch (Chlosyne californica)			great purple hairstreak (Atlides halesus o	corcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys augustinus)		
Quino cheo	ckerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (C. dume	etorum affinis)	
chalcedon	checkerspot (E. chalcedona chalce	edona)	1	gray hairstreak (Strymon melinus pudica)	
Leanira che	eckerspot (Thessalia leanira wrigh	ti)		Ladies/Admirals		
Nylitta cre	scent (Phyclodes mylitta)			California sister (Adelpha bredowii califo	rnica)	
western ny	yamy-hlue (Brenhidium exila)			west coast lady (Vanessa, annahella)		
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)		
southern b	lue (Glaucopsyche lyadamus austi	ralis)	5	painted lady (V. cardui)		25
Edward's b	lue (Hemiargus ceraunus gyas)	/	-	American (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)		5
marine blu	e (Leptotes marina)			Swallowtails		
unidentifie	d blue		2	pale swallowtail (Papilio eurymedon)		
Whites				western tiger swallowtail (P. rutulus)		
Sara orang	etip (Anthocharis sara sara)		15	anise swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)	liforniss		Miscellaneous		
common C	amornia ringlet (<i>Coenonympha ca</i> bito (<i>Rieris range</i>)	njorniča)		monarch (<i>Danaus piexippus</i>)	0	
checkered	(common) white (Pontia protodice	e)		mourning cloak (Nymphalis antiona)	1	5
spring whit	te (P. sisymbrii)	- ,		Skippers		
unidentifie	d white			funereal duskywing (Erynnis funeralis)		2
Metalmar	(S			mournful duskywing (<i>Erynnis tristis</i>)		
Behr's met	almark (Apodemia mormo virgulti)	15	fiery skipper (Hylephila phyleus)		
Wright's m	etalmark (Calephelis wrighti)			white (common) checkered-skipper (Pyr	gus albescens)	
Sulphurs				Other		
orange sulp	ohur (Colias eurytheme)					
sleepy orar	nge (Eurema nicippe)					
cloudless s	ultur (Phoebus sennae marcellina) d sulphur					
unidentifie	u suiphur	lumn Subtatal	28		Column Subtotal	37
		Junior Subtold	50		Total	75

	2019 G	uino C	heckers	spot	Butterfly Survey Forn	า	
Surveyor: Benjamin Rosenbaum			Date: 04/18/19				
Site Name	cSD-06.09 Sycuan/Sloane Canyon	Trail		Site Visit No: 8			
Area (s) Surveyed 1, 4, and 5 Acres Surveyed 18.1			9	Survey Time: 4.0	Acres per Hour: 4.5		
Other Sur	vevors Present: Tara Baxter (Area	s 2. 2a. 6)			·		
		- , -, -,			-		
		Tamaar	Field	d Condi	ions	Cloud Cover	(0/)
Chart		remper	ature (F)			Cloud Cover	(%)
Start	0845	t	09		0-4	15	
End	1245	ģ	92		3-7	15	
Start							
End							
Vegetatio	n Communities Surveyed (inc. domina	nt spp.)					
Diegan co	astal sage scrub, scrub oak chaparral, n	on-native gra	ssland, open	coast li	ve oak woodland, eucalyptus woodl	and, disturbed habitat	
				Т			
Host Plan	ts		Obs.	Nect	ar Plants		Obs.
dwarf plan	ntain (<i>Plantago erecta</i>)		X	рорс	orn flower (Cryptantha/Plagiobothr	ys spp.)	X
purple ow	i s clover (<i>Castilleja exserta</i>)		X	gold	(leids (<i>Lastnenia</i> spp.)		X
birds-beal	(Cordylanthus rigidus)			fiddl	eneck (Amsinckia intermedia: A. mer	nziesii)	х
woolly pla	intain (<i>Plantago patagonica</i>)			onio	n (<i>Allium</i> spp.)		X
Chinese h	ouses (Collinsia spp.)			buck	wheat (Eriogonum fasciculatum)		
				grou	nd pink (Linanthus dianthiflorus)	~	Х
Host Plan	t Mapping Updated (circle) (Yes)	No		New	Area or Existing Area (circle)	w) Existing Both	۱
Species u	pdated (list)						
Butterfly S	pecies		No.	Butte	rfly Species		No.
Checkersp	ots			Hairst	reaks		
California p	oatch (Chlosyne californica)			great	purple hairstreak (Atlides halesus co	rcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown	n elfin (Callophrys augustinus)		
Quino cheo	ckerspot (Euphydryas editha quino)	,		bram	ble (perplexing) hairstreak (C. dumet	orum affinis)	
chalcedon	checkerspot (E. chalcedona chalcedona)		gray r	airstreak (Strymon melinus pudica)		
Mylitta cre	escent (Phyciodes mylitta)			Califo	rnia sister (Adelnha hredowii califorr	nica)	
Blues				Lorqu	in's admiral (<i>Limenitis lorguini</i>)		
western py	/gmy-blue (Brephidium exila)			west	coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)			red ad	lmiral (V. atalanta rubria)		
southern b	lue (Glaucopsyche lygdamus australis)			painte	ed lady (<i>V. cardui</i>)		8
Edward's b	blue (Hemiargus ceraunus gyas)			Amer	can (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unide	ntified lady (Vanessa sp.)		
unidentifie	ed blue			pale s	wallowtail (Papilio eurymedon)		1
Whites				weste	rn tiger swallowtail (<i>P. rutulus</i>)		_
Sara orang	etip (Anthocharis sara sara)		72	anise	swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)			Misce	llaneous		
common C	alifornia ringlet (Coenonympha californi	ica)		mona	rch (Danaus plexippus)		
cabbage w	hite (Pieris rapae)			comm	non buckeye (Junonia coenia grisea)		1
checkered	(common) white (<i>Pontia protodice</i>)			Skipp	ning cloak (<i>Nymphalis antiopa)</i>		
unidentifie	ed white			funer	eal duskywing (Erynnis funeralis)		1
Metalmar	ks			mour	nful duskywing (<i>Erynnis tristis</i>)		_
Behr's met	almark (Apodemia mormo virgulti)		8	fiery s	kipper (Hylephila phyleus)		
Wright's m	netalmark (Calephelis wrighti)			white	(common) checkered-skipper (Pyrgu	ıs albescens)	
Sulphurs				Other			
orange sul	ohur (Colias eurytheme)			striate	ed queen (<i>Danaus gilippus strigosus</i>)		1
sleepy orar	nge (Eurema nicippe)						
unidentifie	d sulphur		1				
	Colui	mn Subtotal	81	1		Column Subtotal	12
				<u> </u>		Total	93

(5D-00.09 BLB # #8 04/18/19 Bent. (Tara B) toni Qiusam 12:44 92°F the base L - yhj. 15% +> 15% wind, 1-Ymph to 3-Juph Bittersties Htt Ht Ht Ht H Or meet o With the With the Hit Hit Hit Hit Hit Hit Gaven'-1 Brekeye: 1 Stehversp. 1 Printed Lady Htt III Que Porte Gweilloutentil Behrs Htt 111 . No Finereal Diffey: for Flouring Shunty QUB Amsmen, thodas, Longtonton, broundpirt, Lascal Wildlife LAKE , PTRA, NOMO WEEN, LETO, ALWO, LEGOD, HOFI, (AQU, COHA, HOOK-Accompeter Costal milton Rete in the Rain

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	20	019 Quino C	heckers	spot Butterfly Survey For	m	
Surveyor: Tara Baxter		Date: 04/18/19				
Site Name	Site Name: CSD-06.09 Sycuan/Sloane Canyon Trail		Site Visit No: 8			
Area (s) S	urveyed 2 and 6	Acres Surveyed 7.6		Survey Time: 4.0	Acres per Hour: 1.9	
Other Sur	vevors Present: Benjami	n Rosenbaum (1, 4, an	ud 5)			
		in Rosenbaum (1, 4, an	iu 5)			
			Field	I Conditions		
	Time (24 hr)	Temper	ature (°F)	Wind Speed (mph)	Cloud Cover	(%)
Start	0845		69	1-4	15	
End	1245	9	92	3-7	15	
Start						
End						
Ella						
Vegetatio	n Communities Surveved (inc.	dominant spp.)				
Diama						
Diegan co	astal sage scrub, scrub oak cha	parral, non-native gra	ssiand, open	coast live oak woodland, eucalyptus woo	diand, disturbed habitat	
			0	Alexandre Director		01
Host Plan	ts		Obs.	Nectar Plants	hrus can)	Obs.
	l'a dovor (Castilloia ovcorta)		^	popcorn nower (<i>cryptantia</i> / <i>Plaglobot</i>	nrys spp.)	
spandrage	on (Antirrhinum coulterianum)			goldenstar (<i>Bloomeria</i> spp.)		
hirds-heal	(Cordylanthus rigidus)			fiddleneck (Amsinckia intermedia: A m	nenziesii)	×
woolly pla	ntain (Plantago natagonica)			onion (Allium spp.)		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Chinese h	ouses (Collinsia spp.)			buckwheat (Eriogonum fasciculatum)	Х	
	·····	-		ground pink (<i>Linanthus dianthiflorus</i>)		
Host Plan	t Mapping Updated (circle)	Yes No		New Area or Existing Area (circle)	New Existing Both	1
Species u	pdated (list)					
				1		
Butterfly S	pecies		No.	Butterfly Species		No.
Checkersp	ots			Hairstreaks		
California	patch (Chlosyne californica)			great purple hairstreak (Atlides halesus	corcorani)	
Gabb's che	eckerspot (C. gabbii)	()		brown elfin (<i>Callophrys augustinus</i>)		
Quino che	ckerspot (Eupnyaryas ealtha qu	lino) alaadana)		bramble (perplexing) hairstreak (C. dum	etorum affinis)	
Loopiro ch	checkerspot (E. charcedona ch	alcedona)		gray hanstreak (strymon mennus puulce	1)	
Mylitta cre	eckerspot (Thessand Teaning wi	ignuij		California sister (Adelpha bredowii califo	ornica)	1
Blues				Lorguin's admiral (Limenitis lorguini)	, , , , , , , , , , , , , , , , , , ,	
western py	/gmv-blue (Brephidium exila)			west coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)			red admiral (V. atalanta rubria)		1
southern b	lue (Glaucopsyche lygdamus a	ustralis)	1	painted lady (V. cardui)		
Edward's b	olue (Hemiargus ceraunus gyas)	1	American (Virginia) lady (V. virginiensis)		
Acmon blu	e (Icaricia acmon acmon)			unidentified lady (Vanessa sp.)		2
marine blu	e (Leptotes marina)			Swallowtails		
unidentifie	ed blue		2	pale swallowtail (Papilio eurymedon)		1
Whites				western tiger swallowtail (P. rutulus)		
Sara orang	etip (Anthocharis sara sara)		95	anise swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous		
common C	alifornia ringlet (<i>Coenonympho</i>	a californica)		monarch (Danaus plexippus)	-)	
cabbage w	nite (Pieris rapae)	dia)	10	common buckeye (Junonia coenia grised	a)	3
spring whit	(continon) white (Pontia proto	uice)	10	Skinners		
unidentifie	ed white			funereal duskywing (Frynnis funeralis)		
Metalmar	ks			mournful duskywing (Ervnnis tristis)		
Behr's met	almark (Apodemia mormo vira	ulti)	30	fiery skipper (Hylephila phyleus)		
Wright's m	netalmark (<i>Calephelis wrighti</i>)			white (common) checkered-skipper (<i>Pvi</i>	rgus albescens)	
Sulphurs	, <u>, , , , , , , , , , , , , , , , , , </u>			Other	- /	
orange sul	ohur (Colias eurytheme)		1			
sleepy orar	nge (<i>Eurema nicippe</i>)					
cloudless s	ulfur (Phoebus sennae marcelli	ina)				
unidentifie	d sulphur					

Column Subtotal

140

Column Subtotal

Total

8

148

#8 +/18/19 CSD -06.09 2CB + losenbaum (50 0 Nectar =15 801 we SLOSSICA SP. cap ano as dillingo. pale p gla me awallo myral Aha an. aug a lic * auther Sch. Cal 100 due Ams men Commo er suckly e! Crypt/pl eraunis Admala sue EUS Fuphonola Other Wildlife FWB Awayo Jupine, Mir lae BCH Gilia mac HOOR Sarchus Sp. GRRO Cal. everlasting. DOWA net Pec Den 10 · his up tr up BUSH Nir cai Sole. LINS Enfas ite in the Rain.

Surveyor:	Korey Klutz			<i>,</i>	Date:4/	26/19	
Site Name	e: Sycuan Sloane Canyon Trail P	roject (CSD-06.	.09)		Site Visit No:	9	
Area Surv	eyed 2, 4, 5, and east half of 6	Acres Survey	ed 12.6	Survey Time:	6.0	Acres per Hour: 2.1	
Other Sur	vevors Present: Laura Moreton	۔ (Areas 1 and w	est half of 6)				
•		() cao 2 ana 1					
			Fiel	d Conditions	., .,		(1.1)
	Time (24 hr)	Temper	ature (°F)	Wind Spe	ed (mph)	Cloud Cover	(%)
Start	1100	-	71	0	-4	0 (hazy to cle	ear)
End	1500	8	33	2	-8	0	
Start							
End							
Vegetatio	n Communities Surveyed (inc. don	ninant spp.)					
Diegan co	astal sage scrub, non-native grassla	nd, scrub oak	chaparral, ope	en coast live oak woodla	ind, eucalyptus wo	odland, disturbed habitat	
				1			
Host Plan	ts		Obs.	Nectar Plants			Obs.
dwarf pla	ntain (<i>Plantago erecta</i>)		Х	popcorn flower (Crypt	tantha/Plagioboth	rys spp.)	х
purple ow	I's clover (Castilleja exserta)		Х	goldfields (Lasthenia	spp.)		
snapdrago	on (Antirrhinum coulterianum)			goldenstar (Bloomeric	r spp.)		x
birds-beal	k (Cordylantnus rigidus)			fiddleneck (Amsinckia	intermedia; A. me	nziesii)	x
Chinese h	ouses (Collinsia spp.)		v	buckwheat (Eriogonu	m fasciculatum)		×
chinese h			^	ground pink (Lingathu	is dianthiflorus)		×
Host Plan	t Mapping Updated (circle) Yes	5 (No)		New Area or Existing	Area (circle) Ne	ew Existing Both	1
Species u	pdated (list)				, , ,	5	
Butterfly S	pecies		No.	Butterfly Species			No.
Checkersp	ots			Hairstreaks			
California	patch (Chlosyne californica)			great purple hairstreak	(Atlides halesus co	orcorani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brown elfin (Callophrys	s augustinus)		
Quino che	ckerspot (<i>Euphydryas editha quino</i>)			bramble (perplexing) h	airstreak (C. dume	torum affinis)	
chalcedon	checkerspot (E. chalcedona chalced	dona)		gray hairstreak (Strymo	on melinus pudica)		
Leanira ch	eckerspot (<i>Thessalia leanira wright</i> i	i)		Ladies/Admirals			
Mylitta cre	escent (Phyciodes mylitta)			California sister (Adelph	ha bredowii califor	nica)	
Blues				Lorquin's admiral (Lime	enitis lorquini)		
western py	ygmy-blue (Brephidium exila)			west coast lady (Vanes	sa annabella)		
western ta	liled blue (Everes amyntula)	rlic)		red admiral (V. atalant	a rubria) v		15
Edward's k	olue (Hemiaraus ceraunus avas)	uis)	Э	American (Virginia) lad) v (V virginiensis)		15
Acmon blu	e (Icaricia acmon acmon)		1	unidentified lady (Vane	essa sp.)		
marine blu	ie (Leptotes marina)			Swallowtails			
unidentifie	ed blue		1	pale swallowtail (Papili	io eurymedon)		1
Whites				western tiger swallowt	ail (P. rutulus)		
Sara orang	etip (Anthocharis sara sara)		25	anise swallowtail (P. ze	licaon)		
desert (Fel	der's) orangetip (A. cethura)			Miscellaneous			
common C	alifornia ringlet (Coenonympha cali	fornica)		monarch (Danaus plexi	ippus)		
cabbage w	nite (Pieris rapae)			common buckeye (June	onia coenia grisea)		5
cneckered	(common) white (Pontia protodice))	1	Nourning Cloak (Nymp	nulls antiopa)		
unidentifie	ed white		5	funereal duskywing (Fr	vnnis funeralis)		2
Metalmar	ks		5	mournful duskywing (E	rvnnis tristis)		۲
Behr's met	talmark (Apodemia mormo virgulti)		25	fiery skipper (<i>Hylephila</i>	phyleus)		
Wright's m	netalmark (Calephelis wrighti)			white (common) check	ered-skipper (Pyrg	us albescens)	
Sulphurs				Other			
orange sul	phur (Colias eurytheme)			Unidentified butterfly	possible Sootywin	g)	1
sleepy oran	nge (Eurema nicippe)						
cloudless s	ulfur (Phoebus sennae marcellina)						
unidentifie	d sulphur		2				
	Col	umn Subtotal	65			Column Subtotal	24
						Total	89

	2019 G	Quino C	heckers	spo	t Butterfly Survey Form		
Surveyor: Laura Moreton			Date: 04/26/19				
Site Name: CSD-06.09 Sycuan/Sloane Canyon Trail				Site Visit No: 9			
Area (s) Si	urveyed 1, west half of 6 Acres Su	rveyed 13.2	2		Survey Time: 3.2 A	cres per Hour: 4.1	
Other Sur	veyors Present: Korey Klutz (Area	s 2, 4, 5, and	east half of 6)	5)			
			Field	l Conc	litions		
	Time (24 hr)	Temper	ature (°F)		Wind Speed (mph)	Cloud Cover	(%)
Start	1135	-	76		2-5	0	
End	1420	5	30		5-10	0	
Start	1435		79		5-10	0	
End	1500	-	78		0-1	0	
Vegetatio	Vegetation Communities Surveyed (inc. dominant spp.)						
Coastal sa	ge scrub, non-native grassland, eucalyp	tus woodlan	d				
	.		Oha	No	stor Diosta		Oha
dwarf plan	ntain (Plantago erecta)		UDS.	no	ocorn flower (Cryptantha/Plagiobothry	s snn)	VDS.
purple ow	l's clover (<i>Castilleja exserta</i>)			gol	dfields (<i>Lasthenia</i> spp.)	, spp./	~
snapdrago	on (Antirrhinum coulterianum)			gol	denstar (<i>Bloomeria</i> spp.)		
birds-beak	< (Cordylanthus rigidus)			fide	dleneck (Amsinckia intermedia; A. menz	riesii)	
woolly pla	ntain (<i>Plantago patagonica</i>)			oni	on (Allium spp.)		Х
Chinese h	ouses (<i>Collinsia</i> spp.)			bu	ckwheat (<i>Eriogonum fasciculatum</i>)		х
				gro	ound pink (Linanthus dianthiflorus)		
Host Plan	t Mapping Updated (circle) Yes	(No)		Ne	w Area or Existing Area (circle) New	Existing Both	
Species up	odated (list)						
Butterfly S	pecies		No.	Butt	erfly Species		No.
Checkersp	ots			Hair	streaks		
California p	oatch (Chlosyne californica)			grea	t purple hairstreak (Atlides halesus cor	corani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brov	wn elfin (Callophrys augustinus)		
Quino cheo	ckerspot (Euphydryas editha quino)			brar	nble (perplexing) hairstreak (C. dumeto	rum affinis)	
chalcedon	checkerspot (E. chalcedona chalcedona	·)		gray	hairstreak (Strymon melinus pudica)		
Leanira che	eckerspot (<i>Thessalia leanira wrighti</i>)			Ladi	es/Admirals		
Mylitta cre	scent (Phyciodes mylitta)			Calif	fornia sister (Adelpha bredowii californi	ca)	
Blues				Lorc	juin's admiral (<i>Limenitis lorquini</i>)		1
western py	rgmy-blue (<i>Brephidium exila</i>)			wes	t coast lady (Vanessa annabella)		
western ta	lied blue (Everes amyntula)			rea			
Edward's b	lue (Glaucopsyche Tygaamus avas)			Amo	vrican (Virginia) lady (V. virginiansis)		4
Acmon blu	e (Icaricia acmon acmon)		6	unid	lentified lady (Vanessa sn.)		
marine blu	e (Leptotes marina)		1	Swa	llowtails		
unidentifie	d blue		7	pale	swallowtail (Papilio eurymedon)		
Whites				wes	tern tiger swallowtail (<i>P. rutulus</i>)		
Sara orang	etip (Anthocharis sara sara)			anis	e swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)			Mis	cellaneous		
common C	alifornia ringlet (Coenonympha californ	ica)		mor	arch (Danaus plexippus)		
cabbage w	hite (Pieris rapae)			com	mon buckeye (Junonia coenia grisea)		3
checkered	(common) white (Pontia protodice)		53	mοι	ırning cloak (Nymphalis antiopa)		
spring whit	te (P. sisymbrii)			Skip	pers		_
unidentifie	d white			fune	ereal duskywing (Erynnis funeralis)		2
Wetalmar	(S			mou	Irntul duskywing (Erynnis tristis)		
Benr's met	amark (Apodemia mormo virguiti)			riery	r skipper (Hylephila phyleus)	albaccars)	
sulphure	ietainiark (C <i>ulephelis Wrighti)</i>			whit	.e (common) checkered-skipper (<i>Pyrgus</i> er (unidentified skipper)	uidescens)	
orange sulr	obur (Colias eurytheme)			stria	ted queen		
sleepv orar	nge (Eurema nicippe)			SUID			
cloudless s	ulfur (Phoebus sennae marcellina)			1			
unidentifie	d sulphur		3	1			
	Colu	mn Subtotal	70			Column Subtotal	10

Total

80

2019 Quino	Checkersnot	Ruttorfly	SURVOV	Form
	Checkerspor	Doneiny	301 V C Y	10111

Surveyor:	Korey Klutz		Date:5/3/19		
Site Name	Sycuan Sloane Canyon Trail Project (C	SD-06.09)	Site Visit No: 10		
Area Surv	eyed 1, 2, 4, 5, 6 Acres Surveyed	25.7	Survey Time: 5.75 Acres per Hour: 4.5		
Other Sur	veyors Present: Samantha Edgley (super	vised)			
		Fiel	ld Conditions		
	Time (24 hr) Te	mperature (°F)	Wind Speed (mph) Cloud Cover	(%)	
Start	1100	70	0-6 0 (hazy to cle	ar)	
End	1645	79	0-8 0		
Start		-			
End					
Vegetation Communities Surveyed (inc. dominant spn.)					
Vegetatio					
Diegan co	astal sage scrub, non-native grassland, scru	o oak chaparral, op	en coast live oak woodland, eucalyptus woodland, disturbed habitat		
Host Dian	te	Obs	Nector Plants	Obc	
dwarf nla	ntain (Plantago erecta)		popcorn flower (Cryptantha/Plagiohothrys.sop.)	v	
purple ow	I's clover (<i>Castilleia exserta</i>)	×	goldfields (Lasthenia spp.)	^	
snapdrago	on (Antirrhinum coulterianum)	~	goldenstar (Bloomeria spp.)	x	
birds-beal	< (Cordylanthus rigidus)		fiddleneck (Amsinckia intermedia; A. menziesii)	x	
woolly pla	intain (Plantago patagonica)		onion (Allium spp.)	x	
Chinese h	ouses (Collinsia spp.)	x	buckwheat (Eriogonum fasciculatum)	x	
		<u>_</u>	ground pink (Linanthus dianthiflorus)	х	
Host Plan	t Mapping Updated (circle) Yes	•)	New Area or Existing Area (circle) New Existing Both	i	
Species up	pdated (list)				
Butterfly S	pecies	No.	Butterfly Species	No.	
Checkersp	ots		Hairstreaks		
California	patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)		
Gabb's che	eckerspot (<i>C. gabbii</i>)		brown elfin (Callophrys augustinus)		
Quino che	ckerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)		
chalcedon	checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)		
Leanira che	eckerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals		
Mylitta cre	escent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)		
Blues			Lorquin's admiral (Limenitis lorquini)		
western py	/gmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)		
western ta	iled blue (Everes amyntula)		red admiral (V. atalanta rubria)		
southern b	lue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	5	
Acmon blu	nue (Remargus ceraunus gyas)		unidentified lady (Vanassa sp.)		
marine blu	e (lentotes marina)		Swallowtails	J	
unidentifie	ed blue	3	pale swallowtail (Papilio eurymedon)		
Whites			western tiger swallowtail (<i>P. rutulus</i>)		
Sara orang	etip (Anthocharis sara sara)	25	anise swallowtail (P. zelicaon)		
desert (Fel	der's) orangetip (A. cethura)		Miscellaneous		
common C	alifornia ringlet (Coenonympha californica)		monarch (Danaus plexippus)		
cabbage w	hite (Pieris rapae)		common buckeye (Junonia coenia grisea)	7	
checkered	(common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)		
spring whit	te (P. sisymbrii)		Skippers		
unidentifie	ed white	15	runereal duskywing (Erynnis funeralis)	4	
Bebr's mot	no namerk (Anodemia mormo virgulti)	10	fiery ckinper (Hylenbila phyleus)		
Wright's m	amark (Apouenilu mornio Virgulti) netalmark (Calenhelis wrighti)	10	white (common) checkered-skipper (Durgus albescens)		
Sulphurs			Other		
orange sul	ohur (Colias eurytheme)				
sleepy orar	nge (Eurema nicippe)				
cloudless s	ulfur (Phoebus sennae marcellina)			·	
unidentifie	d sulphur	4			
	Column Sub	total 57	Column Subtotal	21	
			Total	78	

	2019 Q	uino Cł	neckers	pot	Butterfly Survey Form		
Surveyor: Samantha Edgley (supervised)						1	
Site Name: CSD-06.09 Sycuan/Sloane Canyon Trail					Site Visit No: 10		
Area(s) Su	urveved 1. 2. 4. 5. 6 Acres Sur	veved 25.7	7		Survey Time: 5.75 Ac	res per Hour: 4.5	
Other Sur	veyors Present: Korey Klutz (perm	itted survey	or)				
		,		. .			
	Time (24 hr)	Tompor	Field (Condi	tions Wind Speed (mph)	Cloud Cover	9/)
Chart		remper	ature (F)				70)
Start	1100		70		0-6	0	
End 1645 79 0-8 0				0			
Vegetatio	n Communities Surveyed (inc. dominar	nt snn)					
Casadalaa							
Coastal sa	ige scrub, coast live oak woodland, non-	native grassi	and, scrub oai	k cha	barral, disturbed habitat		
Host Plan	ts		Obs.	Ne	tar Plants		Obs.
dwarf plar	ntain (<i>Plantago erecta</i>)		X	pop	corn flower (Cryptantha/Plagiobothrys	spp.)	
purple ow	ıl's clover (Castilleja exserta)		Х	gol	dfields (<i>Lasthenia</i> spp.)		
snapdrago	on (Antirrhinum coulterianum)			gol	denstar (<i>Bloomeria</i> spp.)		
birds-beal	k (Cordylanthus rigidus)			fido	lleneck (AAmsinckia intermedia; A. men	ziesii)	Х
woolly pla	antain (<i>Plantago patagonica</i>)			oni	on (<i>Allium</i> spp.)		Х
Chinese h	ouses (<i>Collinsia</i> spp.)			buc	kwheat (<i>Eriogonum fasciculatum</i>)		
				gro	und pink (Linanthus dianthiflorus)		Х
Hast Dian	t Manning Undated (circle) Voc			blu	e dicks (Dichelostemma capitatum)		Х
				Nev	w Area or Existing Area (circle) New	Existing Both	1
Species up	pdated (list):						
Butterfly S	pecies		No.	Butt	erfly Species		No.
Checkersp	ots			Hair	streaks		
California p	patch (Chlosyne californica)			grea	t purple hairstreak (Atlides halesus corc	orani)	
Gabb's che	eckerspot (<i>C. gabbii</i>)			brov	ın elfin (Callophrys augustinus)		
Quino che	ckerspot (Euphydryas editha quino)			bran	nble (perplexing) hairstreak (C. dumetor	um affinis)	
chalcedon	checkerspot (E. chalcedona chalcedona)		gray	hairstreak (Strymon melinus pudica)		
Leanira che	eckerspot (Thessalia leanira wrighti)			Ladi	es/Admirals	,	
Mylitta cre	escent (Phyciodes mylitta)			Calif	ornia sister (Adelpha bredowii californic	a)	
Blues	amy blue (Prenhidium evila)			Lorq	un s'admiral (Limenitis iorquini)		
western ta	iled blue (Everes amyntula)			red	admiral (V atalanta rubria)		
southern h	hile (Glauconsyche lyadamus australis)			nain	ted lady (V. cardui)		1
Edward's h	blue (Hemiaraus ceraunus avas)			Ame	rican (Virginia) lady (V. virginiensis)		-
Acmon blu	ie (Icaricia acmon acmon)		1	unid	entified lady (Vanessa sp.)		2
marine blu	ie (Leptotes marina)			Swa	lowtails		
unidentifie	ed blue		3	pale	swallowtail (Papilio eurymedon)		
Whites				west	ern tiger swallowtail (P. rutulus)		1
Sara orang	etip (Anthocharis sara sara)		7	anise	e swallowtail (<i>P. zelicaon</i>)		
desert (Fel	der's) orangetip (A. cethura)			Misc	ellaneous		
common C	alifornia ringlet (<i>Coenonympha californi</i>	ca)		mon	arch (Danaus plexippus)		
cabbage w	hite (<i>Pieris rapae</i>)			com	mon buckeye (Junonia coenia grisea)		1
checkered	(common) white (<i>Pontia protodice</i>)			mou	rning cloak (Nymphalis antiopa)		1
spring whit	te (P. sisymbrii)		1	Skip	pers		
unidentifie	ed white		28	fune	real duskywing (Erynnis funeralis)		
Ivietalmar	KS		n	mou	rntul auskywing (<i>Erynnis tristis</i>)		
Benr s met	taimark (Apodemia mormo virguiti)		2	Tiery	skipper (Hylephila phyleus)	albacaana)	
Sulphure				Oth/	e (commony checkered-skipper (Pyrgus	uidescensj	
orange sub	phur (Colias eurytheme)			oun			
sleepv orar	nge (Eurema nicippe)						
cloudless s	ulfur (Phoebus sennae marcellina)						
unidentifie	d sulphur		2				
	Colur	nn Subtotal	44	1		Column Subtotal	6

Total 50

Appendix C Butterfly Checklist

Survey Information

Site Name: Sycuan Sloane Canyon Trail

Dates: February 27 to May 3, 2019

Survey Numbers: 1 to 10

Surveyors: Jasmine Bakker¹, Erica Harris¹, Benjamin Rosenbaum¹, Laura Moreton¹, Korey Klutz², Tara Baxter³, Samantha Edgley⁴

¹ HELIX biologist (USFWS Permit TE-778195-13)

² Independent biologist (USFWS Permit TE-036065-2)

³ HELIX biologist (USFWS Permit TE-TE 87004B-0)

⁴ Supervised individual

Butterfly Species	No.	Butterfly Species	No.
Family Papilionoidea (Parnassians and Swallowtails)		Family Nymphalidae (Brushfooted Butterflies)	
Pale Swallowtail (Papilio eurymedon)	3	Subfamily Nymphalinae (True Brushfoots)	
Western Tiger Swallowtail (P. rutulus)	6	Leanira Checkerspot (Chlosyne leanira)	
Anise Swallowtail (P. zelicaon)		California Patch (C. californica)	
Family Pieridae (Whites and Sulpurs)		Gabb's Checkerspot (C. gabbii)	
Desert Orangetip (Anthocharis cethura)		Chalcedon Checkerspot (Euphydryas chalcedona)	2
Pacific Sara Orangetip (A. sara sara)	406	Quino Checkerspot (E. editha quino)	1
Orange Sulphur (Colias eurytheme)	1	Common Buckeye (Junonia coenia)	42
Sleepy Orange (Eurema nicippe)		Mourning Cloak (Nymphalis antiopa)	2
Cloudless Sulfur (Phoebus sennae)		California Tortoiseshell (N. californica)	1
Cabbage White (Pieris rapae)	5	Mylitta Crescent (Phyciodes mylitta)	
Becker's White (Pontia beckerii)		West Coast Lady (Vanessa annabella)	7
Checkered (Common) White (P. protodice)	64	Red Admiral (V. atalanta)	2
Spring White (P. sisymbrii)	6	Painted Lady (V. cardui)	488
unidentified white	57	American (Virginia) Lady (V. virginiensis)	
unidentified sulphur	20	unidentified lady (Vanessa sp.)	341
Family Lycaenidae (Gossamer-wing Butterflies)		Subfamily Limenitidinae (Admirals and Relatives)	
Subfamily Theclinae (Hairstreaks)		California Sister (Adelpha bredowii)	1
Great Purple Hairstreak (Atlides halesus)		Lorquin's Admiral (Limenitis lorquini)	1
Brown Elfin (Callophrys augustinus)		Subfamily Satyrinae (Satyrs)	
Bramble Hairstreak (C. dumetorum)	13	California Common Ringlet (Coenonympha tullia california)	2
Gray Hairstreak (Strymon melinus)	1	Subfamily Danainae (Monarchs)	
Subfamily Polyommatinae (Blues)		Monarch (Danaus plexippus)	1
Western Pygmy-Blue (Brephidium exila)		Queen (Danaus gilippus)	1
Western Tailed Blue (Everes amyntula)		Family Hesperiidae (Skippers)	
Silvery Blue (Glaucopsyche lygdamus)	35	Subfamily Pyrginae (Spread-wing Skippers)	
Ceraunus (Edward's) Blue (Hemiargus ceraunus)	1	Funereal Duskywing (Erynnis funeralis)	89
Marine Blue (Leptotes marina)	1	Mournful Duskywing (E. tristis)	
Acmon Blue (Plebejus acmon)	10	Northern White-Skipper (Heliopetes ericetorum)	
unidentified blue	39	Fiery Skipper (Hylephila phyleus)	2
Family Riodinidae (Metalmarks)		White Checkered-Skipper (Pyrgus albescens)	
Behr's Metalmark (Apodemia mormo virgulti)	205	unidentified skipper	2
Wright's Metalmark (Calephelis wrighti)		Other	
		unidentified butterfly	1
Column Subtotal	873	Column Subtotal	986
		Total Butterflies Observed	1.859

Appendix K

USACE Jurisdictional Definitions

WETLANDS AND "WATERS OF THE U.S." DEFINITIONS

WETLANDS

The U.S. Army Corps of Engineers (USACE; 33 CFR 328.3) and the Environmental Protection Agency (EPA; 40 CFR 230.3) jointly define wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987).

WATERS OF THE U.S.

The official definition of "Waters of the U.S." and their limits of jurisdiction (as they may apply) are defined by the USACE' Regulatory Program Regulations (33 CFR 328.3, paragraphs [a] 1-3 and [e], and Section 328.4, paragraphs [c] 1 and 2) as follows:

- 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- 2. All interstate waters including interstate wetlands;
- 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters,
 - i. which are or could be used by interstate or foreign travelers for recreation or other purposes; or
 - ii. from which fish or shellfish are or could be taken and sold in interstate commerce; or
 - iii. which are used or could be used for industrial purpose by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as waters of the United States under the definition;
- 5. Tributaries of waters;
- 6. The territorial seas;
- 7. Wetlands adjacent to waters (other than waters that are themselves wetlands)...

NON-TIDAL WATERS OF THE U.S.

The limits of jurisdiction in non-tidal waters: In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or when adjacent wetlands are present, the jurisdiction extends to the limit of the adjacent wetlands.

The term OHWM refers to that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation (scouring), the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Waters of the U.S. must exhibit an OHWM or other evidence of surface flow created by hydrologic physical changes. These physical changes include (Riley 2005):

 Natural line impressed on the bank 	 Sediment sorting
Shelving	 Leaf litter disturbed or washed away
 Changes in the character of soil 	• Scour
 Destruction of terrestrial vegetation 	Deposition
 Presence of litter and debris 	 Multiple observed flow events
Wracking	 Bed and banks
 Vegetation matted down, bent, or absent 	• Water staining

Further guidance on identifying the OHWM in the Arid Southwest (Lichvar and McColley 2008). This publication provided geomorphic and vegetation OHWM indicators specific to the Arid Southwest.

Change in plant community

Jurisdictional areas also must be connected to Waters of the U.S. (Guzy and Anderson 2001; U.S. Supreme Court 2001).

As a consequence of the U.S. Supreme Court decision in Rapanos v. United States, a memorandum was developed regarding Clean Water Act jurisdiction (Grumbles and Woodley 2007). The memorandum states that the EPA and the USACE will assert jurisdiction over traditional navigable waters (TNW), wetlands adjacent to TNW, tributaries to TNWs that are a relatively permanent water body (RPW), and wetlands adjacent to TNW. An RPW has year-round flow or a continuous seasonal flow (i.e., typically for three months or longer). Jurisdiction over other waters (i.e., non TNW and RPW) will be based on a fact-specific analysis to determine if they have a significant nexus to a TNW.

Pursuant to the USACE Instructional Guidebook (USACE and EPA 2007), the significant nexus evaluation will cover the subject reach of the stream (upstream and downstream) as well as its adjacent wetlands (Illustrations 2 through 6, USACE and EPA 2007). The evaluation will include the flow characteristics,

annual precipitation, ability to provide habitat for aquatic species, ability to retain floodwaters and filter pollutants, and proximity of the subject reach to a TNW, drainage area, and the watershed.

WETLAND CRITERIA

Wetland boundaries are determined using three mandatory criteria (hydrophytic vegetation, wetland hydrology, and hydric soil) established for wetland delineations and described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Following is a brief discussion of the three criteria and how they are evaluated.

Vegetation

"Hydrophytic vegetation is defined herein as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (Environmental Laboratory 1987).

The wetland indicator status (obligate upland, facultative upland, facultative, facultative wetland, obligate wetland, or no indicator status) of the dominant plant species of all vegetative layers is determined. Species considered to be hydrophytic include the classifications of facultative, facultative wetland, and obligate wetland as defined in the current list of wetland plants of the Arid Southwest (Lichvar, et al. 2016; Table A-1). The percent of dominant wetland plant species is calculated. The hydrophytic vegetation criterion is considered to be met if it meets the "Dominance Test," "Prevalence Index," or the vegetation has morphological adaptations for prolonged inundation.

Indicator Categories	Abbreviation	Qualitative Description
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands but may occur in non- wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands but may occur in wetlands
Upland	UPL	Almost never occur in wetlands

Table A-1 DEFINITIONS OF PLANT INDICATOR CATEGORIES

Hydrology

"The term 'wetland hydrology' encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic reducing conditions, respectively" (Environmental Laboratory 1987).

Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year (approximately 18 days for most of low-lying southern California). Hydrology criteria are evaluated based on the characteristics listed below (USACE 2008). Where positive indicators of wetland hydrology are present, the limit of the OHWM (or the limit of adjacent wetlands) is noted and mapped. Evidence of wetland hydrology is met by the presence of a single primary indicator or two secondary indicators.

Primary

- surface water (A1)
- high water table (A2)
- saturation (A3)
- water marks (B1; non-riverine)
- sediment deposits (B2; non-riverine)
- drift deposits (B3; non-riverine
- surface soil cracks (B6)
- inundation visible on aerial imagery (B7)
- water-stained leaves (B9)

Secondary

- watermarks (B1; riverine)
- sediment deposits (B2; riverine)
- drift deposits (B3; riverine)
- drainage patterns (B10)

• dry-season water table (C2)

In the absence of all other hydrologic indicators and in the absence of significant modifications of an area's hydrologic function, positive hydric soil characteristics are assumed to indicate positive wetland hydrology. This assumption applies unless the site visit was done during the wet season of a normal or wetter-than-normal year. Under those circumstances, wetland hydrology would not be present.

Soils

The USACE and EPA, in their administration of Section 404 of the Clean Water Act, rely on the National Technical Committee for Hydric Soils (NTCHS) for a definition of hydric soils. According to the NTCHS, "A

- salt crust (B11)
- biotic crust (B12)
- aquatic invertebrates (B13)
- hydrogen sulfide odor (C1)
- oxidized rhizospheres along living roots (C3)
- presence of reduced iron (C4)
- recent iron reduction in tilled soils (C6)
- thin muck surface (C7)
- crayfish burrows (C8)
- saturation visible on aerial imagery (C9)
- shallow aquitard (D3)
- FAC-neutral test (D5)

hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." (Federal Register 1994)

Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation. Soil matrix and mottle colors are identified at each sampling plot using a Munsell soil color chart (Kollmorgen 1994). Generally, an 18-inch or deeper pit is excavated with a shovel at each sampling plot unless refusal occurs above 18 inches.

Soils in each area are closely examined for hydric soil indicators, including the characteristics listed below. Hydric soil indicators are presented in three groups. Indicators for "All Soils" (A) are used in any soil regardless of texture, indicators for "Sandy Soils" (S) area used in soil layers with USDA textures of loamy fine sand or coarser, and indicators for "Loamy and Clayey Soils" (F) are used with soil layers of loamy very fine sand and finer (USACE 2008 and Vasilias et al. 2017).

 histosols (A1) 	 stripped matrix (S6)
 histic epipedons (A2) 	 loamy mucky mineral (F1)
• black histic (A3)	 loamy gleyed matrix (F2)
 hydrogen sulfide (A4) 	• depleted matrix (F3)
 stratified layers (A5) 	• redox dark surface (F6)
• 1 cm muck (A9)	• depleted dark surface (F7)
 depleted below dark surface (A11) 	 redox depressions (F8)
 thick dark surface (A12) 	 vernal pools (F9)
 sandy mucky mineral (S1) 	• 2 cm muck (A10)
 sandy gleyed matrix (S4) 	• reduced vertic (F18)
• sandy redox (S5)	 red parent material (TF2)

Hydric soils may be assumed to be present in plant communities that have complete dominance of obligate or facultative wetland species. In some cases, there is only inundation during the growing season and determination must be made by direct observation during that season, recorded hydrologic data, testimony of reliable persons, and/or indication on aerial photographs.

NON-WETLAND WATERS OF THE U.S.

The non-wetland Waters of the U.S. designation is met when an area has periodic surface flows but lacks sufficient indicators to meet the hydrophytic vegetation and/or hydric soils criteria. For purposes of delineation and jurisdictional designation, the non-wetland Waters of the U.S. boundary in non-tidal areas is the OHWM as described in the Section 404 regulations (33 CFR Part 328).
Appendix K (cont.) Federal Jurisdictional Information

U.S. Geological Survey Mapping

The U.S. Geological Survey (USGS) quad maps are one of the resources used to aid in the identification and mapping of jurisdictional areas. Their primary uses include understanding the subregional landscape position of a site, major topographical features, and a project's position in the watershed.

In our experience, the designation of watercourse as a blue-line stream (intermittent or perennial) on USGS maps has been unreliable and typically overstates the hydrology of most streams. This has also been the experience of others, including the late Dr. Luna Leopold. Dr. Leopold was a hydrologist with USGS from 1952 to 1972, professor in the Department of Geology and Geophysics and Department of Landscape Architecture, University of California, Berkeley from 1972 to 1986, and Professor Emeritus from 1987 until his death in 2006. In regard to USGS maps, Dr. Leopold wrote, "I tried to devise a way of defining hydrologic criteria for the channels shown on topographic maps and developed some promising procedures. None were acceptable to the topographers, however. I learned that the blue lines on a map are drawn by non-professional, low-salaried personnel. In actual fact, they are drawn to fit a rather personalized aesthetic" (Leopold 1994).

Appendix K (cont.) Federal Jurisdictional Information

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Appendix L

CDFW Jurisdictional Definitions

CALIFORNIA FISH AND WILDLIFE REGULATIONS

The California Department of Fish and Wildlife (CDFW) regulates alterations or impacts to streambeds or lakes (wetlands) under Fish and Game Code Sections 1600 through 1616 for any private, state, or local government or public utility-initiated projects. The Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, and streams as well as lakes in the state.

In order to notify the CDFW, a person, state, or local governmental agency or public utility must submit a complete notification package and fee to the CDFW regional office that serves the county where the activity will take place (CDFW 2016). A fee schedule is included in the notification package materials. Under the Permit Streamlining Act (Government Code Sections 65920 et seq.), the CDFW has 30 days to determine whether the package is complete. If the requestor is not notified within 30 days, the application is automatically deemed to be complete.

Once the notification package is deemed to be complete, the CDFW will determine whether the applicant will need a Lake or Streambed Alteration Agreement (SAA) for the activity, which will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an SAA is required, the CDFW will conduct an on-site inspection, if necessary, and submit a draft SAA that will include measures to protect fish and wildlife resources while conducting the project. If the applicant is applying for a regular SAA (less than five years), the CDFW will submit a draft SAA within 60 calendar days after notification is deemed complete. The 60-day time period does not apply to notifications for long-term SAAs (greater than five years).

After the applicant receives the SAA, the applicant has 30 calendar days to notify the CDFW whether the measures in the draft SAA are acceptable. If the applicant agrees with the measures included in the draft SAA, the applicant will need to sign the SAA and submit it to the CDFW. If the applicant disagrees with any measures in the draft SAA, the applicant must notify the CDFW in writing and specify the measures that are not acceptable. Upon written request, the CDFW will meet with the applicant within 14 calendar days of receiving the request to resolve the disagreement. If the applicant fails to respond in writing within 90 calendar days of receiving the draft SAA, the CDFW may withdraw that SAA. The time periods described above may be extended at any time by mutual agreement.

After the CDFW receives the signed draft SAA, the CDFW will make it final by signing the SAA; however, the CDFW will not sign the SAA until it both receives the notification fee and ensures that the SAA complies with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). After the applicant receives the final agreement, the applicant may begin the project, provided that the applicant has obtained any other necessary federal, state, and/or local authorizations.

Appendix L (cont.) State Jurisdictional Information

WATER RESOURCE CONTROL BOARD REGULATIONS

SECTION 401 WATER QUALITY CERTIFICATION

Whenever a project requires a federal Clean Water Act (CWA) Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must first obtain a CWA Section 401 Water Quality Certification. The Regional Water Quality Control Board (RWQCB) administers the 401 Certification program. Federal CWA Section 401 requires that every applicant for a Section 404 permit must request a Water Quality Certification that the proposed activity will not violate state and federal water quality standards.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The State Water Resource Control Board (SWRCB) and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code (SWRCB 2017). The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.

Appendix L (cont.) State Jurisdictional Information

REFERENCES

California Department of Fish and Wildlife (CDFW). 2016. Notification of Lake or Streambed Alteration, Notification Instructions and Process. Available from: <u>https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3773&inline</u>

State Water Resources Control Board. 2017. Laws and Regulations. Sacramento, CA: State Water Resources Control Board, California Environmental Protection Agency. Available from: <u>http://www.waterboards.ca.gov/laws_regulations/</u>

Appendix M

Preliminary Jurisdictional Delineation Report

Memorandum

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



Date:July 16, 2019To:Ms. Margaret Diss, County Department of Parks and Recreation (DPR)From:Ms. Jasmine Bakker, HELIX Environmental Planning, Inc. (HELIX)
Mr. Larry Sward, HELIXSubject:Sycuan Sloane Canyon Trail Project Jurisdictional DeterminationHELIX Project:CSD-06.09 (County Task Order 9)

Message:

HELIX Environmental Planning, Inc. (HELIX) has prepared this memorandum in support of a Preliminary Jurisdictional Determination (PJD) request to the U.S. Army Corps of Engineers (USACE) for the Sycuan Sloane Canyon Trail project, herein referred to as the Project Area, located within the Crest/Dehesa/Granite Hills/Harbison Canyon planning area of San Diego County, California. The information provided herein fulfills the USACE's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports dated March 16, 2017. Information is numbered 1 through 20 to correspond to numbered items 1 through 20 in the Minimum Standards.

- 1. Attached please find the Request for Corps Jurisdictional Determination (JD) (Attachment 1) and the Preliminary Jurisdictional Determination Form (Attachment 2).
- 2. Contact information is provided as follows:
 - Applicant: Margaret Diss
 County of San Diego Department of Parks and Recreation
 Resource Management Division
 5500 Overland Ave., Suite 410 (MS029)
 San Diego, CA 92123
 858-966-1372
 - b. Owner: County of San Diego 5500 Overland Ave. San Diego, CA 92123

c. Agent: Margaret Diss
 County of San Diego Department of Parks and Recreation
 Resource Management Division
 5500 Overland Ave., Suite 410 (MS029)
 San Diego, CA 92123
 858-966-1372

- 3. Please contact Margaret Diss prior to entering the Project Area.
- 4. The Project Area includes approximately 5 miles along Dehesa Road and Sloane Canyon Road within the unincorporated community of Crest-Dehesa (Latitude 32.781326, Longitude 116.852316), located east of Willow Glen Drive and west of Beaver Hollow Road. Parking is available along Sloane Canyon Road south of the Dehesa Road intersection. The Project Area includes pathways in public (County of San Diego) right-of-way and trails through lands owned by the Sycuan Band of the Kumeyaay Nation and Kumeyaay Diegueno Land Conservancy. The PJD review area was restricted to where the proposed trail alignments intersect or are adjacent to potential waters of the U.S.
- 5. The delineation was conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the 2008 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ordinary High Water Mark (OHWM) was identified according to "A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States" (August 2008 and updated July 2010).
- 6. Potential aquatic resources evaluated within the Project Area included drainage features and depressions that crossed or were adjacent to the proposed trail alignments. These drainage features were identified on an aerial photograph and topographic map (see #12) prior to the fieldwork. Culverts encountered in the field along Dehesa Road and Sloane Canyon Road were also evaluated. Attachment 3 provides the locations of the aquatic resources evaluated within the Project Area.

Ten sample points confirmed the absence of wetland conditions (see Wetland Determination Data Forms provided in Attachment 4); however, drainages where a discernable OHWM was present were mapped as non-wetland waters of the U.S. (see OHWM datasheets also provided in Attachment 4). Sample points 1 and 2 are located within drainage features (non-wetland waters of the U.S.) that convey water from upland slopes through culverts that cross Sloane Canyon Road and drain north towards the Sweetwater River. Sample point 3 is located within a defined non-wetland waters of the U.S. tributary known as Beaver Hollow that sheet flows across Sloane Canyon Road during wet conditions and connects with the Sweetwater River. Sample points 4 and 5 are representative of the aquatic resources associated with the primary Sweetwater River channel that crosses Sloane Canyon Road at the southern bridge. Sample point 4 confirmed non-wetland waters of the U.S. within the Sweetwater River streambed, and sample point 5 confirmed the absence of waters of the U.S. within the adjacent riparian corridor. Sample point 6 is located within an upland swale feature north of Dehesa Road that lacked all three wetland indicators, had no discernable OHWM or low-flow channel, and was not delineated as waters of the U.S. Sample point 7 is located within non-wetland waters of the U.S.



that flows south through a double box culvert beneath Dehesa Road (between Matamo Place and Sycuan Summit Drive) and connects with the portion of the Sweetwater River that flows through the Singing Hills Golf Course. Sample point 8 is located within a depression above the Sweetwater River ponds that were created as a result of past mining activities and did not contain jurisdictional waters of the U.S. Sample points 9 and 10 are located east of the northern bridge that crosses Sloane Canyon Road and are within non-wetland waters of the U.S. associated with Harbison Canyon Creek. Sample point 9 is within the low flow channel and sample point 10 is within the active floodplain of Harbison Canyon Creek. Photos of each sample point are provided as Attachment 5. OHWM datasheets were completed for sample points 3, 4, 7, and 9/10; an OHWM datasheet was also completed for a drainage feature (drainage location 5) located west of sample point 3.

Drainage features that lacked wetland indicators and a discernable OHWM were considered upland swales and were not delineated as jurisdictional waters. Roadside ditches and erosional features associated with culverts along Dehesa Road that did not drain to an aquatic resource were also not delineated as jurisdictional waters. Sample points 6 and 8 are located within features that were not considered jurisdictional waters. Locations of non-jurisdictional features evaluated are included in Attachment 3, and representative photos of some of these features are included in Attachment 5.

- 7. The required map of waters of the U.S. within the PJD Review Area is included as Attachments 3a – 3n. This map depicts the outside survey boundary, total extent of aquatic and non-aquatic features, and the type of features (waters of the U.S., etc.), and includes the total linear feet of stream and acreage for each aquatic feature.
- 8. Field work for the jurisdictional delineation effort was completed on January 29 and 30, 2019 and February 18, 2019.
- 9. Table 1 below lists all aquatic resources included in the PJD request, including potential aquatic resources evaluated that were not considered to be jurisdictional waters of the U.S., as well as locations immediately adjacent to but outside the study area or representative of drainage features located within the study area.



Location*	Lat/Long	Cowardin Class Type		Dominant Vegetation	Sq. Feet	Linear Feet	Average Width (ft)
Trail Segment 5							
Drainage 1	32.76420094/ -116.84205426	N/A	N/A	chaparral			
Drainage 2; Sample Point 1	32.76346502/ -116.84300998	Riverine	Non-wetland WUS	chaparral	48	24	2
Drainage 3; Sample Point 2	32.76317157/ -116.84670713	Riverine	Non-wetland WUS	chaparral	70	23	3
Drainage 4; Sample Point 3	32.77192999/ -116.84467849	Riverine	Non-wetland WUS	riparian woodland	1,108	32	30
Drainage 5	32.76380361/ -116.84777605	Riverine	Non-wetland WUS	chaparral	30	30	1
Drainage 6a	32.76568707/ -116.85000602	Riverine	Non-wetland WUS	coast live oak woodland	59	29	2
Trail Segment 4		•					
Drainage 6b	32.76599138/ -116.84998064	N/A	N/A	unvegetated			
Drainage 7a	32.76599138/ -116.84998064	N/A	N/A	coastal sage scrub			
Drainage 7b	32.76747724/ -116.84827004	N/A	N/A	coastal sage scrub			
Drainage 7c	32.76599138/ -116.84998064	N/A	N/A	coastal sage scrub			
Drainage 7d	32.767477/ -116.84827	N/A	N/A	coastal sage scrub			
Trail Segment 2							
Sweetwater River; Sample Point 4	32.77192999/ -116.84467849	Riverine	Non-wetland WUS	riparian scrub	located outside study area		study area
Sweetwater River; Sample Point 5	32.77190745/ -116.84500489	N/A	N/A	oak riparian woodland	located outside study area		
Sweetwater River; Southern Bridge	32.773991/ -116.850122	Riverine	Non-wetland WUS	unvegetated	1,899	102	16
Drainage 8; Sample Points 9 and 10	32.77930554/ -116.85200971	Riverine	Non-wetland WUS	unvegetated; riparian woodland	2,348	66	40
Trail Segment 1		I			1		
Drainage 9a	32.77953634/ -116.86538750	4/ 50 Riverine Non-wetland WUS unvegetated located		located	l outside study area		
Drainage 9b	32.78025780/ -116.86334249	Riverine	Non-wetland WUS	non-native grassland	60	60	1
Drainage 9c	32.78026878/ -116.86265550	Riverine	Non-wetland WUS	unvegetated	111	55	2
Drainage 11; Sample Point 8	32.77853901/ -116.86759817	N/A	N/A	tamarisk scrub			

Table 1 POTENTIAL AQUATIC RESOURCES WITHIN THE SYCUAN SLOANE CANYON TRAIL PROJECT AREA



Location*	Lat/Long	Cowardin Class	Туре	Dominant Vegetation	Sq. Feet	Linear Feet	Average Width (ft)
Trail Segment 6b							
Drainage 9d	32.78125771/ -116.85953233	Riverine	Non-wetland WUS	coastal sage scrub	92	46	2
Drainage 9e	32.78185494/ -116.85768911	Riverine	Non-wetland WUS	coastal sage scrub	37	37	1
Drainage 9f	32.78177786/ -116.85799084	Riverine	Non-wetland WUS	coastal sage scrub	33	33	1
Drainage 9g	32.78203134/ -116.85504119	Riverine	Non-wetland WUS	coastal sage scrub	37	37	1
Drainage 10	32.78004589/ -116.86610613	Riverine	Non-wetland WUS	coastal sage scrub	479	25	1-25
Drainage 12a; Sample Point 6	32.78542935/ -116.88289673	N/A	N/A	coastal sage scrub			
Drainage 12b; Sample Point 7	32.78154523/ -116.87477566	Riverine	Non-wetland WUS	non-native vegetation	located outside study are		study area
Drainage 13a	32.78746170/ -116.88627539	N/A	N/A	coastal sage scrub			
Drainage 13b	32.78687140/ -116.88541666	N/A	N/A	coastal sage scrub			

 Table 1 (cont.)

 POTENTIAL AQUATIC RESOURCES WITHIN THE SYCUAN SLOANE CANYON TRAIL PROJECT AREA

*Location/Drainage synonymous with Site Number on PJD form.

N/A indicates drainage features evaluated that were not considered to be USACE jurisdictional waters; however, sample points 5 and 8 are jurisdictional to CDFW.

10. The project area is located within the unincorporated community of Crest-Dehesa along the Sweetwater River and has been manipulated by mining activities, housing development, and agriculture. The western portion of the Project Area along the north side of Dehesa Road (Trail Segment 6b) is maintained by the U.S. Fish and Wildlife Service (USFWS) and privately owned residences. The first 0.75-mile of proposed trail (Trail Segment 6b) is on USFWS lands and traverses the toeslope of the steep foothills north of Dehesa Road. Several small ephemeral drainages flow south from these foothills and into culverts that convey water under Dehesa Road and offsite to the Sycuan Golf Resort Property. East of and adjacent to USFWS land the trail alignment continues to the south of a small residential development. A moderately sized ephemeral drainage (Drainage 12b) transects this residential area and is conveyed under Dehesa Road through a double box culvert and offsite to the Sycuan Golf Resort Property. The central section of the project area (Trail Segment 1) is located on the southern side of Dehesa Road and was previously a large sand mine. Lake Emma, a 75-acre freshwater lake was the product of these extraction activities. The Sycuan Indian Reservation owns the land surrounding Lake Emma and the majority of the proposed trail alignment (Trail Segments 1, 2, and portions of Segments 3, 4, and 6) in the northern portion of the project area. Two bridges were constructed as part of Sloane Canyon Road where Harbison Canyon Creek (northern bridge; Drainage 8) and the Sweetwater River (southern bridge) intersect the road (Trail Segment 2). The Kumeyaay Diegueno Land Conservancy owns the land surrounding the proposed trail alignment (Trail Segment 5 and portions of Segments 3 and 4) in the southern portion of the project area. Several non-jurisdictional swales drain from the upland slopes east of Sloane Canyon Road



through culverts or into roadside ditches. The southernmost proposed trail alignment (Segment 5) occurs south of the Sweetwater River and Sloane Canyon Road and intersects Beaver Hollow (Drainage 4) and other jurisdictional ephemeral drainages that either sheetflow across the road or drain into culverts beneath the road.

At present, the closest weather station in El Cajon recorded approximately 3.16 inches of precipitation in the month of January 2019. Normal conditions were observed on all sites. Table 2 provides the AgACIS WETS table that summarizes monthly and annual precipitation averages from 2014 to 2019.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2014	М	0.94	1.13	0.56	0.01	0.00	Т	0.29	0.22	0.02	0.51	3.65	М
2015	1.00	0.47	1.54	0.13	1.68	0.02	0.81	0.02	0.62	0.92	1.45	1.68	10.34
2016	4.40	0.69	1.17	1.03	1.00	0.00	0.00	0.00	0.79	0.22	1.47	4.31	15.08
2017	6.71	5.11	0.12	0.00	2.06	Т	0.00	0.00	0.17	0.06	Т	0.04	14.27
2018	2.82	1.13	1.96	0.16	0.40	0.00	0.00	0.00	0.00	0.86	М	М	М
2019	3.16												
Mean	3.62	1.67	1.18	0.38	1.03	0.00	0.16	0.06	0.36	0.42	0.86	2.42	13.23

 Table 2

 AgACIS WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR EL CAJON 3.2ESE, CA

- 11. Hydrology: The Project Area is along the Sweetwater River approximately 3 miles west of the Loveland Reservoir and approximately 9.5 miles northeast of the Sweetwater Reservoir and is located within the Sweetwater Watershed (230 square miles). The Sweetwater River is an intermittent system that conveys stream flows in a southwesterly direction to San Diego Bay in Chula Vista. Groundwater and surface water are the primary water sources. The portion of Sweetwater River within the Project Area receives water from the North Fork and Harbison Canyon tributaries, as well as runoff from culverts that collect water from drainage swales, roadside ditches, and adjacent development. Influence from manmade water sources includes the runoff from adjacent development and golf course irrigation, and the Sweetwater Authority's operation of Loveland Dam for flood control and municipal water storage.
- 12. Remote sensing used in the delineation consisted of publicly available USGS topography and aerial photographs viewed through Google Earth and www.historicaerials.com, as well as the SanGIS aerial photograph and site survey topo lines shown on the map. Aerial photographs were used to determine past conditions and confirm current conditions observed in the field. USGS topography was used to confirm the drainage direction.
- 13. A soils map is included as Attachment 6, and soils descriptions and photos for sample points 3, 4, 5, 7, 8, 9, and 10 can be found in Attachments 4 and 5, respectively. The most prominent soil components within the Project Area include Tujunga sand, 0-5 percent slope; riverwash; Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes; and Vista coarse sandy loam, 30 to 65 percent slopes¹. The Tujunga sand and riverwash are associated with the Sweetwater River,

¹ Web Soil Survey. Natural Resources Conservation Service. <u>https://websoilsurvey.sc.egov.usda.gov/</u>. 26 February 2019



while the Cieneba and Vista series soils are associated with the adjacent slopes. Other soils within the Project Area include Vista coarse sandy loam, 30 to 65 percent slopes; Las Posas fine sandy loam, 15 to 30 percent slopes, eroded; Las Posas stony fine sandy loam, 9 to 30 percent slopes; Chino silt loam, saline, 0 to 2 percent slopes; Cieneba-Fallbrook rocky sandy loams, 30-65 percent slopes, eroded; Fallbrook sandy loam, 9 to 15 percent slopes, eroded; Fallbrook rocky sandy loam, 9 to 30 percent slopes, eroded; Greenfield sandy loam, 5 to 9 percent slopes; Ramona gravelly sandy loam, 9 to 15 percent slopes; and Visalia sandy loam, 2 to 5 and 5 to 9 percent slopes. Soils on the hydric soils list include the Tujunga sand and riverwash, as well as the Chino silt loam associated with the golf course and the Visalia sandy loam associated with the jurisdictional non-wetland waters at sample point 7). The percentage of these soil types that are hydric varies by soil type and is primarily related to landscape position. All, or 100 percent of Riverwash is considered hydric, while very small percentages of the other soil types are considered hydric. These other soils with small percentages considered hydric include: Tujunga sand (contains three percent hydric inclusions); Visalia sandy loam, 2 to 5 percent slopes and Chino silt loam, saline, 0 to 2 percent slopes (each contain one percent of an unnamed hydric inclusion). However, no hydric soil indicators were observed during the delineation and sample points within jurisdictional features were delineated waters were non-wetland waters of the US.

- 14. A site location map is included as Attachment 7. The Project Area is located in Township 16 South, Range 1 East, Sections 14, 15, 23, and 24 on the U.S. Geological Survey (USGS) 7.5-minute Alpine quadrangle map and Sections 9 and 16 on the USGS 7.5-minute El Cajon quadrangle map.
- 15. Please see Attachment 8 for the Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet.
- 16. The delineation map included as Attachment 3 meets the requirements of the Final Map and Drawing Standards for the South Pacific Regulatory Program.
- 17. Representative photographs of drainage features evaluated and all sample points are included in Attachment 5. Photo locations and directions are shown on Attachment 3.
- 18. The preliminary jurisdictional determination form is included as Attachment 1. Completed wetland determination data forms for sample points 1 8 and Arid West Ephemeral and Intermittent Streams OHWM datasheets (for sample points 3, 4, 7, and location 5 drainage) are included in Attachment 4.
- 19. Prior to beginning fieldwork, recent aerial photographs (1"=200'), topographic maps (1"=100'), soil mapping, National Wetlands Inventory mapping, and USGS topographical maps were reviewed to determine the location of potential jurisdictional areas. HELIX biologists Larry Sward and Jasmine Bakker completed the delineation on January 29-30, 2019. The delineations were conducted on foot with the aid of 1"=100' scale aerials and topographic maps.

Areas where proposed trails crossed or were adjacent to drainages and/or wetland vegetation were evaluated for the presence of waters of the U.S., including jurisdictional wetlands. Potential wetland waters of the U.S. were evaluated using the three criteria (vegetation, hydrology, and soils) approach outlined in the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation



Manual: Arid West Region (USACE 2008). Potential non-wetland waters of the U.S. relied on the presence of an OHWM according to A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States (August 2008; updated in July 2010). Jurisdictional limits of all sites were defined by the OHWM, which is defined in 33 CFR Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; Lichvar and McColley 2008), which also has been used for this delineation. The OHWM widths were measured to the nearest foot at various locations along mapped tributary. Sample points were mapped using a handheld iPad with GPS unit with sub-meter accuracy.

Plants were identified according to The Jepson Manual, Higher Plants of California. Wetland affiliations of plant species follow the Arid West 2016 Regional Wetland Plant List.

Soil information was taken from the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey and the Natural Resources Conservation Service State Soil Data Access Hydric Soils List. Soil chromas were identified according to the Munsell Soil Color Charts.

20. Shapefiles are included as Attachment 9. The .prj file contains the datum and projection.



Attachment 1

Request for Corps Jurisdictional Determination

REQUEST FOR JURISDICTIONAL DETERMINATION

This form should be used when a jurisdictional determination (JD) is required from the U.S. Army Corps of Engineers, Sacramento District. It is intended to help both the requestor and the Corps in determining which type of JD, if any, is appropriate. Use of the form is optional; however the information and consent is needed to complete a JD. If you are applying for a Department of the Army permit, you do not need to request a JD. A jurisdictional determination is not required to process a permit application. At the time an application is submitted, the Corps will assume the aquatic resources on the parcel/within the review area are waters of the United States for the purpose of making a permit decision. With no JD requested, the permit application may be processed more quickly. The permittee retains the ability to request a JD any time during or after the permit application review process.

I am requesting the U.S. Army Corps of Engineers, Sacramento District, complete a jurisdictional determination for the parcel/review area located at:

Street Address: Dehesa Road and Sloane Canyon Road intersection	City: NA (unincorporated community of Crest-Dehesa) County: San Diego					
State: <u>CA</u> Zip: <u>92019</u> Section: <u>9,14-16,23-24</u> Township:	^{16S} Range: <u>1E</u>					
Latitude (decimal degrees): <u>32.781326</u> Longitude (decimal degrees): <u>-116.852316</u>						
The approximate size of the review area for the JD is 77.6	acres. (Please attach location map)					
Chasses and	Chasses and					
Choose one:	Choose one:					
L len to purchase this property.	I am requesting a Proliminary JD.					
I plan to purchase this property.	I am unclear as to which ID I would like to request and require					
	additional information to inform my decision					
Reason for request: (check all that apply)						
Lintend to construct/develop a project or perform activities on thi	s parcel/review area which would be designed to avoid all aquatic					
resources.	o parocimonon arca milon noura so accignoa to avoia an aquato					
I intend to construct/develop a project or perform activities on thi	s parcel/review area which would be designed to avoid all					
jurisdictional aquatic resources under Corps authority.	- F					
I intend to construct/develop a project or perform activities on the	s parcel/review area which may require authorization from the					
Corps, and the JD would be used to avoid and minimize impa	cts to jurisdictional aquatic resources and as an initial step in a					
future permitting process.						
I intend to construct/develop a project or perform activities on thi	s parcel/review area which may require authorization from the					
Corps; this request is accompanied by my permit application a	and the JD is to be used in the permitting process.					
I intend to construct/develop a project or perform activities in a n	avigable water of the U.S. which is included on the district's list of					
navigable waters under Section 10 of the Rivers and Harbors	Act of 1899 and/or is subject to the ebb and flow of the tide.					
A JD is required in order to obtain my local/state authorization.						
I intend to contest jurisdiction over a particular aquatic resource	and request the Corps confirm that jurisdiction does/does not exist					
over the aquatic resource on the parcel/review.						
I believe that the parcel/review area may be comprised entirely of	of dry land.					
Other:						
Attached Information:						
Maps depicting the general location and aquatic resources within the South Decific Division Deputation (Dublic Nation	n the review area consistent with Map and Drawing Standards for					
the South Pacific Division Regulatory Program (Public Notice	February 2016,					
nttp://www.spd.usace.army.mii/wissions/Regulatory/Public-No	nices-and-References/Anicie/651327/updated-map-and-drawing-					
Statuards/)	ith the Sacramento District's Minimum Standards for Accentance					
(Public Notice January 2016, http://1.usa.gov/1//68/Ya)	in the Sacramento District's Minimum Standards for Acceptance					
By signing below, you are indicating that you have the authority or	are acting as the duly authorized agent of a person or entity with					
such authority to and do bereby grant Corps personnel right of en	try to legally access the site if needed to perform the ID. Your					
signature shall be an affirmation that you possess the requisite pro	perty rights to request a JD on the subject property					
*Signature: Da	te:					
Name: Margaret Diss Compan	y name: County of San Diego, Parks and Recreation					
Address: 5500 Overland Drive						
San Diego, CA 92123						
Telephone: (858) 966-1372 Email: Marga	aret.Diss@sdcounty.ca.gov					
*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 US	C 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory					

Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332. **Principal Purpose:** The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public

notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website. Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Attachment 2

Preliminary Jurisdictional Determination Form

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Los Angeles District File/ORM #		PJD Date: 1/29/19 - 1/30/19
State CA City/County/San Diego		
Nearest Waterbody: Sweetwater River	Address	Margaret Diss of County of San Diego Department of Parks and
Location: TRS, LatLong or UTM: 32.781326, -116.852316	Requesti PJD	San Diego, CA 92123
Identify (Estimate) Amount of Waters in the Review Area: Na Non-Wetland Waters: Stream Flow: 553 linear ft 11 + width 0.16 acres Intermittent	es Tidal: None Non-Tidal: None	
Wetlands: 0 acre(s) Cowardin Class:	Office (Desk) DeterField Determination	mination 1: Date of Field Trip:
SUPPORTING DATA: Data reviewed for preliminary JD (ch and requested, appropriately reference sources below):	heck all that apply - checl	ked items should be included in case file and, where checked
 ✓ Maps, plans, plots or plat submitted by or on behalf of the ap □ Office concurs with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation rep □ Office does not concur with data sheets/delineation variable waters' study: □ Usta sheets prepared by the Corps □ Corps navigable waters' study: □ USGS NHD data. □ USGS NHD data. □ USGS 8 and 12 digit HUC maps. ✓ U.S. Geological Survey map(s). Cite quad name: El Cajo USDA Natural Resources Conservation Service Soil Su Vational wetlands inventory map(s). Cite name: https://w □ State/Local wetland inventory map(s): □ FEMA/FIRM maps: □ 100-year Floodplain Elevation is: □ Photographs: □ Aerial (Name & Date): ESRI ArcGIS Bas □ Other (Name & Date): ESRI ArcGIS Bas □ Other information (please specify): □ MPORTANT NOTE: The information recorded on this form has not necessarily been used and the other sponse □ Other information recorded on this form has not necessarily been used as the other sponse of the sponse	the applicant/consultant. port. ation report. jon and Alpine urvey. Citation: https: www.fws.gov/wetlands/Data useline Streaming Maps 02/ 0-01/23/19 e letter: en verified by the Corps and s	nt: See Notes. //websoilsurvey.sc.egov.usda.gov/. a/Mapper.html /26/2019 should not be relied upon for later jurisdictional determinations.
Signature and Date of Regulatory Project Manager (REQUIRED)	Signature and Date (REQUIRED, unle	e of Person Requesting Preliminary JD ess obtaining the signature is impracticable)
EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETE 1. The Corps of Engineers believes that there may be jurisdictional waters of the United S hereby advised of his or her option to request and obtain an approved jurisdictional determ has declined to exercise the option to obtain an approved JD in this instance and at this time 2. In any circumstance where a permit applicant obtains an individual permit, or a Nationw or requests verification for a non-reporting NWP or other general permit, and the permit following: (1) the permit applicant has elected to seek a permit authorization based on a pr the option to request an approved JD before accepting the terms and conditions of the p compensatory mitigation being required or different special conditions; (3) that the applican the applicant has elected to be necessary; (5) that undertaking any activity in reliance on any form of Corps permit authorization based on a pr that activity are jurisdictional waters of the United States, and precludes any challenge to appeal or in any Federal court; and (7) whether the applicant elects to use either an appr proffered individual permit (and all terms and conditions contained therein), or individual appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that admini site, or to provide an official delineation of jurisdictional waters on the site, the Corps will permit (and all terms and conditions will be processed undertaking any activity and permit (and all terms and conditions contained therein), or individual permit (and all terms and conditions contained therein).	ERMINATIONS: States on the subject site, and thin ation (JD) for that site. New e. wide General Permit (NWP) or applicant has not requested an reliminary JD, which does not permit authorization, and that cant has the right to request an n and thereby agree to comply in reliance upon the subject per das soon as is practicable; (6) preliminary JD constitutes agree o such jurisdiction in any admitroved JD or a preliminary JD, l permit denial can be administistrative appeal, it becomes new provide an approved JD to according the subject per data and performinary JD.	he permit applicant or other affected party who requested this preliminary JD is ertheless, the permit applicant or other person who requested this preliminary JD other general permit verification requiring "preconstruction notification" (PCN), approved JD for the activity, the permit applicant is hereby made aware of the make an official determination of jurisdictional waters; (2) that the applicant has basing a permit authorization on an approved JD could possibly result in less individual permit rather than accepting the terms and conditions of the NWP or v with all the terms and conditions of that permit, including whatever mitigation "rmit authorization (e.g., signing a proffered individual permit) or sement that all wetlands and other water bodies on the site affected in any way by nistrative or judicial compliance or enforcement action, or in any administrative that JD will be processed as soon as is practicable. Further, an approved JD, a tratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative cessary to make an official determination whether CWA jurisdiction exists over a omplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites 1/29/19 - 1/30/19 District Office Los Angeles District File/ORM # PJD Date: State CA City/County |--/San Diego Person Requesting PJD |Margaret Diss Est. Amount of Site **Aquatic Resource Class of** Number Latitude Longitude **Cowardin Class** in Review Area **Aquatic Resource** Non-Section 10 non-wetland Riverine Non-Section 10 non-wetland Riverine Riverine Non-Section 10 non-wetland Non-Section 10 non-wetland Riverine Riverine Non-Section 10 non-wetland Riverine Non-Section 10 non-wetland

Notes:

Study Arepheme	rea includes 0.12 acres/180 linear feet of intermittent streams and 0.04 acre and 373 linear feet of eral streams
Includec Project Nationa Soils USACE	d Figures Vicinity (USGS base map) al Wetlands Inventory Aquatic Resources (14 pages)
Please se Memo)	ee summary of aquatic resources table for full list of resources present in review area (Table 1 in PJD

Attachment 3

National Wetlands Inventory and USACE Waters of the U.S.





Source: Aerial (SanGIS, 2017)

Potential USACE Aquatic Resources

Attachment 3



HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 1 & 2 and Sample Point 1

Attachment 3a



SAB

HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 3 and Sample Point 2

Attachment 3b





SAB

CSD-06.09

201050-050

IPROJI

USACE Aquatic Resources, Drainage Location 4 and Sample Point 3

Attachment 3c



SAR

HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 5

Attachment 3d



0222,mxd CSD-06.09 7/3/2019

2019

60 Feet

HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 6a & 6b





SAR



USACE Aquatic Resources, Sweetwater River and Sample Points 4 & 5

Attachment 3f



60 Feet 💠



SAF

CSD-06.09

USACE Aquatic Resources, Southern Bridge



F

HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 8 and Sample Points 9 & 10

Attachment 3h



SAI

HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 9g

Attachment 3i



HELIX Environmental Planning

USACE Aquatic Resources, Drainage Location 9e & 9f

Attachment 3j





USACE Aquatic Resources, Drainage Location 9d

Attachment 3k



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HELIX Environmental Planning





60 Feet

Source: Aerial (SanGIS, 2017)



USACE Aquatic Resources, Drainage Location 9a & 10





USACE Aquatic Resources, Drainage Location 12b and Sample Point 7

Attachment 3n
Attachment 4

Data Forms

Project/Site: Sycuan Sloan Canyon Trail Project	City/County:/San Dieg	o County	Sampling Date:	1/29/18	
Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State: CA	_ Sampling Point:	1	
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, Range	e: <u>Sec. 23., T. 16 S.</u>	, R. 1 E.		
Landform (hillslope, terrace, etc.): streambed	Local relief (concave, cor	ivex, none): <u>none</u>	Slope	(%): <u>5</u>	
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	Subregion (LRR): C: California mediterranean Lat: 32.763463 Long: -116.842946 Datum: NAD 83				
Soil Map Unit Name: CmrG - Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes NWI classification: R4SBA					
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🖌 No 🔄	(If no, explain in	Remarks.)		
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "No	rmal Circumstances'	' present? Yes 🔽	No	
Are Vegetation, Soil, or Hydrology naturally pre-	oblematic? (If need	ed, explain any answ	vers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.					

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>′′</u> No <u>′</u> No <u>′′</u>	Is the Sampled Area within a Wetland?	Yes	No 🖌
Remarks:					

Non-wetland WUS 2 ft. Poorly defined bed and bank. Located within the Segment 5 study area.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>9 x 30 ft</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1			·	That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:5 (B)
4			·	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 9 x 15 ft.)	0	= Total Co	ver	That Are OBL, FACW, or FAC: 20% (A/B)
<u>Sapinig/Siliub Stratum</u> (Flot size. <u>5 x 15 rt</u>)	2	v		Provalence Index worksheet:
2. Keckiella sp	2	 V		Total % Cover of: Multiply by:
2. Reckend Sp.		<u> </u>	OFL	
3			·	
4			. <u> </u>	FAC w species x 2 =
5			·	
Herb Stratum (Plot size: 5 x 5 ft)	6	= I otal Co	ver	FACU species
1 Galium aparine	5	N	FACU	OPL species x 5 = 0 x 5 = (0)
2 Claytonia parviflora	20	<u> </u>	FAC	Column Totals: (A) (B)
3 Thalictrum fendleri	<u> </u>	 N	FAC	Prevalence Index = B/A =
4 Pholistoma membranaceum	5	N		Hydrophytic Vegetation Indicators:
5. Stellaria media	8	N	FACU	Dominance Test is >50%
6. Bowlesia incana	10	<u> </u>	FACU	Prevalence Index is ≤3.0 ¹
7 Carduus pychocenhalus	<u> </u>	 N		Morphological Adaptations ¹ (Provide supporting
8. Conjum maculatum	_ <u> </u>	 N		data in Remarks or on a separate sheet)
	<u> </u>			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 5 x 10 ft)	0	10tal C0	vei	
1. Clematis pauciflora	20	Y	UPL	¹ Indicators of hydric soil and wetland hydrology must
2.				be present, unless disturbed or problematic.
	20	= Total Co	ver	Hydrophytic
N Dave Oracia Hast Oberture 40 N Orac			-)	Vegetation
% Bare Ground in Herb Stratum <u>40</u> % Cove	T OT BIOTIC C	rust <u> </u>)	Present? Yes No
Remarks:				

Sampling Point:

e Remarks
² Location: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Soils ³ : cm Muck (A9) (LRR C) cm Muck (A10) (LRR B) educed Vertic (F18) ed Parent Material (TF2) her (Explain in Remarks)
² Location: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Soils ³ : cm Muck (A9) (LRR C) cm Muck (A10) (LRR B) educed Vertic (F18) ed Parent Material (TF2) her (Explain in Remarks)
² Location: PL=Pore Lining, M=Matrix. tors for Problematic Hydric Soils ³ : cm Muck (A9) (LRR C) cm Muck (A10) (LRR B) educed Vertic (F18) ed Parent Material (TF2) ther (Explain in Remarks)
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educed Vertic (F18) ed Parent Material (TF2) her (Explain in Remarks)
ed Parent Material (TF2) her (Explain in Remarks)
her (Explain in Remarks)
toro of hydronhytic vocatotics
and hydrology must be present
and hydrology must be present,
ss disturbed of problematic.
Soll Present? Yes NO
econdary Indicators (2 or more required)
Water Marka (P1) (Bivarine)
Water Marks (B1) (Riverine)
_ Sediment Deposits (B2) (Riverine)
_ Diffi Deposits (B3) (Riverine)
_ Drainage Patterns (B10)
_ Dry-Season water Table (C2)
_ Craytish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9
_ Shallow Aquitard (D3)
_ FAC-Neutral Test (D5)
ology Present? Yes No 🖌
2:
2:
3:
9:
2:

Project/Site: Sycuan Sloan Canyon Trail Project	City/County:/San Diego	County	Sampling Date: 0	1/29/2019
Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State: CA	Sampling Point:	2
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, Range:	<u>Sec. 23. T., 16 S., F</u>	R. 1 E.	
Landform (hillslope, terrace, etc.): Streambed	Local relief (concave, conv	ex, none): <u>Concave</u>	Slope	(%): <u>5</u>
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	2.763221 Lo	ng: <u>-116.844537</u>	Datum:	NAD 83
Soil Map Unit Name: CmrG - Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes NWI classification: R4SBA				
Are climatic / hydrologic conditions on the site typical for this time of ye	ear?Yes 🖌 No	(If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "Norr	nal Circumstances" p	resent?Yes 🖌	No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If neede	d, explain any answer	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	y sampling point loca	tions, transects,	, important feat	ures, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:				
Non-wetland WUS 3 ft wide. Located within the Segment 5 study area.				

Tree Stratum (Plot size:10 x 30 ft_) % Cover Species? Status Number of Dominant Species 1.		Absolute	Dominant	Indicator	Dominance Test worksheet:	
1.	Tree Stratum (Plot size: 10 x 30 ft)	% Cover	Species?	Status	Number of Dominant Species	
2	1				That Are OBL, FACW, or FAC: 0 (A)	
3.	2				Tatal Number of Deminent	
4.	3.				Species Across All Strata: 2 (B)	
Percent of Dominant Species Sapling/Shrub Stratum (Plot size:10 x 15 ft)	4.				(-)	
Sapling/Shrub Stratum (Plot size: 10 x 15 ft) 30 Y UPL Prevalence Index worksheet: 2.		0	= Total Co	ver	Percent of Dominant Species	
1. Eriogonum fasciculatum 30 Y UPL Prevalence Index worksheet: 2.	Sapling/Shrub Stratum (Plot size: 10 x 15 ft)				$\begin{bmatrix} \text{That Are OBL, FACW, OF FAC.} \\ \end{bmatrix}$	
2	1. <u>Eriogonum fasciculatum</u>	30	Y	UPL	Prevalence Index worksheet:	
3	2				Total % Cover of: Multiply by:	
4	3.				OBL species x 1 =	
30 = Total Cover FAC species x 3 =	4				FACW species x 2 =	
30 = Total Cover FACU species x 4 = Herb Stratum (Plot size: 5 x 5 ft) 1. Bromus diandrus 25 Y UPL 2. Delphinium sp. 5 N ? Column Totals: (A) (B) 3. Erodium cicutarium 2 N UPL Prevalence Index = B/A = </td <td>5.</td> <td></td> <td></td> <td></td> <td>FAC species x 3 =</td>	5.				FAC species x 3 =	
Herb Stratum (Plot size:5 x 5 ft)		30	= Total Cov	ver	FACU species x 4 =	
1. Bromus diandrus 25 Y UPL Column Totals: (A) (B) 2. Delphinium sp. 5 N ? Prevalence Index = B/A = (B) 3. Erodium cicutarium 2 N UPL Prevalence Index = B/A = (B) 4. Bowlesia incana 5 N FACU Hydrophytic Vegetation Indicators: (Dominance Test is >50% 5. Hycochaeris glabra 1 N UPL Dominance Test is >50% (Prevalence Index is ≤3.01 6.	Herb Stratum (Plot size: <u>5 x 5 ft</u>)				UPL species x 5 =	
2. Delphinium sp. 5 N ? 3. Erodium cicutarium 2 N UPL 4. Bowlesia incana 5 N FACU 5. Hycochaeris glabra 1 N UPL 6. - - - 7. - - - 8. - - - Woody Vine Stratum (Plot size:10 x 10 ft) 38 = Total Cover 1. - - - 0 = Total Cover - - Warren for the stratum60% Cover of Biotic Crust0 0 Present? Yes No	1. <u>Bromus diandrus</u>	25	Y	UPL	Column Totals: (A) (B)	
3. Erodium cicutarium 2 N UPL Prevalence Index = B/A = 4. Bowlesia incana 5 N FACU Hydrophytic Vegetation Indicators: 5. Hycochaeris glabra 1 N UPL Dominance Test is >50% 6.	2. <u>Delphinium sp.</u>	5	N	?		
4. Bowlesia incana 5 N FACU Hydrophytic Vegetation Indicators: 5. Hycochaeris glabra 1 N UPL 6.	3. <u>Erodium cicutarium</u>	2	N	UPL	Prevalence Index = B/A =	
5. Hycochaeris glabra 1 N UPL Dominance Test is >50% 6.	4. Bowlesia incana	5	N	FACU	Hydrophytic Vegetation Indicators:	
6.	5. Hycochaeris glabra	1	N	UPL	Dominance Test is >50%	
7.	6.				Prevalence Index is ≤3.0 ¹	
8.	7				Morphological Adaptations ¹ (Provide supporting	
38 = Total Cover Woody Vine Stratum (Plot size: 10 x 10 ft) 38 = Total Cover 1. - - - 2. - - - 0 = Total Cover - - % Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0 0 - Remarks: - - - No	8				data in Remarks or on a separate sheet)	
Woody Vine Stratum (Plot size: 10 x 10 ft)	···	38	= Total Cov	Or	Problematic Hydrophytic Vegetation ¹ (Explain)	
1.	Woody Vine Stratum (Plot size: <u>10 x 10 ft</u>)					
2.	1				¹ Indicators of hydric soil and wetland hydrology must	
0 = Total Cover Hydrophytic % Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0 Remarks: Remarks: No	2.				be present, unless disturbed or problematic.	
% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0 Vegetation Remarks: Present? Yes No		0	= Total Cov	ver	Hydrophytic	
% Bare Ground in Herb Stratum b0 % Cover of Biotic Crust Present? Yes No Remarks:		() ()	· · · · · · ·		Vegetation	
Remarks:	% Bare Ground in Herb Stratum % Cover	of Biotic C	rust 0		Present? Yes No V	
	Remarks:					
Upland vegetation	Upland vegetation					

Sampling Point:

- r	Redox Features		
(inches) Color (moist) %	<u>Color (moist)</u> % Type ¹	Loc ² Texture	Remarks
·			
Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covered or Coate	ed Sand Grains. ² Location	PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for P	roblematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck	A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck	A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Ve	ertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleved Matrix (F2)	Red Parent	Material (TF2)
Stratified Lavers (A5) (LRR C)	Depleted Matrix (F3)	Other (Exnl:	ain in Remarks)
1 cm Muck (A9) (I BR D)	Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		
Thick Dark Surface (A12)	Redox Depressions (F8)	³ Indicators of hy	drophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydro	loav must be present.
Sandy Gleved Matrix (S4)		unless disturb	ed or problematic
<u>Restrictive Laver (if present):</u>			
Depth (inches):		Hydric Soil Pres	ent? Yes <u>No</u>
Remarks.			
YDROLOGY			
YDROLOGY Wetland Hydrology Indicators:			
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d; check all that apply)	Secondary	Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1)	<u>d; check all that apply)</u> Salt Crust (B11)	<u>Secondary</u> Water	Indicators (2 or more required) Marks (B1) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	<u>t; check all that apply)</u> Salt Crust (B11) Biotic Crust (B12)	<u>Secondary</u> Water Sedimo	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	<u>d; check all that apply)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary Water Sedimo Drift Do	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	<u>d; check all that apply)</u> <u>Salt Crust (B11)</u> Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<u>Secondary</u> Water Sedimo Drift Do Draina	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	Secondary Water Sedimo Drift Do Draina Living Roots (C3) Drv-Se	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) b Burrows (C8)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (P6)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Bacent Iron Boduction in Tillo	<u>Secondary</u> Water Sedime Drift De Draina Living Roots (C3) Crayfis	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	d: check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C- Recent Iron Reduction in Tille	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-See 4) Crayfis d Soils (C6) Satura Shalloo	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) v Aquitard (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) v Aquitard (D3) eutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedima Drift Da Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedima Drift Do Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura Shallou FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) v Aquitard (D3) eutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedima Drift Do Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura Shalloo FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) v Aquitard (D3) eutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Mater Table Present? Yes	d: check all that apply)	Secondary Water Sedima Drift Da Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura Shallou FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) v Aquitard (D3) eutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedima Drift Da Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Satura Shallou FAC-N	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5)
WPDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	d: check all that apply)	Secondary Water Sedima Drift Da Draina Dry-Se 4) Crayfis d Soils (C6) Satura Shallou FAC-N Wetland Hydrology Pre pections), if available:	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5)
WDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d; check all that apply)	Secondary Water Sedime Drift De Drift De Draina Dry-See Dry-See Orayfis d Soils (C6) Satura FAC-N Wetland Hydrology Pre pections), if available:	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5)
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se 4) Crayfis d Soils (C6) Shallow FAC-N Wetland Hydrology Pre pections), if available:	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ition Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5) sent? Yes No
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se (Cayfis Satura Shallov FAC-N Wetland Hydrology Pre pections), if available:	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9) v Aquitard (D3) eutral Test (D5) sent? Yes No
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Drift De Draina Dry-Se (Cayfis Satura Shallov FAC-N Wetland Hydrology Pre pections), if available: FAILED	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5) sent? Yes No
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se (Cayfis Satura Shallov FAC-N Wetland Hydrology Pre pections), if available: FAILED	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5) sent? Yes No
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	Secondary Water Sedime Drift De Draina Living Roots (C3) Dry-Se (Cayfis Satura Shallov FAC-N Wetland Hydrology Pre pections), if available: FAILED	Indicators (2 or more required) Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 v Aquitard (D3) eutral Test (D5) sent? Yes No

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Sycuan Sloane Canyon Trail Project Project Number: CSD-06.09 Stream: Tributary of Sweetwater River Investigator(s): Sward, L., Bakker, J., Bottiani, A.	Date: 01/29/19Time: 10:50 amTown: DehesaState: CAPhoto begin file#:Photo end file#:10:46 am to 10:56 am			
Y \square / N \square Do normal circumstances exist on the site?	Location Details: (located within Segment 5 study area) Drainage #4, Sample Point 3			
Y I / N I is the site significantly disturbed?Projection: LCCDatum: NAD 83Coordinates: 32.763592, -116.846663				
Potential anthropogenic influences on the channel system:				
Abandoned road crosses drainage - minimal effects. Ariz	ona crossing downstream functions as grade control			
structure. Located within the Segment 5 study area.				
Brief site description:				
Intermittent stream Palatively level (2.3% slope)				
internitient stream. Relatively level (2-3% slope).				
Checklist of resources (if available):				
Aerial photography	je data			
Dates: 2018 Gage number of r	ecord:			
Geologic maps	v of recent effective discharges			
Vegetation maps	s of flood frequency analysis			
\square Soils maps \square Most r	ecent shift-adjusted rating			
Rainfall/precipitation maps	heights for 2-, 5-, 10-, and 25-year events and the			
Existing delineation(s) for site most r	ecent event exceeding a 5-year event			
Global positioning system (GPS)				
Other studies				
Hydrogeomorphic F	loodplain Units			
Active Floodplain	Low Terrace			
Low-Flow Channels	OHWM Paleo Channel			
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:			
1 Walk the channel and floodplain within the study area :	to get an impression of the geomorphology and			
vegetation present at the site	to get an impression of the geomorphology and			
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.			
3. Determine a point on the cross section that is character	istic of one of the hydrogeomorphic floodplain units.			
a) Record the floodplain unit and GPS position.				
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the			
floodplain unit.				
c) Identify any indicators present at the location.				
4. Repeat for other points in different hydrogeomorphic fl	loodplain units across the cross section.			
5. Identity the OHWM and record the indicators. Record	the OHWM position via:			
I I Iviapping on aerial photograph	LIPN			

Inches (in)	Millimeters (mm)	Wentworth size class
10.08 —	— — 256 — —	Boulder
2.56 —	64	Cobble
0.157	4	Pebble0
0.079	2.00	Granule
0.039 —	— – 1.00 — –	Very coarse sand
0.020 —	0.50	Coarse sand
1/2 0.0098 —	0.25	Medium sand ਲ
1/4 0.005 —	— — 0.125 — —	Fine sand
1/8 - 0.0025 -	0.0625	Very fine sand
1/16 0.0012 —	0.031	Coarse silt
1/32 0.00061 —	— —	Medium silt
1/64 0.00031 —	— – 0.0078 — –	Fine silt
1/128 - 0.00015-	0.0039	Very fine silt
		Clay M

Wentworth Size Classes

Project ID: CSD-06.09 Cross section ID: Sample Point 3 Date: 01/29/19 Time: 10:50 am
Cross section drawing:
OHWM
GPS point: <u>32.763592, -116.846663</u>
Indicators: Image: In average sediment texture Image: Break in bank slope Image: In vegetation species Image: Other:
Comments:
Flood plain unit: I Low Flow Channel Active Flood plain I Low Terrace
GPS point: 32.763581, -116.846691
Characteristics of the floodplain unit: Average sediment texture: Sand Total veg cover: 0 % Herb: %
Community successional stage: Image: Community successional stage: Image: NA Image: Community successional stage: Image: Community successional stage: Image: Community successional stage: Image: Community successing stage: Image: Community successional s
Indicators: □ Soil development □ Mudcracks □ Soil development □ Ripples □ Surface relief □ Drift and/or debris □ Other:
Comments:
Sandy bottom channel - unvegetated.

Project ID: CSD-06.09 Cross section ID :	: Sample Point 3 Date: 01/29/19	Time: 10:50 am
Floodplain unit: Low-Flow Channel	Active Floodplain	Low Terrace
GPS point: <u>32.763581, -116.846620</u>		
Characteristics of the floodplain unit: Average sediment texture: Sand Total veg cover: 80 % Tree: 60 % Community successional stage: ✓ NA ☐ Early (herbaceous & seedlings)		saplings) mature trees)
Indicators: Mudcracks Ripples NA Drift and/or debris Presence of bed and bank Benches	 Soil development Surface relief Other: Other: Other: Other: 	
Comments:		
East side of low flow channel.		
Floodplain unit: Low-Flow Channel	Active Floodplain	Low Terrace
GPS point: <u>32.763517, -116.846703</u>	-	
Characteristics of the floodplain unit: Average sediment texture: Sand (finer than in 1) Total veg cover: 70 % Tree: 0 % Community successional stage: NA ☑ NA ☑ Early (herbaceous & seedlings)	low-flow channel.) Shrub: 0_% Herb: <u>70</u> % ☐ Mid (herbaceous, shrubs, ☐ Late (herbaceous, shrubs,	saplings) mature trees)
Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	 Soil development Surface relief Other: Other: Other: Other: 	
Comments:		
High bar between paleo and low-flow channel.		

REPORT DOCUMENTATION PAGE					Form Approved	
	CFUCI DUC			viewing instructions	OMB No. 0/04-0188	
the data needed, and completin reducing this burden to Departm	ig and reviewing this collection	of information. Send comments reg eadquarters Services. Directorate for	garding this burden estimate	e or any other aspe	ct of this collection of information, including suggestions for (a) 1215 Jefferson Davis Highway, Suite 1204 Arlington VA	
22202-4302. Respondents shou currently valid OMB control num	uld be aware that notwithstand	ng any other provision of law, no pers	son shall be subject to any p	penalty for failing to	comply with a collection of information if it does not display a	
1. REPORT DATE (DD-July 2010	1. REPORT DATE (DD-MM-YYYY)2. REPORT TYPEJuly 2010Technical Note				DATES COVERED (From - To)	
4. TITLE AND SUBTITL	.E			58	a. CONTRACT NUMBER	
Updated Datasheet for	or the Identification	of the Ordinary High Wa	ter Mark (OHWM) in the		
Arid West Region of	the Western United	States	· · · ·	<u></u> 51	D. GRANT NUMBER	
					C. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				50	I. PROJECT NUMBER	
Katherine E. Curtis a	nd Robert W. Lichv	ır		56	e. TASK NUMBER	
				51	. WORK UNIT NUMBER	
7. PERFORMING ORG	ANIZATION NAME(S)	AND ADDRESS(ES)		8.	PERFORMING ORGANIZATION REPORT NUMBER	
U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory 72 Lyme Road Hanover, NH 03755-1290					ERDC/CRREL TN-10-1	
9. SPONSORING / MON	NITORING AGENCY N	AME(S) AND ADDRESS(E	S)	1(). SPONSOR/MONITOR'S ACRONYM(S)	
Headquarters						
U.S. Army Corps of I Washington DC 20	Engineers			1	1. SPONSOR/MONITOR'S REPORT	
washington, DC 20	5514-1000				NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT						
A		:1::4- 4				
Approved for public i	release; distribution	is unifmited.				
13. SUPPLEMENTARY	NOTES					
14. ABSTRACT						
The Ordinary High Water Mark (OHWM) is a method used to identify the lateral limits of non-wetland waters. Lichvar and McColley (2008) developed an OHWM delineation manual for ephemeral and intermittent streams in the Arid West. Their approach identified key hydrologic, geomorphic, and vegetation indicators useful in OHWM delineation. This technical note provides an updated datasheet to the manual. The datasheet has been simplified but still includes the overall field signatures and preliminary methods used to determine the OHWM. The datasheet now focuses on identifying the characteristics of each individual hydrogeomorphic floodplain unit and uses the differences between the floodplain units to identify the OHWM.						
15. SUBJECT TERMS Arid West, Floodplai	15. SUBJECT TERMS Arid West, Floodplains, Ephemeral streams, Intermittent streams, Ordinary High Water Mark					
16. SECURITY CLASSI	FICATION OF:		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON	
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area	
U	U	U	U	20	coae)	
					Standard Form 200 (Dev. 0.00)	

Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State: CA	Sampling Point:	SP 3	
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, Range	e: <u>Sec. 23., T. 16 S.</u> ,	R. 1 E.		
Landform (hillslope, terrace, etc.): <u>Streambed</u>	_ Local relief (concave, cor	ivex, none): <u>none</u>	Slop	be (%): <u>3</u>	
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	2.763168 L	.ong: <u>-116.8466</u>	Datur	m: <u>NAD 83</u>	
Soil Map Unit Name: <u>TuB - Tujunga sand, 0 to 5 percent slopes</u> NWI classification: <u>R4SBA</u>					
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🖌 No _	(If no, explain in I	Remarks.)		
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "No	rmal Circumstances"	present? Yes <u></u>	 No	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If need	ed, explain any answ	ers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loc	ations, transect	s, important fe	atures, etc.	

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes 🖌 🖌 Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					

SP is located in low-flow channel where old road crosses it. NWI: Riverine, intermittent, streambed, temporary flooded. Non-wetland WUS. Located within the Segment 5 study area.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: $r = 30$ ft)		Species?	Status	Number of Dominant Species	
1. <u>Platanus racemosa</u>	25	<u> </u>	FAC	That Are OBL, FACW, or FAC: <u>1</u> ((A)
2. <u>Sambucus nigra</u>	5	<u> N</u>	FACU	Total Number of Dominant	
3				Species Across All Strata: 1 ((B)
4				Percent of Dominant Species	
	30	= Total Co	ver	That Are OBL, FACW, or FAC: 100% ((A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>r = 15 ft</u>)					· /
1. <u>Baccharis salicifolia</u>	1	<u> N </u>	FAC	Prevalence Index worksheet:	
2. Diplacus puniceus	1	<u>N</u>	UPL	Total % Cover of: Multiply by:	•
3				OBL species x 1 =	
4				FACW species x 2 =	
5				FAC species x 3 =	
	2	= Total Co	ver	FACU species x 4 =	
<u>Herb Stratum</u> (Plot size: <u>r = 5 ft</u>)				UPL species x 5 =	
1. <u>Stipa miliacea</u>	2	<u>N</u>	UPL	Column Totals: (A)	(B)
2. <u>Bromus diandrus</u>	2	<u>N</u>	UPL		. ,
3				Prevalence Index = B/A =	-
4				Hydrophytic Vegetation Indicators:	
5.				✓ Dominance Test is >50%	
6.				Prevalence Index is ≤3.0 ¹	
7				Morphological Adaptations ¹ (Provide supportir	ng
8				data in Remarks or on a separate sheet)	-
···		- Total Co	vor	Problematic Hydrophytic Vegetation ¹ (Explain))
Woody Vine Stratum (Plot size: $r = 10 \text{ ft}$)		- 10tai C0	VEI		
1. None.				¹ Indicators of hydric soil and wetland hydrology mu	ust
2.				be present, unless disturbed or problematic.	
		= Total Co	ver	Hydrophytic	
22				Vegetation	
% Bare Ground in Herb Stratum 98 % Cover	r of Biotic C	rust <u> </u>)	Present? Yes 🖌 No	
Remarks:					
Riparian woodland/forest					

SOIL					Sampling Point: SP 3
Profile Description: (Describe t	to the depth nee	eded to document the	indicator or co	onfirm the al	osence of indicators.)
Depth Matrix		Redox Featur	es	0	
(inches) Color (moist)	<u>%</u> Co	olor (moist) %	Type' Lo	oc ² Tex	ture Remarks
<u>0-8</u> <u>10 YR 2/2</u>	100			SaL	
<u>8 - 18 10 YR 2.5/2</u>	100			Sa	
		·			
·					· ·
· ·					
¹ Type: C=Concentration, D=Depl	etion, RM=Redu	ced Matrix, CS=Cover	ed or Coated Sa	nd Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applica	able to all LRRs	, unless otherwise no	oted.)	Ind	icators for Problematic Hydric Soils':
Histosol (A1)	_	_ Sandy Redox (S5)			1 cm Muck (A9) (LRR C)
Black Histic (A3)	—	_ Stripped Matrix (S6)	al (F1)	—	2 cm Muck (A10) (LRR B) Reduced Vertic (E18)
Hydrogen Sulfide (A4)	—	Loamy Gleved Matri	ix (F2)	_	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C	;)	Depleted Matrix (F3)	_	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	—	_ Redox Dark Surface	e (F6)		
Depleted Below Dark Surface	e (A11)	_ Depleted Dark Surfa	ace (F7)	3.	
I NICK Dark Sufface (A12) Sapdy Mucky Mineral (S1)		_ Redox Depressions	(F8)	- Inc	vetland hydrology must be present
Sandy Gleved Matrix (S4)	—			U U	inless disturbed or problematic.
Restrictive Layer (if present):				-	
Туре:					
Depth (inches):				Hyd	ric Soil Present? Yes No 🖌
Remarks:					
No hydric soil indicators	obsorved				
No figure son mulcators	ubserveu.				
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of or	ne required; che	ck all that apply)			Secondary Indicators (2 or more required)
Surface Water (A1)	-	Salt Crust (B11)			Water Marks (B1) (Riverine)
High Water Table (A2)	-	Biotic Crust (B12)			Sediment Deposits (B2) (Riverine)
Saturation (A3)	-	Aquatic Invertebrat	tes (B13)		✓ Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriveri	ne)	Hydrogen Sulfide (Ddor (C1)		Drainage Patterns (B10)
Sediment Deposits (B2) (Nor	nriverine)	Oxidized Rhizosph	eres along Living	g Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriver	ine)	Presence of Reduce Presence of Reduce	ced Iron (C4)		Crayfish Burrows (C8)
Sufface Soli Cracks (B6)		Thin Muck Surface		IS (C6)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Other (Explain in F	(C7) Remarks)		EAC-Neutral Test (D5)
Field Observations:	-				
Surface Water Present? Ye	es No l	Depth (inches)			
Water Table Present? Ye	es No (Depth (inches):			
Saturation Present?	es No l	Depth (inches):		Wetland Hv	drology Present? Yes No 🗸
(includes capillary fringe)		D op an (on do):			
Describe Recorded Data (stream	gauge, monitorir	ng well, aerial photos, p	previous inspection	ons), if availa	able:
Remarks:					
Insufficient wetland hydi	rology indica	ators.			
FAC-nuetral Test; W:U =	0:1				

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Date: 01/29/19					
Town: Dehesa State: CA					
Photo begin file#: Photo end file#:					
Location Details:					
Projection: LCC Datum: NAD 83					
tem:					
None observed. Located outside the study area but representative of portions of the Sweetwater River within the study area.					
Checklist of resources (if available): ✓ ✓ Aerial photography □ Dates: 2018 Gage number: Option Topographic maps Period of record: □ Geologic maps □ ○ Geologic maps □ ○ Vegetation maps □ ○ Soils maps □ □ Rainfall/precipitation maps □ □ Rainfall/precipitation maps □ □ Global positioning system (GPS) Gage heights for 2-, 5-, 10-, and 25-year event					
Floodplain Units					
Active Floodplain					
lplain units to assist in identifying the OHWM:					
to get an impression of the geomorphology and Draw the cross section and label the floodplain units. istic of one of the hydrogeomorphic floodplain units. class size) and the vegetation characteristics of the loodplain units across the cross section. the OHWM position via: GPS					

	Mapping on acriat photograph	Ľ	UL D
ſ	Digitized on computer		Other:

Inches (in)	Millimeters (mm)	Wentworth size class
10.08 —	— — 256 — —	Boulder
2.56 —	64	Cobble
0.157	4	Pebble0
0.079	2.00	Granule
0.039 —	— – 1.00 — –	Very coarse sand
0.020 —	0.50	Coarse sand
1/2 0.0098 —	0.25	Medium sand ਲ
1/4 0.005 —	— — 0.125 — —	Fine sand
1/8 - 0.0025 -	0.0625	Very fine sand
1/16 0.0012 —	0.031	Coarse silt
1/32 0.00061 —	— —	Medium silt
1/64 0.00031 —	— – 0.0078 — –	Fine silt
1/128 - 0.00015-	0.0039	Very fine silt
		Clay M

Wentworth Size Classes

Project ID: CSD-06.09 Cross section ID: Sample Point 4 Date: 01/29/19 Time: 1:38 pm

Cross section drawing:
OHWM GPS point: 32.771937, -116.844641 Indicators: □ □ Change in average sediment texture □ □ Change in vegetation species □ □ Change in vegetation cover □ ○ Change in vegetation cover □ ○ Change in vegetation cover □ ○ Other: □ ○ Other: □ Other: □ Other: □ Other: □ Other: □ Other: □ Other: □ Other: □ Other: □ Other: □ □ □ □ □ □ □
Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: <u>32.771927</u> , -116.8446989	
Characteristics of the floodplain unit: Average sediment texture: Sand	
Total veg cover: 20 % Tree: 0 %	Shrub: <u>20</u> % Herb: <u>0</u> %
Community successional stage:	
	Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature trees)
Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches Comments:	 Soil development Surface relief Other: Other: Other: Other:
Comments;	

Project ID: CSD-06.09 Cross section ID	: Sample Point 4 Date: 01/29/19 Time: 1:38 pm
Floodplain unit: Low-Flow Channel	Active Floodplain 🗹 Low Terrace
GPS point: <u>32.7719366, -116.8445963</u>	
Characteristics of the floodplain unit: Average sediment texture: <u>Silt</u> Total veg cover: <u>80</u> % Tree: <u>0</u> % Community successional stage: NA Early (herbaceous & seedlings)	Shrub: 50 % Herb: 70 % ☑ Mid (herbaceous, shrubs, saplings) ☑ Late (herbaceous, shrubs, mature trees)
Indicators: ☐ Mudcracks ☐ Ripples ☑ Drift and/or debris ☐ Presence of bed and bank ☐ Benches	 Soil development Surface relief Other: Other: Other: Other:
Comments:	
Floodplain unit: Low-Flow Channel GPS point: <u>32.7719282</u>, -116.8447089 	Active Floodplain Low Terrace
Characteristics of the floodplain unit: Average sediment texture: <u>Silt</u> Total veg cover: <u>80</u> % Tree: <u>0</u> % Community successional stage: NA Early (herbaceous & seedlings)	Shrub: 40 % Herb: 72 % ☑ Mid (herbaceous, shrubs, saplings) ☑ Late (herbaceous, shrubs, mature trees)
Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	 Soil development Surface relief Other: Other: Other: Other:
Comments:	

REPORT DOCUMENTATION PAGE					Form Approved	
	CFUCI DUC			viewing instructions	OMB No. 0/04-0188	
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U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory 72 Lyme Road Hanover, NH 03755-1290					ERDC/CRREL TN-10-1	
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Headquarters						
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washington, DC 20	5514-1000				NUMBER(S)	
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The Ordinary High Water Mark (OHWM) is a method used to identify the lateral limits of non-wetland waters. Lichvar and McColley (2008) developed an OHWM delineation manual for ephemeral and intermittent streams in the Arid West. Their approach identified key hydrologic, geomorphic, and vegetation indicators useful in OHWM delineation. This technical note provides an updated datasheet to the manual. The datasheet has been simplified but still includes the overall field signatures and preliminary methods used to determine the OHWM. The datasheet now focuses on identifying the characteristics of each individual hydrogeomorphic floodplain unit and uses the differences between the floodplain units to identify the OHWM.						
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16. SECURITY CLASSI	FICATION OF:		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON	
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area	
U	U	U	U	20	coae)	
					Standard Form 200 (Dev. 0.00)	

Project/Site: Sycuan Sloane Canyon Trail Project	City/County: San Diego/San Diego County	Sampling Date: 01/29/2019
Applicant/Owner: County of San Diego Department of Parks and	d Recreation State: CA	Sampling Point: 4
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, Range: Sec. 23., T. 16 S.	, R. 1 E.
Landform (hillslope, terrace, etc.): Streambed	Local relief (concave, convex, none): <u>none</u>	Slope (%): 2%
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	2.771937 Long: <u>-116.844641</u>	Datum: NAD 83
Soil Map Unit Name: <u>TuB - Tujunga sand, 0 to 5 percent slopes</u>	NWI classif	ication: PFOA
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🖌 No (If no, explain in)	Remarks.)
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "Normal Circumstances"	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No Hydric Soil Present? Yes No	Is the Sampled Area	

Hydric Soli Present?	Yes No	within a Wetland?	Ves No 🖌	
Wetland Hydrology Present?	Yes 🖌 No	- Within a Wethand :		
Remarks:		<u>.</u>		
	//. Delivertaine franceste d	to see a second flag all all blags		

SP in Sweetwater River. NWI: Palustrine, forested, temporary flooded. Non-wetland WUS. Located outside the study area but representative of portions of Sweetwater River floodplain within the study area.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
1	<u>% Cover</u>	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 1	(A)
2				Total Number of Dominant	
3				Species Across All Strata: 1	(B)
4 Sapling/Shrub Stratum (Plot size:40 x 30 ft)	0	= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u>	(A/B)
1. <u>Baccharis salicifolia subsp. salicifolia</u>	10	Y	FAC	Prevalence Index worksheet:	
2				Total % Cover of: Multiply by:	_
3.				OBL species x 1 =	_
4.				FACW species x 2 =	_
5.				FAC species x 3 =	_
	10	= Total Co	ver	FACU species x 4 =	_
Herb Stratum (Plot size: 5 x 5 ft)		-		UPL species x 5 =	_
1. <u>Rumex crispus</u>	1	<u> N</u>	FAC	Column Totals: (A)	(B)
2. Bromus diandrus	2	<u> N</u>	UPL		,
3				Prevalence Index = B/A =	
4				Hydrophytic Vegetation Indicators:	
5				Dominance Test is >50%	
6				Prevalence Index is $≤3.0^1$	
7				Morphological Adaptations ¹ (Provide suppor data in Remarks or on a separate sheet)	ting
0	3	- Total Co	vor	Problematic Hydrophytic Vegetation ¹ (Explai	n)
Woody Vine Stratum (Plot size: 10 x 10)		- 10tai C0	VEI		
12.				¹ Indicators of hydric soil and wetland hydrology n be present, unless disturbed or problematic.	nust
	0	= Total Co	ver	Hydrophytic Vegetation	
% Bare Ground in Herb Stratum <u>15</u> % Cove	r of Biotic C	rust <u>8</u> (0	Present? Yes <u>V</u> No	
Remarks:					
Mule fat scrub					

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirm	n the absence	of indicato	rs.)		
Depth	Matrix		Redo	x Feature	s						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	Texture		Remarks		
<u>0-3</u>	<u>10 YR 3/2</u>	100		. <u></u>			Sa	Coarse			
3 - 6	10 YR 3/3.5	100		<u></u>			Sa				
6 - 8	10 YR 2/2	100		<u></u>			Sa	Coarse			
<u>8 - 18</u>	<u>10 YR 3/2</u>	100					Sa	Coarse			
		<u> </u>									
¹ Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	S=Covered	d or Coate	d Sand G	rains. ² Lo	cation: PL=I	Pore Lining, N	/I=Matrix.	
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless other	wise not	ed.)		Indicators	for Probler	matic Hydric	Soils ³ :	
Histosol	(A1)		Sandy Redo	ox (S5)			1 cm I	Muck (A9) (L	.RR C)		
Histic Ep	pipedon (A2)		Stripped Ma	atrix (S6)			2 cm I	Muck (A10) (LRR B)		
Black Hi	stic (A3)		Loamy Muc	ky Minera	l (F1)		Reduc	ed Vertic (F	18)		
Hydroge	n Sulfide (A4)		Loamy Gley	ed Matrix	(F2)		Red P	arent Materi	al (TF2)		
Stratified	Lavers (A5) (LRR (C)	Depleted M	atrix (F3)	()		Other	(Explain in F	Remarks)		
1 cm Mu	ick (A9) (I RR D)	- /	Redox Dark	Surface i	(F6)			(,		
Depleter	1 Below Dark Surfac	e (A11)	Depleted D:	ark Surfac	(F7)						
Thick Da	ark Surface (A12)	C (////)	Depicted Da	cecione (³ Indicators	of hydrophy	tic vegetation	and	
Thick Da	Ark Sullace (A12)			C3310113 (1	10)		wotland	budrology m		anu	
Sandy N	Neved Matrix (S1)			5(F9)			wellanu	listurbod or i	iust be preser	IL,	
Restrictive I	aver (if present):						uniess c		Dioplematic.		
Type:											
Type											,
Depth (inc	ches):		<u> </u>				Hydric Soi	Present?	Yes	No <u>v</u>	
Remarks:											
Fine laver	on surface (0.	05") 10`	YR 2/2 silt.								
,	,	,	•								

HYDROLOGY

Wetland Hydrology Indicate	ors:					
Primary Indicators (minimum	of one requi	ired; ch	<u>ieck a</u>	all that apply)		Secondary Indicators (2 or more required)
Surface Water (A1)				Salt Crust (B11)		Water Marks (B1) (Riverine)
High Water Table (A2)			~	Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
Saturation (A3)				Aquatic Invertebrates (B13)		✓ Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonri	verine)			Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
Sediment Deposits (B2)	(Nonriverine	e)		Oxidized Rhizospheres along Livin	ng Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonr	riverine)			Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
✓ Surface Soil Cracks (B6)				Recent Iron Reduction in Tilled So	ils (C6)	Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aer	ial Imagery	(B7)		Thin Muck Surface (C7)		Shallow Aquitard (D3)
Water-Stained Leaves (E	39)			Other (Explain in Remarks)		FAC-Neutral Test (D5)
Field Observations:						
Surface Water Present?	Yes	_ No _	~	Depth (inches):		
Water Table Present?	Yes	_ No _	~	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	_ No _	~	_ Depth (inches):	Wetland Hyd	drology Present? Yes 🖌 No
Describe Recorded Data (stre	am gauge,	monito	oring v	well, aerial photos, previous inspect	ions), if availa	ble:
Remarks:						
FAC-neutral Test; W:L	J = 0:0					
,						

Project/Site: Sycuan Sloane Canyon Trail Project	(City/County:	<u>/San Di</u>	iego County	Sampling Date:	1/29/19
Applicant/Owner: <u>County of San Diego Department of</u>	Parks and	Recreatio	n	State: CA	Sampling Point:	SP 5
Investigator(s): Larry Sward, Jasmine Bakker, Angelia I	Bottiani	Section, To	wnship, Ra	nge: Sec. 23., T. 16 S.,	R. 1 E.	
Landform (hillslope, terrace, etc.): Streambed		Local relief	(concave.)	convex. none): none	Slope	e (%): 2
Subregion (LBR): C: California mediterranean	Lat: 32	771887	(,	Long: -116.844994	Datum	· NAD 83
Soil Map Unit Name: TuB - Tujunga sand, 0 to 5 percer	nt slopes			NWI classific	cation: PSSC	
Are climatic / bydrologic conditions on the site typical for this	s time of ve	ar? Yes	✓ No	(If no, explain in F	Remarks)	
Are Vegetation Soil or Hydrology s	ignificantly	disturbed?	Are "	Normal Circumstances"	present? Yes 🗸	No
Are Vegetation Soil or Hydrology n	aturally pro	blematic?	/If ne		rs in Remarks)	
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point l	ocations, transects	, important fea	tures, etc.
Hudrophytic Vegetation Present? Veg N					· •	
Hydric Soil Present? Yes No	0 <u> </u>	Is th	e Sampled	Area	,	
Wetland Hydrology Present? Yes No	o 🗸	with	in a Wetlar	nd? Yes	No 🔽	
Remarks:						
Terrace adjacent to Sweetwater River DSS	∿ Dalucti	rino scrul	h_shruh	seasonally flooder	4	
Price aujacent to Sweetwater River. PSS	- Palusu	Non iuric	dictional	Seasonally nooued	I Sogmont 2 stus	h oron
	ambeu. I	Non-Julis	ulctiona	i. Localed within the	Segment 2 stud	iy area.
VEGETATION – Use scientific names of plan	ts.					
The Obstance (Distained $r = 10$ ft	Absolute	Dominant	Indicator	Dominance Test work	(sheet:	
<u>Tree Stratum</u> (Plot size: <u>1 – 10 ft</u>)	<u>% Cover</u>	<u>Species</u> ?		Number of Dominant S	pecies	(4)
1. Quercus agrifolia	10	 N		That Are OBL, FACW,	01 FAC. <u>2</u>	(A)
2. Salix gooddingii	<u> </u>	<u> </u>		Total Number of Domir	nant	
4 Populus fremontii	<u> </u>	 V	FAC	Species Across All Stra	ita: <u>0</u>	(B)
	<u> </u>			Percent of Dominant S	pecies	
Sapling/Shrub Stratum (Plot size: r = 15 ft)			vei	That Are OBL, FACW,	or FAC: <u>33 %</u>	• (A/B)
1. Eriogonum fasciculatum	35	Y	UPL	Prevalence Index wor	·ksheet:	
2. <u>Salix lasiolepis</u>	20	Y	FACW	Total % Cover of:	Multiply I	by:
3				OBL species	x 1 =	
4				FACW species	x 2 =	
5				FAC species	x 3 =	
	55	= Total Co	ver	FACU species	x 4 =	
<u>Herb Stratum</u> (Plot size: $r = 5 \text{ ft}$)	2		FACU	UPL species	x 5 =	
1. <u>Pseudognaphalium canescens</u>	3	<u> </u>	FACU	Column Totals:	(A)	(B)
2. Lepidium sp.	<u>1</u>	<u> </u>	<u>'</u>	Provalance Index	/ - P/A -	
3. Bromus magnitensis	<u> </u>	<u> </u>		Hydronbytic Vegetati	on Indicators:	
4. Logila arizonica		<u> </u>		Dominance Test is	>50%	
		<u> </u>	UPL	Prevalence Index i	1 > 30 %	
0 7				Morphological Ada	e =e.e eptations ¹ (Provide si	upporting
/			. <u> </u>	data in Remark	s or on a separate s	heet)
0	<u> </u>	- Total Co		Problematic Hydro	phytic Vegetation ¹ (I	Explain)
Woody Vine Stratum (Plot size: <u>r = 10 ft</u>)	0		vei			
1				¹ Indicators of hydric so	il and wetland hydro	logy must
2				be present, unless dist	urbed or problematic).
	0	= Total Co	ver	Hydrophytic		
% Bare Ground in Herb Stratum 40 % Cover	of Biotic C	rust Ո	1	Vegetation	s No 🗸	
Remarke:						_
Upland vegetation						

SP 5

Depth	Matrix		Redox Features			
nches)	Color (moist)	%	Color (moist) % Type ¹	Loc ²	Texture	Remarks
- 4	10 YR 4/3	100		Sa		
- 11	<u>10 YR 4/2</u>	100		Sa		
1 - 18	10 YR 4/3	100		Sa		Coarse
ype: C=C	oncentration, D=Dep	pletion, RM=Re	educed Matrix, CS=Covered or Coated	Sand Grains	2Lo	cation: PL=Pore Lining, M=Matrix.
/dric Soil	Indicators: (Applic	cable to all LR	Rs, unless otherwise noted.)	I	ndicators	for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)	_	1 cm M	Muck (A9) (LRR C)
_ Histic Ep	pipedon (A2)		Stripped Matrix (S6)	-	2 cm M	Muck (A10) (LRR B)
Black Hi	istic (A3)		Loamy Mucky Mineral (F1)	-	Reduc	ed Vertic (F18)
_ Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	-	Red P	arent Material (TF2)
_ Stratified	d Layers (A5) (LRR	C)	Depleted Matrix (F3)	-	Other	(Explain in Remarks)
_ 1 cm Mu	uck (A9) (LRR D)		Redox Dark Surface (F6)			
_ Depleted	d Below Dark Surfac	ce (A11)	Depleted Dark Surface (F7)			
_ Thick Da	ark Surface (A12)		Redox Depressions (F8)	3	Indicators	of hydrophytic vegetation and
Sandy M	/lucky Mineral (S1)		Vernal Pools (F9)		wetland	hydrology must be present,
_ Sandy G	Bleyed Matrix (S4)				unless d	listurbed or problematic.
estrictive I	Layer (if present):					
Туре:						
Depth (ind	ches):			н	ydric Soil	Present? Yes No 🖌
Depth (indemarks:	ches):			н	ydric Soil	Present? Yes No
Depth (ingeneration) emarks: lo hydric	ches):	5		н	ydric Soil	Present? Yes No
Depth (in emarks: lo hydric 'DROLO	ches): c soil indicators GY	5		н	ydric Soil	Present? Yes No
Depth (in emarks: o hydric /DROLO /etland Hyd	ches): c soil indicators GY drology Indicators	5		H	ydric Soil	Present? Yes <u>No</u>
Depth (in emarks: o hydric 'DROLO retland Hyd rimary Indic	ches): c soil indicators GY drology Indicators cators (minimum of c	5 : one required; c	check all that apply)	H	ydric Soil	Present? Yes <u>No</u> <u>V</u>
Depth (ind emarks: o hydric DROLO etland Hyd imary Indic _ Surface	ches): c soil indicators GY drology Indicators cators (minimum of o Water (A1)	5 : one required; c	<u>check all that apply)</u>	H	ydric Soil	Present? Yes <u>No</u> <u>v</u> ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Depth (ind emarks: o hydric DROLO (DROLO (etland Hyd imary Indic _ Surface _ High Wa	ches): c soil indicators GY drology Indicators cators (minimum of o Water (A1) ater Table (A2)	5 : one required; c	<u>check all that apply)</u> Salt Crust (B11) Biotic Crust (B12)	H	ydric Soil	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Depth (ind emarks: o hydric DROLO etland Hyd imary Indic _ Surface _ High Wa _ Saturatic	ches): c soil indicators GY drology Indicators cators (minimum of o Water (A1) ater Table (A2) on (A3)	5 : one required; c	<u>check all that apply)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)		ydric Soil <u>Seco</u> V S C	Present? Yes No _ ✓ ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine)
Depth (ind emarks: o hydric DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M	ches): c soil indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver	5 : one required; c	<u>check all that apply)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		ydric Soil <u>Seco</u> V S C	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10)
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Depth (ind emarks: o hydric DROLO Control Con Control	ches): c soil indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6)	5 cone required; c rine) pariverine) erine)	<u></u>	iving Roots (C Soils (C6)	ydric Soil	Present? Yes No ✓ Indary Indicators (2 or more required) No ✓ Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orift Deposits (B3) (Riverine) Orift Deposits (B10) Ory-Season Water Table (C2) Orayfish Burrows (C8) Saturation Visible on Aerial Imagery (C
Depth (ind emarks: o hydric DROLO tiland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Surface Inundati	ches): C SOII indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6) on Visible on Aerial	s inne required; c ponriverine) prine) Imagery (B7)	<u>heck all that apply)</u> <u>Salt Crust (B11)</u> Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7)	iving Roots (0 Soils (C6)	ydric Soil	Present? Yes No ✓ Indary Indicators (2 or more required) Nater Marks (B1) (Riverine) Nater Marks (B1) (Riverine) Vater Marks (B1) (Riverine) Nater Marks (B2) (Riverine) Nater Marks (B3) (Riverine) Orift Deposits (B3) (Riverine) Nater Marks (B10) Nater Table (C2) Orainage Patterns (B10) Nater Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aguitard (D3) Nater Marks (D3)
Depth (ind emarks: o hydric DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Surface Inundatic Water-S	ches): c soil indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6) on Visible on Aerial datained Leaves (B9)	5 cone required; c ponriverine) prine) Imagery (B7)	<u>check all that apply)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	iving Roots (0 Soils (C6)	ydric Soil	Present? Yes No✓ ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) (AC-Neutral Test (D5)
Depth (ind emarks: o hydric DROLO (DR	ches): c soil indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6) on Visible on Aerial itained Leaves (B9) vations:	5 cone required; c prine) prine) Imagery (B7)	<u>check all that apply)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	iving Roots (0 Soils (C6)	ydric Soil	Present? Yes No ✓ Indary Indicators (2 or more required) Nater Marks (B1) (Riverine) Nater Marks (B1) (Riverine) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Nater Marks (B1) (Riverine) Orift Deposits (B3) (Riverine) Nater Marks (B10) Nater Marks (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) GAC-Neutral Test (D5) Saturation Sector (D2) Saturation Case (D2)
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Depth (ind emarks: O hydric /DROLO /DROLO /etland Hyd rimary Indic 	ches): c soil indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver nt Deposits (B2) (Noriver Soil Cracks (B6) on Visible on Aerial itained Leaves (B9) vations: er Present? Present?	5 cone required; c porriverine) prine) Imagery (B7) Yes No Yes No Yes No	Check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks) ✓ Depth (inches): ✓ Depth (inches):	iving Roots (0 Soils (C6)	ydric Soil	Present? Yes No ✓ Indary Indicators (2 or more required) Marks (B1) (Riverine) Marks (B1) (Riverine) Vater Marks (B1) (Riverine) Marks (B2) (Riverine) Marks (B1) (Diverine) Orift Deposits (B3) (Riverine) Marks (B10) Marks (B10) Ory-Season Water Table (C2) Marks (C8) Marks (C8) Gaturation Visible on Aerial Imagery (C8) Marks (D3) Marks (D3) GAC-Neutral Test (D5) Marks (D5) Marks (D5)
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Depth (ind emarks: IO hydric /DROLO /etland Hyd rimary Indic 	ches): C SOII indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6) on Visible on Aerial itained Leaves (B9) vations: er Present? Present? pillary fringe) corded Data (stream	S cone required; c prine) priverine) prine) Imagery (B7) Yes No Yes No Yes No Yes No Yes No Yes No	Check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks) ✓ Depth (inches): ✓ Depth (inches): ✓ Depth (inches): ✓ Depth (inches):	Ving Roots (C Soils (C6)	ydric Soil <u>Secon</u> <u>Secon</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u>	Present? Yes No ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C3) Schallow Aquitard (D3) (AC-Neutral Test (D5) y Present? Yes No
Depth (ind emarks: IO hydric /DROLO /etland Hyd rimary India Surface High Wa Saturatia Saturatia Sedimer Nater Ma Sedimer 	ches): C SOII indicators GY drology Indicators cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonriver nt Deposits (B2) (No posits (B3) (Nonriver Soil Cracks (B6) on Visible on Aerial itained Leaves (B9) vations: er Present? Present? pillary fringe) corded Data (stream	s i one required; c rine) priverine) imagery (B7) Yes No Yes No Yes No Yes No Yes No n gauge, monit	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks) ✓ Depth (inches): ✓ Depth (inches): ✓ Depth (inches): ✓ Depth (inches):	iving Roots (0 Soils (C6)	ydric Soil <u>Secon</u> VSC C3)C C3)CSSF Hydrolog ailable:	Present? Yes No✓ ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) SAC-Neutral Test (D5) y Present? Yes No✓
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Project/Site: Sycuan Sloane Canyon Trail Project	City/County: San Di	iego/San Diego C	ounty Sampling	Date: 1/29/19
Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State:	CA Sampling	Point: <u>6</u>
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, I	Range: <u>Sec. 16., T</u>	. 16 S., R. 1 E.	
Landform (hillslope, terrace, etc.): Drainage swale	Local relief (concav	e, convex, none): <u>c</u>	oncave	Slope (%): <u>4</u>
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	2.785590	Long: <u>-116.88</u>	32782	Datum: NAD 83
Soil Map Unit Name: CkA - Chino silt loam, saline, 0 to 2 percer	nt slopes	NW	l classification: <u>non</u>	e
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🔽 No	o (If no, exp	plain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Ar	re "Normal Circums	tances" present? Y	′es 🖌 No
Are Vegetation, Soil, or Hydrology naturally pre-	oblematic? (If	needed, explain ar	y answers in Rema	rks.)
SUMMARY OF FINDINGS – Attach site map showing	y sampling point	t locations, tra	nsects, importa	ant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>′</u> No <u>′</u> No <u>′</u>	Is the Sampled Area within a Wetland?	Yes	No 🔽
Remarks:					

Drainage 12a. Drainage swale north of Dehesa Rd. Located within the Segment 6b study area.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>20 ft x 60 ft</u>)	% Cover	Species?	Status	Number of Dominant Species
1. <u>None.</u>			<u> </u>	That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4				Percent of Dominant Species
		= Total Co	ver	That Are OBL, FACW, or FAC: 0 % (A/B)
Sapling/Shrub Stratum (Plot size: 20 ft x 30 ft)				
1. <u>Sambucus nigra subsp. caerulea</u>	15	<u> </u>	FACU	Prevalence Index worksheet:
2. Artemisia californica	1	<u>N</u>	UPL	Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
	16	= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size: <u>10 ft x 10 ft</u>)				UPL species x 5 =
1. Urtica urens	5	<u> </u>	UPL	Column Totals: (A) (B)
2. <u>Erodium moschatum</u>	2	<u>N</u>	UPL	
3. <u>Avena barbata</u>	10	Y	UPL	Prevalence Index = B/A =
4. Amsinckia menziesii	1	<u>N</u>	UPL	Hydrophytic Vegetation Indicators:
5. <u>Malva parviflora</u>	1	N	UPL	Dominance Test is >50%
6. <u>Centaurea melitensis</u>	1	N	UPL	Prevalence Index is ≤3.0 ¹
7. Sisymbrium ultissimum	2	N	FAC	Morphological Adaptations ¹ (Provide supporting
8. Brassica nigra	2	N	UPL	data in Remarks or on a separate sheet)
	24	= Total Co	ver	Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum (Plot size: 20 ft x 20 ft)				
1. None.				¹ Indicators of hydric soil and wetland hydrology must
2				be present, unless disturbed or problematic.
	_	= Total Co	ver	Hydrophytic
% Bare Ground in Herb Stratum <u>60</u> % Cove	r of Biotic C	rust 0		Vegetation Present? Yes <u>No </u>
Remarks:				
Upland vegetation				

Profile Description: (Describe to the depth needed to document the indicator or cor Depth Matrix Redox Features (inches) Color (moist) % Color (moist) %	nfirm the absence of indicators.)
Depth Matrix Redox Features (inches) Color (moist) % Type ¹ Loc	C2 Texture Remarks
Color (moist) % Color (moist) % Type ¹ Loc	C2 Texture Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated San	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated San	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated San	
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Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated San	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated San	
	d Grains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hvdrogen Sulfide (A4) Loamy Gleved Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Thick Dark Surface (A12) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleved Matrix (S4)	unless disturbed or problematic.
Restrictive Laver (if present):	
Type	
Depth (inches):	Hydric Soil Present? Yes No
YDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
	<u>Secondary Indicators (2 of more required)</u>
Surface water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2) Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
 Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) 	Drift Deposits (B3) (Riverine) Drinage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)
Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)
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	Drift Deposits (B3) (Riverine) Drinage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)
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	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Metland Hydrology Present? Yes No✓
	Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drinage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Netland Hydrology Present? Yes No
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Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: No Surface Water Present? Yes No ter Table Present? Yes Yes No Depth (inches): V Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): V(includes capillary fringe) V Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	Drift Deposits (B2) (Riverine) Driinage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
	Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No value
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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Sycuan Sloane Canyon Trail Project Project Number: CSD-06.09 Stream: Tributary of Sweetwater River Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Date: 01/30/19Time: 10:34 amTown: DehesaState: CAPhoto begin file#:Photo end file#:10:23 am to 11:02 am
Y \square / N \square Do normal circumstances exist on the site?	Location Details: Sample point 7 (Segment 6b study area)
Y \square / N \square Is the site significantly disturbed?	Projection: LCC Datum: NAD 83 Coordinates: 32.78165965, -116.87467968
Potential anthropogenic influences on the channel syst	em:
Vegetation management from adjacent development. Tra	ash accumulation and constrained floodplain.
Brief site description:	
Incised channel that empties into double box culvert, consbank.	strained by eastern development w/ rip rap on channel
Checklist of resources (if available): ☑ Aerial photography □ Stream gag □ Dates: 2018 □ Gage numb ☑ Topographic maps □ History □ Geologic maps □ History □ Vegetation maps □ Results □ Soils maps □ Most restring delineation(s) for site □ Global positioning system (GPS) □ Other studies	ge data ber: ecord: y of recent effective discharges s of flood frequency analysis ecent shift-adjusted rating neights for 2-, 5-, 10-, and 25-year events and the ecent event exceeding a 5-year event
Hydrogeomorphic F	loodplain Units
Active Floodplain	OHWM Paleo Channel
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:
 Walk the channel and floodplain within the study area to vegetation present at the site. Select a representative cross section across the channel. Determine a point on the cross section that is characteria a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth floodplain unit. c) Identify any indicators present at the location. Repeat for other points in different hydrogeomorphic flips. Identify the OHWM and record the indicators. Record Mapping on aerial photograph Digitized on computer 	To get an impression of the geomorphology and Draw the cross section and label the floodplain units. istic of one of the hydrogeomorphic floodplain units. class size) and the vegetation characteristics of the loodplain units across the cross section. the OHWM position via: GPS Other:

Inches (in)	Millimeters (mm)	Wentworth size class
10.08 —	— — 256 — —	Boulder
2.56 —	64	Cobble
0.157	4	Pebble0
0.079	2.00	Granule
0.039 —	— – 1.00 — –	Very coarse sand
0.020 —	0.50	Coarse sand
1/2 0.0098 —	0.25	Medium sand ਲ
1/4 0.005 —	— — 0.125 — —	Fine sand
1/8 - 0.0025 -	0.0625	Very fine sand
1/16 0.0012 —	0.031	Coarse silt
1/32 0.00061 —	— — 0.0156 — —	Medium silt
1/64 0.00031 —	— – 0.0078 — –	Fine silt
1/128 - 0.00015-	0.0039	Very fine silt
		Clay M

Wentworth Size Classes

Project ID: CSD-06.09 Cross section ID: Sample Point 7	Date: 01/30/19 Time: 10:34 am
Cross section drawing:	in live to B
<u>OHWM</u>	
GPS point: <u>32.78165965, -116.87467968</u>	
Indicators:	in bank slope :
Comments: Coordinates are for eastern edge of active floodplain.	
Floodplain unit: Low-Flow Channel Active GPS point: 32.78165905, -116.87470669	e Floodplain 🔲 Low Terrace
Characteristics of the floodplain unit: Average sediment texture: Sand Total veg cover: 20 % Tree: 1 % Shrub: 9 % Community successional stage: NA Early (herbaceous & seedlings)	Herb: <u>10</u> % herbaceous, shrubs, saplings) herbaceous, shrubs, mature trees)
Indicators: □ Mudcracks □ Soil d □ Ripples □ Surface □ Drift and/or debris □ Other □ Presence of bed and bank □ Other □ Benches □ Other	evelopment ce relief :;

Low-flow channel is primarily unvegetated with some grasses and canopy form adjacent active floodplain.

Project ID: CSD-06.09 Cross section ID	: Sample Point 7 Date: 01/30/19	Time: 10:34 am
Floodplain unit: Low-Flow Channel	Active Floodplain	Low Terrace
GPS point: <u>32.78165965</u> , -116.87467968		
Characteristics of the floodplain unit:		
Total veg cover: 66 % Tree: 10 %	Shruh: 12 $\%$ Herb: 13%	
Community successional stage	Siliub. <u>12</u> /0 licib. <u>45</u> /0	
\square NA	Mid (herbaceous, shrubs,	saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs,	mature trees)
		,
Indicators:	_	
	Soil development	
☐ Ripples	Surface relief	
Drift and/or debris	U Other:	
Benches	Other:	
Comments:		
		,
<u>Floodplain unit</u> : Low-Flow Channel	L Active Floodplain	Low Terrace
CDS maint: 22 79166620 116 97475060		
GPS point: <u>52.78100020</u> , -110.87475909		
Characteristics of the floodplain unit:		
Average sediment texture: Sand		
Total veg cover: <u>70</u> % Tree: <u>15</u> %	Shrub: <u>5</u> % Herb: <u>50</u> %	
Community successional stage:		
□ NA	Mid (herbaceous, shrubs,	saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs,	mature trees)
Indiantors		
Muderacks	Soil development	
Ripples	\square Surface relief	
Drift and/or debris	Other:	
Presence of bed and bank	Other:	
✓ Benches	Other: Presence of bank	
Comments:		
No indicators above to of channel		

DI			PAGE		Form Approved			
	CFUCI DUC			viewing instructions	OMB No. 0/04-0188			
the data needed, and completin reducing this burden to Departm	ig and reviewing this collection	of information. Send comments reg eadquarters Services. Directorate for	garding this burden estimate	e or any other aspe	ct of this collection of information, including suggestions for (a) 1215 Jefferson Davis Highway, Suite 1204 Arlington VA			
22202-4302. Respondents shou currently valid OMB control num	uld be aware that notwithstand	ng any other provision of law, no pers	son shall be subject to any p	penalty for failing to	comply with a collection of information if it does not display a			
1. REPORT DATE (DD-July 2010	<i>ММ-ҮҮҮ</i>) 2 . Т	REPORT TYPE echnical Note		3.	DATES COVERED (From - To)			
4. TITLE AND SUBTITL	.E			58	a. CONTRACT NUMBER			
Updated Datasheet for	or the Identification	of the Ordinary High Wa	ter Mark (OHWM) in the				
Arid West Region of	the Western United	States	· · · ·	<u></u> 51	D. GRANT NUMBER			
				50	C. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)				50	5d. PROJECT NUMBER			
Katherine E. Curtis a	nd Robert W. Lichv	56	e. TASK NUMBER					
		51	. WORK UNIT NUMBER					
7. PERFORMING ORG	ANIZATION NAME(S)	8.	PERFORMING ORGANIZATION REPORT NUMBER					
U.S. Army Engineer 1 Cold Regions Researed 72 Lyme Road Hanover, NH 03755-	Research and Devel ch and Engineering 1290		ERDC/CRREL TN-10-1					
9. SPONSORING / MON	NITORING AGENCY N	AME(S) AND ADDRESS(E	S)	1(). SPONSOR/MONITOR'S ACRONYM(S)			
Headquarters								
U.S. Army Corps of I Washington DC 20	Engineers			1	1. SPONSOR/MONITOR'S REPORT			
washington, DC 20	5514-1000				NUMBER(S)			
12. DISTRIBUTION / AV	AILABILITY STATE	IENT						
A		:1::4- 4						
Approved for public i	release; distribution	is unifmited.						
13. SUPPLEMENTARY	NOTES							
14. ABSTRACT								
The Ordinary High W (2008) developed and hydrologic, geomorph manual. The datashee OHWM. The datashee differences between t	Vater Mark (OHWM OHWM delineation hic, and vegetation i et has been simplifie et now focuses on ic he floodplain units) is a method used to ide manual for ephemeral ar ndicators useful in OHW d but still includes the ov lentifying the characteris o identify the OHWM.	ntify the lateral lin ad intermittent stre M delineation. Th rerall field signatur tics of each individ	nits of non-w ams in the A is technical n res and prelin dual hydroged	etland waters. Lichvar and McColley rid West. Their approach identified key ote provides an updated datasheet to the ninary methods used to determine the omorphic floodplain unit and uses the			
15. SUBJECT TERMS Arid West, Floodplai	ns, Ephemeral stream	ns, Intermittent streams,	Ordinary High Wa	ater Mark				
16. SECURITY CLASSI	FICATION OF:		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON			
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area			
U	U	U	U	20	coae)			
					Standard Form 200 (Dev. 0.00)			

Project/Site: Sycuan Sloane Canyon Trail Project	City/County: San Die	ego/San Diego Co	ounty Sampling	Date:	1/30/1	9
Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State:	CA Sampling	Point:	SP 7	
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottiani	Section, Township, F	Range: <u>Sec. 15., T</u>	. 16 S., R. 1 E.			
Landform (hillslope, terrace, etc.): Streambed	Local relief (concave	e, convex, none): <u>Co</u>	oncave	Slope (%):	3
bregion (LRR): <u>C: California mediterranean</u> Lat: <u>32.78167</u> Long: <u>-116.87471</u> Datum: <u>NAD 83</u>						
Soil Map Unit Name: VaB - Visalia sandy loam, 2 to 5 percent sl	opes	NWI	classification: <u>no</u>	ne		
Are climatic / hydrologic conditions on the site typical for this time of ye	ear?Yes 🖌 No	(If no, exp	lain in Remarks.)			
Are Vegetation <u>r</u> , Soil , or Hydrology <u>r</u> significantly	disturbed? Are	e "Normal Circumst	ances" present?	Yes 🖌	No	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If	needed, explain an	y answers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach site man showing	n campling point	locations tra	neacte import	ant foatu	iros o	te

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No <u>r</u> No <u>r</u> No <u>r</u>	Is the Sampled Area within a Wetland?	Yes	No 🖌
Remarks:					

SP is located in a streambed on north side of Dehesa Rd. Located within the Segment 6b study area. Non-wetland WUS

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 20 ft x 50 ft)	% Cover	Species?	Status	Number of Dominant Species
1. Schinus molle	10	Y	FACU	That Are OBL, FACW, or FAC: 1 (A)
2.				
3				Total Number of Dominant
4				
	10	- Total Ca		Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 30 ft x 20 ft)	10		vei	That Are OBL, FACW, or FAC: <u>17%</u> (A/B)
1. Artemisia californica	5	Y	UPL	Prevalence Index worksheet:
2. Baccharis salicifolia	3	Y	FAC	Total % Cover of: Multiply by:
3. Eriogonum fasciculatum	4	Y	UPL	OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
···	12	= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size: r = 5 ft)				UPL species x 5 =
1. <u>Stipa miliacea</u>	7	N	UPL	Column Totals: (A) (B)
2. <u>Avena barbata</u>	20	Y	UPL	
3. Glebionis coronaria	2	N	UPL	Prevalence Index = B/A =
4. Sonchus oleraceus	1	N	FAC	Hydrophytic Vegetation Indicators:
5. Brassica nigra	1	N	UPL	Dominance Test is >50%
6. Pholistoma membranaceum	10	Y	UPL	Prevalence Index is ≤3.0 ¹
7 Lamium amplexicaule	1	N	UPL	Morphological Adaptations ¹ (Provide supporting
8 Uritca urens	1	N		data in Remarks or on a separate sheet)
	43			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: r = 10 ft)		- 10(a) 00	VCI	
1.				¹ Indicators of hydric soil and wetland hydrology must
2.				be present, unless disturbed or problematic.
	0	= Total Co	ver	Hydrophytic
% Bare Ground in Herb Stratum 50 % Cover	of Biotic C	rust <u>0</u>)	Present? Yes No 🖌
Remarks:				
Upland vegetation				

Profile Description: (Describe to the depth needed to document the indicator or confir Depth <u>Matrix</u> Redox Features	rm the absence of indicators.)
Depth Matrix Redox Features	
	- Tautura Damada
	Remarks
<u>0 - 1.5 7.5 YR 3/3 100</u>	<u>Sa</u>
1.5 - 77.5 YR 2.5/2100	<u>SL</u>
7 - 18 7.5 YR 3/2 100	<u>Sa</u>
rype. C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered of Coated Sand C lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
_ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
_ Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
_ Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	³ Indicators of hydrophytic vogetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present
Sandy Gleved Matrix (S4)	unless disturbed or problematic.
estrictive Layer (if present):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes No 🖌
YDROLOGY	
YDROLOGY Vetland Hydrology Indicators:	
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)	<u>Secondary Indicators (2 or more required)</u> Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Cravifish Burrows (C8)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: 'rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: 'rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) oots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Primary Indicators (minimum of one required; check all that apply)	
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	
Yetland Hydrology Indicators: trimary Indicators (minimum of one required; check all that apply)	

Project/Site: Sycuan Sloane Canyon Trail Project	City/County:/San	Diego	Sampling Date:	1/30/19			
Applicant/Owner: County of San Diego Department of Parks a	and Recreation	State: CA	Sampling Point:	SP 8			
Investigator(s): Larry Sward, Jasmine Bakker, Angelia Bottian	i_ Section, Township, I	Range: <u>Sec. 15.,T. 16</u>	S., R. 1 E.				
Landform (hillslope, terrace, etc.): Basin	Local relief (concav	e, convex, none): <u>Conc</u>	ave Slop	e (%): <u>None</u>			
Subregion (LRR): C: California mediterranean Lat: _	32.778422	Long: <u>-116.86766</u>	6 Datum	n: NAD 83			
Soil Map Unit Name: TuB - Tujunga sand, 0 to 5 percent slopes NWI classification: None							
Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🗾 🖌 No (If no, explain in Remarks.)							
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Ar	e "Normal Circumstance	es" present? Yes 🗹	No			
Are Vegetation, Soil, or Hydrology naturally	problematic? (If	needed, explain any an	swers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showi	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No 🖌							
Hydric Soil Present? Yes No 🖌	within a Wet	land? Yes	No 🖌				
Wetland Hydrology Present? Yes No _							

Remarks:

Site was historically a sand mine. Basin w/ culvert that connects to the pond south of the site. Non-jurisdictional based on lack of wetlands and an OHWM. Located within Segment 1 study area.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	:	
<u>Tree Stratum</u> (Plot size: <u>r = 30 ft</u>)	% Cover	Species?	Status	Number of Dominant Species		
1				That Are OBL, FACW, or FAC	: <u>1</u>	(A)
2				Total Number of Dominant		
3				Species Across All Strata:	2	(B)
4				Demonst of Deminorst Creasion		
	0	= Total Co	ver	That Are OBL FACW or FAC	. [.] 50	(A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>r = 15 ft</u>)						(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1. Tamarix ramosissima	40	Y	FAC	Prevalence Index worksheet	t:	
2				Total % Cover of:	Multiply by:	
3				OBL species	x 1 =	_
4.				FACW species	x 2 =	
5.				FAC species	x 3 =	
	40	= Total Co	ver	FACU species	x 4 =	
Herb Stratum (Plot size: r = 5 ft)		<u>.</u>		UPL species	x 5 =	
1. Urtica urens	20	Y	UPL	Column Totals:	(Δ)	(B)
2. Parietaria hespera	1	Ν	FACU			_ (8)
3				Prevalence Index = B/A	<u> </u>	_
4.				Hydrophytic Vegetation Indi	icators:	
5.				Dominance Test is >50%		
6.				Prevalence Index is ≤3.0 ¹		
7				Morphological Adaptation	is ¹ (Provide suppor	ting
8				data in Remarks or on	a separate sheet)	
···	21	- Total Co	vor	Problematic Hydrophytic	Vegetation ¹ (Expla	in)
Woody Vine Stratum (Plot size: r = 20 ft)		10(a) C0	VEI			
1.				¹ Indicators of hydric soil and w	vetland hydrology r	nust
2.				be present, unless disturbed of	or problematic.	
	0	= Total Co	ver	Hydrophytic		_
			-	Vegetation		
% Bare Ground in Herb Stratum 15 % Cove	r of Biotic C	rust 0	<u> </u>	Present? Yes	No	
Remarks:						

Tamarisk stumps and signs of vegetation mastication present on site. Tamarisk cover was estimated based on the distribution of plant debris.

SOIL								Sampling Point:	SP 8
Profile Des	cription: (Describe	to the dep	oth needed to docum	nent the	indicator	or confirm	n the absence of	indicators.)	
Depth	Matrix		Redo	x Feature	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
<u>0 - 8</u>	10 YR 2.5/2	50	-	-	-	_	SaL		
0 - 8	<u>10 YR 3/2</u>	50		-	_	_	SaL		
8 - 18	10 YR 2/	100	-	-	-	-	Sa		
				·					
				·					
	· · ·				- <u> </u>		<u> </u>		
¹ Type: C=C	Concentration, D=De	pletion, RM	=Reduced Matrix, CS	S=Covere	d or Coate	ed Sand G	rains. ² Locat	ion: PL=Pore Lining, M=	Matrix.
Hydric Soil	Indicators: (Appli	cable to all	LRRs, unless other	rwise not	ed.)		Indicators fo	r Problematic Hydric So	oils³:
Histoso	l (A1)		Sandy Redo	ox (S5)			1 cm Mu	ck (A9) (LRR C)	
Histic E	pipedon (A2)		Stripped Ma	atrix (S6)			ck (A10) (LRR B)		
Black H	listic (A3)		Loamy Muc	ky Minera	al (F1)		Reduced Vertic (F18)		
Hydrog	lydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)						
Stratifie	a Layers (A5) (LRR	C)	Depleted Mi	atrix (F3)	(E6)		Other (E)	kplain in Remarks)	
T CITI M Deplete	d Below Dark Surfa	cο (Δ11)		ark Surface	(F0) 50 (F7)				
Depicto	ark Surface (A12)		Redox Depi	ressions (F8)		³ Indicators of	hydrophytic vegetation a	nd
Sandy I	Mucky Mineral (S1)		Vernal Pool	s (F9)	,		wetland hv	droloav must be present.	
Sandy	Gleyed Matrix (S4)			- (-)			unless dist	urbed or problematic.	
Restrictive	Layer (if present):								
Туре:									
Depth (ir	nches):						Hydric Soil Pi	resent? Yes	No 🖌
Remarks:									
No hydri	c coil indicator	-							
NO Hyun		5.							
HYDROLC)GY								
Wetland Hy	drology Indicators	:							
Primarv Indi	icators (minimum of	one reauire	d: check all that apply	V)			Seconda	arv Indicators (2 or more i	required)
Surface	Water (A1)		Salt Crust	(B11)			Wat	er Marks (B1) (Riverine)	
Hiah W	ater Table (A2)		Biotic Crus	st (B12)			Sed	iment Deposits (B2) (Riv	erine)
Saturat	ion (A3)		Aquatic Inv	vertebrate	es (B13)		Driff	Deposits (B3) (Riverine)
Water N	Marks (B1) (Nonrive	rine)	Hvdrogen	Sulfide O	dor (C1)		Drai	nage Patterns (B10)	,
Sedime	ent Deposits (B2) (No	onriverine)	Oxidized F	Rhizosphe	eres alona	Living Roo	ots (C3) Drv-	Season Water Table (C2	?)
Drift Do	nosits (B3) (Nonrive	erine)	Presence	of Reduce	ed Iron (C	4)	Cra	vfish Burrows (C8)	-

Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Thin Muck Surface (C7)	Shallow Aquitard (D3)

Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)
Water Steined Leaves (DO)	Other (Evalein in Demorka)

Water-Stained Leaves (E	39)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present?	Yes	No 🖌 Depth (inches):	
Water Table Present?	Yes	No 🖌 Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	No 🖌 Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stre	eam gauge	e, monitoring well, aerial photos, previous ins	spections), if available:

Remarks:

Culvert prevents or limits ponding. FAC-neutral Test; W:U = 0:1 No wetland hydrology indicators.

____ Surface Soil Cracks (B6)

Project/Site: Sycuan Sloan Canyon Trail Project	City/County:/San Diego County Sampling E	Date: 2/18/19			
Applicant/Owner: County of San Diego Department of Parks and	d Recreation State: <u>CA</u> Sampling F	Point: 9			
Investigator(s): Larry Sward	Section, Township, Range: Sec. 15., t. 16S., R1 E.				
Landform (hillslope, terrace, etc.): streambed	_ Local relief (concave, convex, none): <u>none</u>	_ Slope (%): <u>2%</u>			
Subregion (LRR): <u>C: California mediterranean</u> Lat:	Ibregion (LRR): C: California mediterranean Lat: Long: Datum: NAD83				
Soil Map Unit Name: <u>Rm - Riverwash</u> NWI classification: <u>R4SBC</u>					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🗾 🖌 No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Ye	es 🖌 No			
Are Vegetation, Soil, or Hydrology naturally pro	roblematic? (If needed, explain any answers in Remark	ks.)			
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, importa	nt features, etc.			

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No 🖌 No 🖌 No 🖌	Is the Sampled Area within a Wetland?	Yes	No 🔽
Remarks:					

NWI: Riverine, intermittent, streambed, seasonally flooded. Located within Segment 2 study area. Non-wetland WUS

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Iree Stratum</u> (Plot size: <u>30 X60</u>)	% Cover	Species?	Status	Number of Dominant Species
l				mar are OBL, FACW, of FAC (A)
2			·	Total Number of Dominant
3			. <u> </u>	Species Across All Strata: (B)
4			·	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 30'x30')	0	= Total Co	ver	That Are OBL, FACW, or FAC: 0 (A/B)
1. Baccharis sarothroides	3	Y	FACU	Prevalence Index worksheet:
2. Eriogonum fasciculatum	2	Y	UPL	Total % Cover of: Multiply by:
3.				OBL species x 1 =
4.				FACW species x 2 =
5			·	FAC species x 3 =
··	5	= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size: 10'x10')				UPL species x 5 =
1				Column Totals: (A) (B)
2				
3				Prevalence Index = B/A =
4				Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6.				Prevalence Index is ≤3.0 ¹
7.				Morphological Adaptations ¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
	0	= Total Co	ver	Problematic Hydrophytic Vegetation' (Explain)
Woody Vine Stratum (Plot size: 20'x20')		-		
1			. <u> </u>	¹ Indicators of hydric soil and wetland hydrology must
2			. <u> </u>	be present, unless disturbed of problematic.
	0	= Total Co	ver	Hydrophytic Verstation
% Bare Ground in Herb Stratum 100 % Cove	r of Biotic C	rust <u>0</u>		Present? Yes <u>No </u>
Remarks:				
Upland vegetation				

SOIL							Sampling Point: 9	
Profile Des	cription: (Describe	e to the depth	needed to docur	ment the indicator	or confirm	the absence of	f indicators.)	
Depth	Matrix		Redo	x Features				
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type ¹	Loc ²	Texture	Remarks	
0-12	10YR 2/2	100				Sa		
						<u> </u>		
				· · · · · · · · · · · · · · · · · · ·		·		
¹ Type: C=C	Concentration, D=De	pletion, RM=Re	educed Matrix, CS	S=Covered or Coate	ed Sand Gr	ains. ² Locat	tion: PL=Pore Lining, M=Matrix.	
Hydric Soil	Indicators: (Appli	cable to all LR	Rs, unless othe	rwise noted.)		Indicators for	or Problematic Hydric Soils [°] :	
Histosc	ol (A1)		Sandy Red	ox (S5)		1 cm Mu	ck (A9) (LRR C)	
Histic E	Epipedon (A2)		Stripped Ma	atrix (S6)		2 cm Mu	ck (A10) (LRR B)	
Black H	listic (A3)		Loamy Muc	cky Mineral (F1)		Reduced	Vertic (F18)	
Hydrog	en Sulfide (A4)	C	Loamy Gley	yed Matrix (F2)		Red Pare	ent Material (TF2)	
Suaune	u Layers (A3) (LRR luck (Δ9) (LRR D)	()	Depieted W	(Surface (E6)				
Deplete	ed Below Dark Surfa	ce (A11)	Depleted D	ark Surface (F7)				
Thick D	Dark Surface (A12)		Redox Dep	ressions (F8)		³ Indicators of	hydrophytic vegetation and	
Sandy	Mucky Mineral (S1)		Vernal Pool	ls (F9)		wetland hy	drology must be present,	
Sandy	Gleyed Matrix (S4)					unless disturbed or problematic.		
Restrictive	Layer (if present):							
Туре:			_					
Depth (ir	nches):					Hydric Soil P	resent? Yes No 🖌	
Remarks:								
		-						
No nyari	c soll indicator	S						
	201							
HYDROLO	JGY							
Wetland Hy	ydrology Indicators	5:						
Primary Ind	icators (minimum of	one required; c	heck all that appl	y)		Seconda	ary Indicators (2 or more required)	
Surface	e Water (A1)		Salt Crust	(B11)		Wa	ter Marks (B1) (Riverine)	
High W	ater Table (A2)		Biotic Crus	st (B12)		Sec	liment Deposits (B2) (Riverine)	
Saturat	tion (A3)		Aquatic In	vertebrates (B13)		🖌 Drif	t Deposits (B3) (Riverine)	
Water I	Marks (B1) (Nonrive	erine)	Hydrogen	Sulfide Odor (C1)		Dra	inage Patterns (B10)	
Sedime	ent Deposits (B2) (N	onriverine)	Oxidized Rhizospheres along Living Roc			Roots (C3) Dry-Season Water Table (C2)		
Drift De	eposits (B3) (Nonriv	erine)	Presence	of Reduced Iron (C	4)	Cra	yfish Burrows (C8)	
Surface	e Soil Cracks (B6)		Recent Iro	on Reduction in Tille	d Soils (C6	6) Sat	uration Visible on Aerial Imagery (C	
Inundat	tion Visible on Aerial	l Imagery (B7)	Thin Muck	Surface (C7)		Sha	allow Aquitard (D3)	
Water-	Stained Leaves (B9)	1	Other (Exp	plain in Remarks)		FA0	C-Neutral Test (D5)	
Field Obse	rvations:							
Surface Wa	iter Present?	Yes No	✓ Depth (in	ches):				
Water Table	Water Table Present? Yes No V Depth (inches):							
Saturation Present? Yes No V Depth (inches): Wet				and Hydrology I	Present? Yes No 🗸			
(includes ca	apillary fringe)							
Describe Re	ecorded Data (strear	m gauge, monit	oring well, aerial	photos, previous ins	spections),	if available:		
Remarks:								

FAC-neutral Test; W:U = 0:2 Insufficient wetland hydrology indicators

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Sycuan Sloane Canyon Trail Project Project Number: CSD-06.09 Stream: Harbison Canyon Creek Investigator(s): Larry Sward	Date: 02/18/19 Town: Dehesa Photo begin file#:	Time: 11:15 am State: CA Photo end file#:
$Y \square / N \square$ Do normal circumstances exist on the site?	Location Details: Sample Points 9 and 10 (Loc	ated within Segment 2 study area)
Y 🔲 / N 🗹 Is the site significantly disturbed?	Projection: LCC Coordinates: 32.779289	Datum: NAD 83 0, -116.851941
Potential anthropogenic influences on the channel syst	em:	
Arizona crossing immediately downstream		
Brief site description:		
Creekbed upstream and east of Arizona crossing providin Canyon Road.	g connection to Sweetwate	er River west of Sloane
 Checklist of resources (if available): ☑ Aerial photography Dates: Gage number of resources (if available): ☑ Aerial photography Dates: Gage number of resources (if available): ☑ Aerial photography Gage number of resources (if available): ☑ Aerial photography Geologic maps Geologic maps Geologic maps Geologic maps Geologic maps Most resources (if available): Gage number of resources (if available): Global positioning system (GPS) Other studies (if available): Gage number of resources (if available): Gage	e data ber: ecord: y of recent effective discha s of flood frequency analys ecent shift-adjusted rating heights for 2-, 5-, 10-, and 2 ecent event exceeding a 5-	irges sis 25-year events and the year event
Hydrogeomorphic F	loodplain Units	
Active Floodplain	OHWM Paleo Chan	nnel
Procedure for identifying and characterizing the flood	plain units to assist in ide	entifying the OHWM:
 Walk the channel and floodplain within the study area to vegetation present at the site. Select a representative cross section across the channel. Determine a point on the cross section that is characteria a) Record the floodplain unit and GPS position. Describe the sediment texture (using the Wentworth floodplain unit. Identify any indicators present at the location. Repeat for other points in different hydrogeomorphic flips. Identify the OHWM and record the indicators. Record for the indicators. Record for the indicators. 	to get an impression of the Draw the cross section and astic of one of the hydroged class size) and the vegetat oodplain units across the of the OHWM position via: GPS Other:	geomorphology and label the floodplain units. omorphic floodplain units. tion characteristics of the cross section.

Inches (in)	Millimeters (mm)	Wentworth size class
10.08 —	— — 256 — —	Boulder
2.56 —	64	Cobble
0.157	4	Pebble0
0.079	2.00	Granule
0.039 —	— – 1.00 — –	Very coarse sand
0.020 —	0.50	Coarse sand
1/2 0.0098 —	0.25	Medium sand ਲ
1/4 0.005 —	— — 0.125 — —	Fine sand
1/8 - 0.0025 -	0.0625	Very fine sand
1/16 0.0012 —	0.031	Coarse silt
1/32 0.00061 —	— — 0.0156 — —	Medium silt
1/64 0.00031 —	— – 0.0078 — –	Fine silt
1/128 - 0.00015-	0.0039	Very fine silt
		Clay M

Wentworth Size Classes
Project ID: CSD-06.09	Cross section ID:	Dat	e: 02/18/19	Time: 11:15 am
<u>Cross section drawing</u>	115 mart 15 main me	Act they flow flow f	low terms	
OHWM GPS point: <u>32.779289, -1</u>	16.851941			
Indicators: Change in avera Change in veget Change in veget	ge sediment texture ation species ation cover	 Break in ban Other: Other: 	k slope	
Comments: GPS point at southern edg	e of non-wetland waters			
Floodplain unit: GPS point: <u>32.77929, -1</u>	Low-Flow Channel	Active Flood	plain 🔲	Low Terrace
Characteristics of the flo Average sediment texture Total veg cover: <u>5</u> Community successional NA V Early (herbaceo	odplain unit: e: <u>sand</u> % Tree: <u>0</u> % Shru stage: us & seedlings)	ıb: <u>5</u> % Hert D Mid (herbace Late (herbace	o: <u>0</u> % cous, shrubs, sapl cous, shrubs, mat	lings) ture trees)
Indicators: □ Mudcracks □ Ripples □ Drift and/or deb □ Presence of bed □ Benches	ris and bank	 ☐ Soil develops ☐ Surface relies ☑ Other: sedins ☐ Other: ☐ Other: 	ment f nent fans	
Comments: channel unvegetated except	pt for Eriogonum fascicula	tum and Baccharis	sarothroides shr	ubs

Project ID: CSD-06.09 Cross section ID:	Date: 02/18/19 Time: 11:15 am
Floodplain unit: Low-Flow Channel	Active Floodplain Low Terrace
GPS point: <u>32.7794290, -116.851959</u>	
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 70 % Tree: 0 % S Community successional stage: □ NA ✓ Early (herbaceous & seedlings)	hrub: 0 % Herb: 70 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
Indicators: □ Mudcracks □ Ripples □ Drift and/or debris □ Presence of bed and bank □ Benches	 Soil development Surface relief Other: vegetation bent by past flowing water Other: Other: Other:
Comments:	
Floodplain unit: Low-Flow Channel	Active Floodplain Low Terrace
GPS point: <u>32.7792292</u> , -116.8519197	
Characteristics of the floodplain unit: Average sediment texture: silt Total veg cover: 50 % Tree: 10 % S Community successional stage: NA Early (herbaceous & seedlings)	hrub: <u>20</u> % Herb: <u>40</u> % ☑ Mid (herbaceous, shrubs, saplings) □ Late (herbaceous, shrubs, mature trees)
Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	 Soil development Surface relief Other: Other: Other: Other:
Comments:	
no sign of surface flows - grass not bent over here	e as it was in the active floodplain

DI			PAGE		Form Approved
				viewing instructions	OMB No. 0704-0188
the data needed, and completin reducing this burden to Departm	g and reviewing this colle	ection of information. Send comments reg ton Headquarters Services. Directorate for	arding this burden estimate	e or any other aspe	ct of this collection of information, including suggestions for (a) 1215 Jefferson Davis Highway, Suite 1204 Arlington VA
22202-4302. Respondents shou currently valid OMB control num	uld be aware that notwiths ber. PLEASE DO NOT F	standing any other provision of law, no pers	son shall be subject to any p	penalty for failing to	comply with a collection of information if it does not display a
1. REPORT DATE (DD-July 2010	ММ-ҮҮҮҮ)	2. REPORT TYPE Technical Note		3.	DATES COVERED (From - To)
4. TITLE AND SUBTITL	E			54	a. CONTRACT NUMBER
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				50	C. PROGRAM ELEMENT NUMBER
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14. ABSTRACT					
The Ordinary High W	ater Mark (OHV	VM) is a method used to ide	ntify the lateral lin	nits of non-w	etland waters. Lichvar and McColley
hydrologic geomorpl	bic and vegetation	on indicators useful in OHW	M delineation Th	ams in the A is technical n	ote provides an undated datasheet to the
manual. The datashee	t has been simpli	ified but still includes the ov	erall field signatur	es and prelin	ninary methods used to determine the
OHWM. The datashe	et now focuses o	n identifying the characteris	tics of each individ	dual hydroge	omorphic floodplain unit and uses the
differences between t	he floodplain un	its to identify the OHWM.			
15. SUBJECT TERMS Arid West, Floodplai	ns, Ephemeral st	reams, Intermittent streams,	Ordinary High Wa	ater Mark	
16. SECURITY CLASSI	FICATION OF:		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (include area
U	U	U	U	20	code)
č	Ŭ				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Sycuan Sloan Canyon Trail Project	City/County:/San Die	ego County	_ Sampling Date: _	2/18/19
Applicant/Owner: County of San Diego Department of Parks and	d Recreation	State: CA	_ Sampling Point: _	10
Investigator(s): Larry Sward	Section, Township, Ran	nge: <u>Sec. 15., t. 16S.,</u>	R1 E.	
Landform (hillslope, terrace, etc.): streambed	_ Local relief (concave, c	onvex, none): <u>none</u>	Slop	e (%): <u>2%</u>
Subregion (LRR): <u>C: California mediterranean</u> Lat: <u>32</u>	7792387591417	Long: -116.8520128	330086 Datur	n: NAD83
Soil Map Unit Name: <u>Rm - Riverwash</u>		NWI classif	ication: <u>none</u>	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🖌 No	(If no, explain in	Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "	Normal Circumstances"	present? Yes 🔽	No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If nee	eded, explain any answ	vers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point lo	ocations, transect	s, important fea	atures, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	× × ×	Is the Sampled Area within a Wetland?	Yes	No <u>//</u>
Remarks:						
SP located on low terrace abo	ve OHWM.	Loca	ted within	Segment 2 study area.		

Non-jurisdictional location

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>r=30</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. <u>Sambucus nigra</u>	3	<u> N</u>	FACU	That Are OBL, FACW, or FAC: 1 (A)
2			<u> </u>	Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of Dominant Species
	3	= Total Co	ver	That Are OBL, FACW, or FAC: 25% (A/E
Sapling/Shrub Stratum (Plot size: r=15')				,
1. Baccharis sarothroides	15	<u> </u>	FACU	Prevalence Index worksheet:
2. Baccharis salicifolia	35	Y	FAC	Total % Cover of: Multiply by:
3. <u>Isocoma menziesii</u>	2	N	FAC	OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
	42	= Total Co	ver	FACU species x 4 =
Herb Stratum (Plot size: r=5')				UPL species x 5 =
1. Urtica urens	5	Y	UPL	Column Totals: (A) (B)
2. <u>Bromus diandrus</u>	5	Y	UPL	
3. Amsinkia menziesii	2	N	UPL	Prevalence Index = B/A =
4				Hydrophytic Vegetation Indicators:
5.				Dominance Test is >50%
6.				Prevalence Index is ≤3.0 ¹
7				Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
···	0	= Total Co	Vor	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: r=10')		<u> </u>		
1.				¹ Indicators of hydric soil and wetland hydrology must
2.				be present, unless disturbed or problematic.
	0	= Total Co	ver	Hydrophytic
			`	Vegetation
% Bare Ground in Herb Stratum 5 % Cove	r of Biotic C	rust <u> </u>)	Present? Yes No V
Remarks:				
Upland vegetation				

10

Sampling Point:

	or confirm the absence of indicators.)
Depth Matrix Redox Features	
<u>0-17</u> <u>10YR 2/2</u> <u>100</u>	<u>SaL</u>
	·
17-18 10YR 3/2 100	Sa coarse
	· · · · ·
	·
¹ Type: C=Concentration D=Depletion RM=Reduced Matrix CS=Covered or Coate	ed Sand Grains ² ocation: PI =Pore Lining M=Matrix
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (I RR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Thick Dark Surface (A12) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	unless disturbed or problematic.
Restrictive Layer (if present):	
Type:	
Depth (inches):	Hydric Soil Present? Yes No
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	<u>Secondary Indicators (2 or more required)</u> Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) C2
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) 4) Crayfish Burrows (C8)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B10) Living Roots (C3) Dry-Season Water Table (C2) 4) Crayfish Burrows (C8) ed Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) 4) Crayfish Burrows (C8) ed Soils (C6) Shallow Aquitard (D3) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (C3) Crayfish Burrows (C8) Shallow Aquitard (D3) Rrift Deposite (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (C3) Crayfish Burrows (C8) Stallow Aquitard (D3) Reposed (D5) No Stallable:

Attachment 5

Potential Jurisdictional Resources Representative Site Photos



Drainage location 1; non-jurisdictional upland swale above culvert. (Trail Segment 5)



Drainage location 1; jurisdictional non-wetland waters below culvert. (Trail Segment 5)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 2; Sample Point 1 jurisdictional non-wetland waters and streambed above culvert. (Trail Segment 5)



Drainage location 2; jurisdictional non-wetland waters and streambed below culvert. (Trail Segment 5)



HELIX



Drainage location 3; Sample Point 2 jurisdictional non-wetland waters and streambed above culvert. (Trail Segment 5)



Drainage location 3; jurisdictional non-wetland waters and streambed below culvert. (Trail Segment 5)





Drainage location 4 in Beaver Hollow; jurisdictional non-wetland waters and riparian woodland upstream of road. (Trail Segment 5)



Drainage location 4 in Beaver Hollow; looking downstream from road. (Trail Segment 5)





Drainage location 4 in Beaver Hollow; Sample Point 3 jurisdictional non-wetland waters and riparian woodland looking downstream towards road; see OHWM datasheet. (Trail Segment 5)



Drainage location 4 in Beaver Hollow; Sample Point 3 soil pit in jurisdictional non-wetland waters and riparian woodland. (Trail Segment 5)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 5; jurisdictional non-wetland waters upstream of road; lacking connectivity due to road berms. (Trail Segment 5)



Drainage location 5; jurisdictional non-wetland waters upstream of road; see OHWM datasheet. (Trail Segment 5)





Drainage location 6a; jurisdictional non-wetland waters upstream of road. (Trail Segment 5)



Drainage location 6a; jurisdictional non-wetland waters downstream of road. (Trail Segment 5)





Drainage location 6b; non-jurisdictional roadside ditch and swale above culvert. (Trail Segment 4)



Drainage location 6b; below culvert. (Trail Segment 4)





Drainage location 7a; non-jurisdictional upland swale above culvert. (Trail Segment 4)



Drainage location 7a; below culvert. (Trail Segment 4)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 7b; non-jurisdictional upland swale above culvert. (Trail Segment 4)



Drainage location 7b; below culvert. (Trail Segment 4)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 7c; non-jurisdictional upland swale above culvert. (Trail Segment 4)



Drainage location 7c; below culvert. (Trail Segment 4)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 7d; non-jurisdictional upland swale looking east towards road. (Trail Segments 3 and 4)



Drainage location 7d; non-jurisdictional upland swale looking west. (Trail Segments 3 and 4)





Sweetwater River; jurisdictional waters and riparian habitat upstream of southern bridge. (Trail Segment 2)



Sweetwater River; jurisdictional waters and riparian habitat downstream of southern bridge. (Trail Segment 2)





Sweetwater River; Sample Point 4 jurisdictional non-wetland waters and streambed; see OHWM datasheet.



Sweetwater River; Sample Point 5 riparian corridor (no jurisdictional waters of the U.S. present).



Potential Jurisdictional Resources Representative Site Photos



Harbison Canyon Creek; jurisdictional waters/streambed and riparian woodland upstream of northern bridge looking east. (Trail Segment 2)



Harbison Canyon Creek; jurisdictional waters/streambed and riparian woodland upstream of northern bridge looking west towards road. (Trail Segment 2)





Harbison Canyon Creek; Sample Point 9 jurisdictional non-wetland waters and streambed within low-flow channel upstream of northern bridge; see OHWM datasheet. (Trail Segment 2)



Harbison Canyon Creek; Sample Point 10 jurisdictional non-wetland waters and streambed within active floodplain upstream of northern bridge; see OHWM datasheet. (Trail Segment 2)





Drainage location 9a; poorly defined jurisdictional non-wetland waters/swale that drains into Lake Emma. (Trail Segment 1)



Drainage location 9b; jurisdictional non-wetland waters/ditch below culvert that drains into Lake Emma. (Trail Segment 1)





Drainage location 9c; jurisdictional non-wetland waters and streambed within constructed rock ditch below culvert that drains into Lake Emma. (Trail Segment 1)



Drainage location 9f; jurisdictional non-wetland waters and streambed above culvert. (Trail Segment 1)



Potential Jurisdictional Resources Representative Site Photos



Drainage location 10; jurisdictional non-wetland waters within basin and drainage above culvert. (Trail Segment 1)



Drainage location 10; Sample Point 8 within impacted basin supporting tamarisk scrub that drains into Lake Emma via culvert (no jurisdictional waters of the U.S. present). (Trail Segment 1)





Drainage location 12a; non-jurisdictional upland swale. (Trail Segment 6b)



Drainage location 12a; Sample Point 6 non-jurisdictional upland swale. (Trail Segment 6b)





Drainage location 12b; Sample Point 7 double box culvert that drains jurisdictional waters. (Trail Segment 6b)



Drainage location 12b; Sample Point 7 jurisdictional non-wetland waters and streambed; see OHWM datasheet. (Trail Segment 6b)





Drainage location 13a; non-jurisdictional upland swale above culvert looking southwest towards road. (Trail Segment 6b)



Drainage location 13b; non-jurisdictional upland swale above culvert looking northeast. (Trail Segment 6b)





Sweetwater River jurisdictional waters and riparian habitat located west of Trail Segment 2.



Sweetwater River riparian corridor located east of Trail Segments 2 and 4.



HELIX Environmental Planning

Attachment 6

Soils Map







Source: Aerial (SanGIS, 2017) Soil (USDA NRCS Soil Survey of San Diego Area, California, 1973)

> Soils Attachment 6

Attachment 7

USGS Topography





Sycuan Sloane Canyon Trail

Project Vicinity Map (USGS Topography) Attachment 7

Attachment 8

Bulk Upload Aquatic Resources or Consolidated Excel Spreadsheet APPENDIX TO BE PROVIDED

Attachment 9

Shapefiles
APPENDIX TO BE PROVIDED

Draft Multiple Species Conservation Program Conformance Statement

MULTIPLE SPECIES CONSERVATION PROGRAM CONFORMANCE STATEMENT

Sycuan-Sloane Canyon Trail Project April 2020

I. Introduction

The Sycuan-Sloane Canyon Trail Project is located east of State Route 54 and west of Loveland Reservoir within the unincorporated community of Crest-Dehesa in eastern San Diego County. More specifically, the project is located along Dehesa Road and Sloane Canyon Road east of Willow Glen Drive and west of Beaver Hollow Road. The project occurs in public right-of-way (ROW) in the County of San Diego (County), San Diego National Wildlife Refuge, Sycuan Band of the Kumeyaay Nation land, and Kumeyaay Diegueno Land Conservancy land. The project Study Area includes the proposed trail segments and a varying width buffer on either side. The project Study Area is located in Township 16 South, Range 1 East, Sections 14, 15, 23, and 24 on the U.S. Geological Survey (USGS) 7.5-minute Alpine quadrangle map and Sections 9 and 16 on the USGS 7.5-minute El Cajon quadrangle map. The approximate midpoint coordinates for the Project in decimal degree format (NAD 83) are 32.7812°N and -116.8522°W. The project Study Area is located in the Metro-Lakeside-Jamul segment of the County's Multiple Species Conservation Program (MSCP) South County Subarea Plan and has MSCP designations of Unincorporated in Metro-Lakeside-Jamul Segment and Pre-Approved Mitigation Area (PAMA).

The proposed trail alignments are along the Sweetwater River approximately three miles west of the Loveland Reservoir and approximately 9.5 miles northeast of the Sweetwater Reservoir. There are two options of trail alignment on the western portion of the project: Segment 6a or Segment 6b. Segment 6a would be located in County ROW and on Sycuan and private ownership land, adjacent to or within the ROW on the south side of Dehesa Rd. Segment Option 6b would be along the north side of Dehesa Road and is maintained by the U.S. Fish and Wildlife Service (USFWS) and private landowners who live adjacent to the Study Area. The first 0.75-mile of Segment 6b would traverse the toe slope of the steep foothills north of Dehesa Road. East of and adjacent to USFWS land, Segment 6b continues to the south of a small residential development. Segment 1, the central section of the project area, would be located on the south side of Dehesa Road and was previously part of a large sand mine development. Lake Emma, a 75-acre freshwater lake, was the product of these extraction activities. The Sycuan Indian Reservation owns the land surrounding Lake Emma and the majority of the proposed trail alignment (Segments 1, 2, and portions of Segments 3 and 4 and 6a) in the northern portion of the project area, where the proposed trail alignment is not in County ROW. The Kumeyaay Diegueno Land Conservancy owns the land surrounding the proposed trail alignment (Segment 5 and portions of Segments 3 and 4) in the southern portion of the project where the alignment is not in County ROW. The southernmost proposed trail alignment (Segment 5) would occur south of the Sweetwater River and Sloane Canyon Road.

The project proposes to implement the Sycuan-Sloane Canyon trail, which upon completion, would include six segments totaling approximately 5 miles. Implementation of the trail would provide a critical regional and community trail connection between the Sweetwater River Loop Trail and the California Riding and Hiking Trail.

The trail alignment is divided into segments, numbered as Segments 1 through 6. Segment 2 is divided into three options, numbered as Segments 2a, 2b, and 2c. Segment 4 is also divided into three options, numbered as Segments 4a, 4b, and 4c. Segment 5 is divided into two options, numbered as Segments 5a and 5b. Segment 6 is divided into two options, numbered as Segments 6b, if chosen as the preferred segment alignment, would replace Segment 6a and Segment 1.

The project's Study Area was chosen to incorporate all potential trail alignments. To the extent feasible, the County has designed the trail alignment to use existing County right-of-way (ROW). Where it is not feasible to use existing County ROW, the County proposes using land outside the existing County ROW for trail use. The project would include securing trail easements per the 2015 Option Agreement between the Sycuan Band of the Kumeyaay Nation and the County. Some non-preferred segment options would require securing easements from the Kumeyaay Diegueno Land Conservancy (KDLC).

The topography of the Study Area includes relatively flat areas along Dehesa Road and Sloane Canyon Road, and some areas with steep slopes near the central portion of the project. Elevations along the trail alignment range from 430 feet above mean sea level along Dehesa Road to 1,030 feet along the ridge tops west of Sloane Canyon Road.

The proposed trail alignments would include pathways in County ROW and trails through land owned by the Sycuan Band of the Kumeyaay Nation and KDLC. Additionally, a very small section of Segment 5b is located on San Diego National Wildlife Refuge land managed by the USFWS—however Segment 5a is entirely within the County ROW and KDLC land

The proposed trail segments have been designed to follow the County's Preserve Trail Guidelines (County 2018) and to support the goals and policies outlined by the County's Community Trails Master Plan (County 2005) and comply with the MSCP Framework Management Plan. The trails would generally follow three trail types as defined in the Preserve Trail Guidelines: Type B, Type C, and Type D. Type B trails would be between 5 to 8 feet wide and would use decomposed granite or suitable native soils. Type C trails would have an approximately 5-foot graded width and would be covered with crushed rock materials or suitable native soil. Type D trails are pathways intended for a high volume of use. These trails may be up to 8 feet wide to accommodate all trail users and provide a separation from road traffic.

The trail may utilize two existing bridges on Sloane Canyon Road (part of Segment 2): the Northern Bridge (which crosses Harbison Canyon Creek) and the Southern Bridge (which crosses the Sweetwater River). The option to place trail infrastructure on each bridge would require narrower lanes for vehicular use. Signage would be provided along the roadway before each bridge to warn drivers of narrowed lanes. On the Southern Bridge, a standalone bridge option for trail users may be constructed to separate pedestrian, bicycle, and equestrian users from vehicles. On Trail Segment Option 5b, a second standalone bridge (Eastern Bridge) is also proposed along Sloane Canyon Road in the southeastern portion of

the project. Vehicular use on the Eastern Bridge would be prohibited, with access provided for trail use only. Option 5a would not include the Eastern Bridge.

To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, environmental fencing (including silt fencing, where determined necessary by the Stormwater Pollution Prevention Plan [SWPPP]), would be installed at the edges of the impact limits prior to initiation of grading for each Segment. A qualified biologist will monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space, and report fencing installation to DPR prior to the start of grading for each Segment. The biologist also will conduct a pre-construction environmental training session for construction personnel for each Segment to inform them of the sensitive biological resources on-site and avoidance measures to remain in compliance with project approvals. The biologist also will monitor vegetation clearing, grubbing, and grading activities at least weekly to help ensure compliance with project approvals. All construction staging shall occur within the approved limits of construction.

Preferred Alignment and Project Phasing

This environmental analysis includes an extensive investigation into the various trail alignment options available in the area in order to get a better understanding of the environmental opportunities and constraints on the project. Through this process, a preferred alignment has come to light. The preferred alignment for this project is: Segment 6a to Segment 1, to Segment 2a, to Segment 3, to Segment 4a to Segment 5a. In all cases, the preferred alignment is the one closest to, meandering in and out of, or completely within County ROW.

This project is intended to be built in phases. The first implementation phase will include construction of Segment 1 and 2a. The second implementation phase will likely include Segment 4a and 5a along Sloane Canyon Road. The third implementation phase will likely include Segment 3, which will connect to trails on the San Diego National Wildlife Refuge when those trails open to the public. The last implementation phase will likely include the construction of Segment 6a along Dehesa Road.

Segment 6a

Trail Segment 6a would be located in the western portion of the study area along the southern edge of Dehesa Road. The trail alignment would be located mostly within County ROW, with the necessity of using some land owned by Sycuan and private landowners for trail drainage, retaining wall, or alignment. Segment 6a would then connect to Segment 1 to the east. Segment 6a would provide regional connectivity by connecting the project to the Sweetwater Loop Trail. A portion of Segment 6a would be located on existing private sidewalk along Dehesa Road. A biological open space easement is located north of Segment 6a, north of Dehesa Road on land owned by the San Diego National Wildlife Refuge. If the Segment 6a alignment is chosen, it would replace Segment 6b. Segment 6a would be approximately 5 feet wide.

Segment 6b

Trail Segment 6b would be located in the western portion of the study area north of Dehesa Road prior to connecting with Segment 2 near the existing staging area. The western portion of Trail Segment 6b along the north side of Dehesa Road would be located within County ROW adjacent to land maintained by USFWS and private landowners. If chosen as an alignment option, the trail would require a crossing at Dehesa Road near the intersection with Sloane Canyon Road. This intersection would require a full signalization with crosswalks for safe pedestrian movement in each direction. The trail would then be located within County ROW along the eastern edge of Sloane Canyon Road. The project would then cross Sloane Canyon Road at a non-signalized crossing of the roadway to meet the existing staging area and connect Segment 6b to Segment 2. Like Segment 6a, Segment 6b would provide regional connectivity by connecting the project to the Sweetwater Loop Trail. A biological open space easement is located immediately north of the western half of Segment 6b. If the Segment 6b alignment is chosen, it would replace Segments 1 and 6a. Segment 6b would be between 4 and 8 feet wide.

Segment 1

Trail Segment 1 would be located along Dehesa Road east of the Singing Hills Golf Resort. This segment would travel through Sycuan Indian Reservation land as a connection from the eastern end of Segment 6a to the northern end of Segment 2. The alignment would be located south of Dehesa Road and north of the Sweetwater River and Lake Emma. The project would incorporate two small bridges to traverse existing jurisdictional drainages. If the Segment 1 alignment is chosen, it would replace Segment 6b. Segment 1 would be 8 feet wide.

Segment 2a

Trail Segment 2a would be located in the northern portion of the study area along Sloane Canyon Road. As shown on Figure 5, the segment would travel through County ROW and Sycuan land beginning at the existing staging area. Starting at the north, Segment 2a would be a 5-foot-wide trail located within County ROW along the eastern edge of Sloane Canyon Road. The trail would cross Harbison Canyon Creek using the existing Northern Bridge and would require physical separation from vehicular traffic. The trail would cross the Sweetwater River at or adjacent to the existing Southern Bridge. Crossing options include the trail's use of the existing Southern Bridge with physical separation from vehicular traffic, or through the construction of a new non-vehicular bridge parallel to the Southern Bridge. After crossing the Sweetwater River, the trail would require a crosswalk to the southern edge of Sloane Canyon Road.

Segment 2a would continue east along Sloane Canyon Road before ending at the intersection of Segments 2b, 3, 4a, and 4b. Operation of Segment 2a may require the use of safety features to separate the trail from vehicular use of the ROW.

Segment 2b

Segment 2b would be identical to Segment 2a from its beginning at the staging area off Sloane Canyon Road to a point east of the Southern Bridge along Sloane Canyon Road. At this point, Segment 2b would travel up a hillside to the west, ending at the intersection of

Segments 2a, 3, 4a, and 4b. Operation of Segment 2b may require the use of safety features to separate the trail from vehicular use of the ROW. Segment 2b would be a 5-foot-wide trail.

Segment 2c

Segment 2c would be identical to Segments 2a and 2b from its beginning at the staging area off Sloane Canyon Road east of the Southern Bridge. At this point, Segment 2c would move out of County ROW to the south as a 4- to 8-foot-wide trail. The alignment would be located within an existing disturbed trail, traveling up a steep gradient to the southwest. Trail Segment 2c would end upon its convergence with Segment 3.

Segment 3

Segment 3 would begin at the intersection of Segments 2a, 2b, 4a, and 4b near Sloane Canyon Road. Segment 3 would be located in the eastern portion of the Study Area and would provide a connection to the San Diego National Wildlife Refuge through Sycuan and KDLC lands. Segment 3 follows an existing dirt road used by vehicles for maintenance of the Refuge. The western end of Segment 3 would not connect to a project trail and would terminate at a point approximately 2,500 feet west of Sloane Canyon Road. Segment 3 would be a 4- to 5-foot-wide trail.

Segment 4a

Segment 4a would start at the intersection of Segments 2a, 2b, 3, and 4b near Sloane Canyon Road. Segment 4a would then travel eastward to County ROW. Segment 4a would then be located entirely within County ROW, traveling southward along Sloane Canyon Road to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Operation of Segment 4a would require the use of design features to separate the trail from vehicular use of the ROW. Segment 4a would be a 5-foot-wide trail.

Segment 4b

Segment 4b would start at the intersection of Segments 2a, 2b, 3, and 4b near Sloane Canyon Road. Segment 4b would then travel southward within Sycuan land, parallel to and west of Sloane Canyon Road. Segment 4b would then travel uphill to the west, before descending downhill to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Segment 4b would be located entirely outside County ROW within previously undisturbed areas. Segment 4b would be a 5-foot wide trail.

Segment 4c

As shown in Figure 5, Segment 4c would start at a location near the approximate midpoint of Segment 3. The alignment would connect Segment 3 to Segments 5a and 5b through Sycuan land and KDLC owned lands. The alignment would traverse a hillside before descending downhill to meet Segments 5a and 5b at the intersection of Model A Ford Lane and Sloane Canyon Road. Segment 4c would be located entirely outside of existing County ROW in previously undisturbed areas. Segment 4c would be a 5-foot wide trail.

Segment 5a

Segment 5a would be located in the southern portion of the Study Area along Sloane Canyon Road and travel from the intersection of Sloane Canyon Road and Model A Ford

Lane to connect with the existing California Riding and Hiking Trail to the east. This segment would be located entirely within County ROW on the southern side of Sloane Canyon Road. No trail infrastructure would be constructed within the portions of roadway crossing a drainage called Beaver Hollow. Operation of Segment 5a would require the use of design features to separate the trail from vehicular use of the ROW. Segment 5a would be a 5- to 8-foot-wide trail.

Segment 5b

As shown in Figure 5, Segment 5b is located in the southern portion of the Study Area along Sloane Canyon Road and travels from the intersection of Sloane Canyon Road and Model A Ford Lane to connect with the existing California Riding and Hiking Trail to the east. This segment would be located both within and outside County ROW on the southern edge of Sloane Canyon Road. Portions of the alignment for Segment 5b, however, would be located outside the existing County ROW on land owned and maintained by the KDLC. No trail infrastructure would be constructed within the portions of roadway crossing a drainage called Beaver Hollow. A non-vehicular bridge would be constructed along the eastern end of Segment 5b to separate trail users and vehicular traffic. This bridge would be required to retain the trail across steep terrain and a drainage. Segment 5b would be a 5- to 8-foot-wide trail.

Impact Types

Implementation of the Project would primarily have two classes of impacts: 1) permanent direct impacts on vegetation communities and the sensitive plants living in them, and the resulting loss of habitat for sensitive animals and 2) indirect effects on certain sensitive animal species from increased public presence.

However, construction of the trail system would rely on hand tools and small mechanized equipment designed for trail building and would not have significant direct or indirect effects beyond the loss of habitat. The trail construction would be conducted in compliance with state and federal criminal prohibitions against taking of nesting birds and would not be expected to result in any direct or indirect mortality of general or sensitive wildlife species. *Habitat Impacts*

Complete development of the Project following the preferred alignment (Segments 6a, 1, 2a, 3, 4a, 5a) would result in direct permanent and temporary impacts on 2.67 acres of sensitive habitat, including 1.69 acres of Diegan coastal sage scrub, 0.18 acre of scrub oak chaparral, and 0.80 acre of non-native grassland. No impacts would occur on southern coast live oak riparian forest, southern riparian forest, southern willow scrub, mule fat scrub, non-vegetated channel, coast live oak woodland, or open coast live oak woodland. The preferred alignment will also impact 0.50 acre of eucalyptus woodland, 0.10 acre of non-native vegetation, 1.70 acres of disturbed habitat, and 3.03 acres of urban/developed, none of which are considered sensitive vegetation communities.

If alternative trail segment options were to be selected, the Project could also impact coast live oak woodland, and impacts to sensitive vegetation communities could be a maximum of 6.96 acres if the most impactive segment options were selected. Table 1 below summarizes

the project impacts on habitat types/vegetation communities from development of the Project.

Table 1 Project Impacts on Habitat/Vegetation Communities

Vegetation	Segment													
Community ^{1,2,3}	6a ⁴	6b ⁴	1 ⁴	2a	2b	2c	3	4a	4b	4c	5a	5b	Total ⁴	Mitigation Ratio
Sensitive Vegetation Communities														
Tier I														
Southern coast live oak														2:1
riparian forest (61310)														
(61300)														2:1
Southern willow scrub (63320)														2:1
Mule fat scrub (63310)														2:1
Non-vegetated channel (64200)														2:1
Coast live oak woodland (71160)												0.08		2:1
Open coast live oak woodland (71161)														2:1
Tier II														
Diegan coastal sage													1.69	1.5:1
scrub, including		1.67		1.61	1.69	0.71	0.02	0.06	1.95	0.70		0.02		
(32500)														
Tier III														•
Scrub oak chaparral (37900)							0.18			0.16		0.51	0.18	1:1
Non-native grassland (42200)		0.41	0.46	0.34	0.34	0.31						0.09	0.80	0.5:1
Subtotal Sensitive Communities	0	2.08	0.46	1.95	2.03	1.02	0.2	0.06	1.95	0.86	0	0.70	2.67	
Non-Sensitive Vegetation Communities														
Tier IV		1	1			1	1	1	1	1		1		
Eucalyptus woodland (79100)	0.01	0.03	0.46	0.03	0.03	0.03							0.50	N/A
Non-native vegetation (11000)		0.01		0.10	0.10	0.01							0.10	N/A

Vegetation Community ^{1,2,3}	Segment													
	6a ⁴	6b ⁴	1 ⁴	2a	2b	2c	3	4a	4b	4c	5a	5b	Total ⁴	Mitigation Ratio
Disturbed habitat (11300)		0.16	1.00	0.10	0.11	0.30	0.58	0.01	0.02	0.01	0.01	0.04	1.70	N/A
Agriculture- Orchards and Vineyards (18100)												0.05		N/A
N/A														
Urban/Developed (12000)	1.37	0.71	0.02	0.36	0.26	0.22		0.44			0.84	0.24	3.03	N/A
Subtotal Non-Sensitive Communities	1.38	0.91	1.48	0.59	0.50	0.56	0.58	0.45	0.02	0.01	0.85	0.33	5.33	N/A
TOTAL	1.38	2.99	1.94	2.54	2.53	1.58	0.78	0.51	1.97	0.87	0.85	1.03	8.00	

1 Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008). 2 County Subarea Habitats and Tiers within the MSCP.

3 All habitats are rounded to the nearest 0.01 acre.

⁴ If Segment 6b were built, Segments 6a and 1 would not be built and their impacts would not occur. If Segments 6a and 1 were built, Segment 6b would not be built and its impacts would not occur. Total is for preferred alignment: Segments 6a, 1, 2a, 3, 4a, and 5a.

Sensitive Plant Impacts

Seven special status plant species were confirmed as occurring within the Study Area during rare plant surveys: San Diego sagewort (*Artemisia palmeri*), Dean's milk-vetch (*Astragalus deanei*), San Diego sunflower (*Bahiopsis laciniata*), delicate clarkia (*Clarkia delicata*), small-flowered morning-glory (*Convolvulus simulans*), Dehesa beargrass (*Nolina interrata*), and ashy spike-moss (*Selaginella cinerascens*). The project would avoid impacts to San Diego sagewort. The project would impact relatively low numbers of San Diego sunflower, small-flowered morning glory, and ashy spike-moss. These impacts are considered less than significant because these species occur within similar habitat adjacent to the Study Area and are widespread throughout the South County MSCP Subarea. The project has the potential to impact Dean's milk-vetch, delicate clarkia, and Dehesa beargrass. These impacts are considered significant and would be mitigated to less than significant levels.

Sensitive Wildlife Impact

A total of 24 special status animal species were detected in or within 500 feet of the Study Area during 2019 surveys: Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), arroyo toad (*Anaxyrus californicus*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), San Diego tiger (Coastal) whiptail (*Aspidoscelis tigris stejnegeri*), oak titmouse (*Baeolophus inornatus*), red-shouldered hawk (*Buteo lineatus*), Costa's hummingbird (*Calypte costae*), turkey vulture (*Cathartes aura*), monarch butterfly (*Danaus plexippus*), Quino checkerspot butterfly (*Euphydryas editha quino*), Caspian tern (*Hydroprogne* [*Sterna*] *caspia*), yellow-breasted chat (*Icteria virens*), Lewis' woodpecker (*Melanerpes lewis*), mule deer (*Odocoileus hemionus*), American white pelican (*Pelecanus erythrorhynchos*), Blainville's [Coast] horned lizard (*Phrynosoma blainvillii* [*coronatum*]), coastal California gnatcatcher (*Polioptila californica californica*), mountain lion (*Puma* [*Felis*] *concolor*), yellow warbler (*Setophaga petechia*), Lawrence's goldfinch (*Spinus lawrencei*), two-striped garter snake (*Thamnophis hammondii*), and least Bell's vireo (*Vireo bellii pusillus*).

Impacts to the following species would be less than significant from the preferred alignment and from all analyzed trail segments, as detailed in the Biological Resources Technical Report (BRTR) for the Project: American white pelican, turkey vulture, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, yellow-breasted chat, Lewis' woodpecker, Southern California rufous-crowned sparrow, two-striped gartersnake, Caspian tern, oak titmouse, yellow warbler, Belding's orange-throated whiptail, San Diego tiger (coastal) whiptail, Costa's hummingbird, monarch butterfly, mule deer, mountain lion, Blainville's (coast) horned lizard, and Lawrence's goldfinch.

The preferred alignment would result in significant impacts to coastal California gnatcatcher, arroyo toad, least Bell's vireo, Potential Hermes Copper Butterfly Habitat, and raptors with the potential to nest and/or forage over the site and immediate vicinity, as detailed in the BRTR for the Project. Potential significant impacts could result from direct disturbance, loss of habitat, and noise. The proposed mitigation for Segments 6a, 1, 2a, 3, and 4a would reduce project impacts from the preferred alignment to less than significant. If other segment options were selected, there could be significant impacts to coastal California gnatcatcher critical habitat, Quino checkerspot butterfly, Dehesa beargrass, occupied Hermes copper

butterfly habitat, delicate clarkia, and/or Dean's milk-vetch, depending on which segment options were selected. The proposed mitigation for Segments 6b, 2b, 2c, 4b, 4c, and/or 5b would reduce these impacts to less than significant.

Jurisdictional Wetlands and Waterways

The proposed project will not result in impacts to jurisdictional wetlands or waterways. The Study Area supports the Sweetwater River, Lake Emma, Harbison Canyon Creek, and Beaver Hollow, in addition to multiple unnamed ephemeral drainage features that were identified and mapped for potential state and federal jurisdiction. A total of 0.15 acre (594 linear feet) of waters of the U.S. may be subject to United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) regulatory jurisdiction pursuant to Sections 404 and 401 of the Clean Water Act (CWA). Additionally, 2.74 acres of riparian habitat and 0.16 acres of streambed resources occur within the survey area and would be subject to CDFW jurisdiction pursuant to Sections 1600–1616 of the California Fish and Game Code (CFG Code). The project will use bridges, puncheons, and existing roadways where applicable to avoid impacting these areas.

Core Wildlife/Wildlife Corridors

The development of the Project would not have an impact on wildlife corridors. The maximum of 6.96 acres of conversion of native and naturalized habitat to trails would not constrain wildlife movement in the Study Area. Trails would be expected to be used by medium and large mammals for ease of movement through the Study Area. No features would be constructed that would impinge any movement areas, including ridgelines or canyons. Wildlife movement is not expected to be substantially constrained by the construction of new trails as (1) trail construction would not substantially change topography, (2) wildlife movement is likely concentrated along the Sweetwater River where impacts are not proposed, (3) the project would not impact existing Waters of the U.S./State at trail crossings, (4) trails would not be so wide or heavily-trafficked as to prevent animals from moving across them, (5) risk of mortality is reduced by limiting vehicular use of trails to park staff, and (6) existing lines-of-sight are maintained across trails. The Project preferred alignment would have impacts on 2.67 acres of native and naturalized habitat within a core wildlife area. These impacts would be spread over the 83-acre Study Area. The Study Area and surrounding PAMA land provides adequate space and resources for wildlife known to use the site, maintains connectivity to off-site resources, and functions to facilitate bird and mammal movement through the area, including for species targeted for conservation in the region, such as the coastal California gnatcatcher and least Bell's vireo. Therefore, the project would not significantly impact the viability of a core wildlife area.

Mitigation Measures

In order to reduce potentially significant impacts to a less-than-significant level, the County of San Diego proposes the following Mitigation Measures as part of the Project:

BIO-1 Grubbing or clearing of vegetation for trail Segment 6a, 6b, 1, 2a, 2b, 2c, 3, 4a, 4b, 4c, and 5b during the general avian breeding season (February 1 – September 15),

least Bell's vireo breeding season (March 15 to September 15), coastal California gnatcatcher breeding season (March 1 – August 15), or raptor breeding season (January 15 – July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within 300 feet of the survey area (500 feet for raptors). clearing, grubbing, and grading shall be allowed to proceed in that area. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted by a qualified biologist within three days prior to the commencement of construction activities in that area. If active nests or nesting birds are observed within 300 feet of the survey area (500 feet for raptors), the biologist shall flag a buffer around the active nests and construction activities shall not occur within 300 feet of active nests (500 feet for raptors) until nesting behavior has ceased, nests have failed, or young have fledged as determined by a gualified biologist. If the gualified biologist determines that the species will not be impacted with a reduced buffer (i.e., less than 300 feet for general avian species and 500 feet for raptors), potentially with implementation of avoidance measures to reduce noise, as necessary, and the qualified biologist monitors the active nest during construction to ensure no impacts to the species occur, construction may occur outside the reduced buffer during the breeding season, as long as the species is not impacted.

BIO-2 The following arroyo toad conservation measures apply in the area of Segment 6b shown as Arroyo Toad Exclusion Area on Figure 14c, the area of Segment 1 shown as Arroyo Toad Exclusion Area on Figure 14c, the area of Segment 2a, 2b, or 2c, as applicable, shown as Arroyo Toad Exclusion Area on Figure 14d, the area of Segment 4a and 4b shown as Arroyo Toad Exclusion Area on Figure 14f, and the area of Segment 5b shown as Arroyo Toad Exclusion Area on Figure 14g. There will be no soil-disturbing activity during arroyo toad breeding season outside the arroyo toad exclusion fence (March 15 through July 1). To avoid potential impacts to arroyo toads that may be aestivating within the project area, exclusionary arroyo toad fencing will be installed around the limits of work during trail construction. The fence will consist of fabric or plastic at least two feet high. The lower one foot of the fence will be laid across the ground, staked firmly, and held securely by a continuous line of gravel bags, such that there are no gaps that could allow passage for arroyo toad. No vegetation removal or soil disturbance will be associated with installation of the fence, except for minor soil disturbance installing the stakes to hold up the fence, and all materials will be removed when earthwork is complete. Fence installation will be monitored by a USFWS-approved biologist. Following fence installation, a USFWS-approved biologist will conduct clearance surveys within the fenced areas for a minimum of three consecutive nights. If pre-activity conditions are dry, the area inside the exclusionary fencing will be sprayed with water during the arroyo toad survey to simulate a precipitation event. Surveys must be completed no more than 5 days prior to initiating soil-disturbing activities. Any

arroyo toads found during surveys will be relocated safely by the approved biologist to outside of the fenced area. The approved biologist will continue surveys until there have been two consecutive nights without arroyo toads inside the fence. The USFWS-approved biologist will conduct a training for construction personnel prior to impacts and shall be on-site at least weekly to check fencing integrity. No work will occur immediately prior to or during rain events.

- **BIO-3** Mitigation for Segment 6b impacts to 1.67 acres of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, including 0.93 acre of critical habitat, shall occur at a 1.5:1 ratio with 2.51 acres of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-4** Prior to trail grading for Segment 6b, follow-up rare plant surveys shall be conducted by a County-approved biologist for Dehesa beargrass (*Nolina interrata*), which was observed in the Segment 6b Study Area and would require additional measures for unavoidable impacts.

Should Dehesa beargrass be identified in the proposed impact area, the project alignment shall be adjusted to avoid them to the maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during preconstruction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets the species' habitat requirements, as determined by the County-approved biologist. Impacts shall be mitigated consistent with the BMO Section 86.507.a.1 at a 3:1 ratio.

Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a preference for species salvage and transplantation on-site if feasible. DPR and BIA will review and approve the letter report and implement the mitigation according to the Mitigation Monitoring and Reporting Program for the project. If species are transplanted for mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure **BIO-5**.

BIO-5 Prior to trail grading for Segment 6b, if Dehesa beargrass is being impacted and translocation is selected as part of the mitigation package according to the letter report prepared under mitigation measure **BIO-4**, a plant salvage and translocation plan shall be prepared for Dehesa beargrass impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan,

maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.

- **BIO-6** Mitigation for Segment 6b permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- BIO-7 If heavy equipment would be in operation in Segment 1 during the breeding season for least Bell's vireo (March 15 to September 15), coastal California gnatcatcher (March 1 to August 15), general avian species (February 1 – September 15), or raptors (January 15 – July 15), pre-construction survey(s) shall be conducted by a qualified biologist, as appropriate, to determine whether these species occur within the areas potentially impacted by noise. If it is determined at the completion of preconstruction surveys that active nests belonging to these sensitive species are absent from the potential impact area (within 300 feet for passerines, 500 feet for raptors, or as otherwise determined by a qualified biologist), construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these species, then the grading contractor will install noise attenuation materials within the work area to reduce the grading noise levels to below 60 dB(A)Leg, unless a gualified biologist determines that noise attenuation is not necessary due to existing barriers, ambient noise levels, or other biological factors relevant to the species present. The type of material and location of installation will be determined prior to installation in coordination with a qualified biologist knowledgeable of that species and in coordination with a gualified acoustician. All noise attenuation materials will be installed prior to construction, and noise monitoring will be implemented to help ensure grading noise is below 60 dB(A)Leg at the edge of the species' habitat both during noise attenuation installation (if installed during the breeding season) and during construction. Prior to starting construction, the gualified acoustician will provide a written report to DPR and BIA that confirms that noise attenuation is installed and adequately reducing noise levels at the edge of the species' habitat. Noise monitoring will continue into the species' breeding season until grading is completed.
- **BIO-8** Mitigation for Segment 2a, 2b, or 2c permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-9** The following Quino conservation measures apply in the area of Segment 2c shown as Quino Checkerspot Butterfly Avoidance Area on Figure 14d. **Step 1, Survey**

- Additional Quino host plant mapping was conducted in spring 2020 prior to construction when host plants were blooming, in order to ensure host plant patches are delineated to the greatest extent feasible.
- During 2020 host plant mapping, host plant patches were mapped them using GIS so they can be flagged prior to construction.

Step 2, Avoidance and Minimization Measures:

- Realign or leave trail sections unimproved, as needed, to avoid direct impacts to host plants as much as possible, as mapped during the 2019 Quino focused surveys and refined in 2020.
- All construction within mapped Quino host plant patches will be prohibited during the Quino flight season (defined as 3rd week of February through the 2nd Saturday in May).
- A qualified biologist will monitor construction within the Quino Avoidance Area to ensure that all flagged and mapped host plant locations planned for avoidance are avoided.
- The qualified biologist will conduct environmental awareness training for all entering the site during construction of the project.
- Following trail construction, clearing and trail maintenance within the Quino Avoidance Area shall either occur outside of the Quino flight season or be monitored by a qualified biologist.
- Install signs and/or fencing between the trail and the avoided host plants stating, "Environmentally sensitive area. Please stay on trail," or similar language.

Step 3, Compensatory Mitigation:

- If the trail cannot be redesigned or left unimproved to avoid impacts to all occupied Quino host plant patches, then in addition to the surveys and avoidance and minimization measures in Steps 1 and 2 above, a Section 7 consultation will be required and mitigation will be provided at a ratio determined through Section 7 consultation for impacted host plant patches. Mitigation may consist of one or a combination of on- or off-site planting of host plants, providing long-term maintenance of existing host plants, preserving occupied Quino habitat, or similar measures to the satisfaction of the USFWS.
- **BIO-10** Mitigation for Segment 2c impacts to 0.71 acre of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.07 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-11** Mitigation for Segment 3 permanent impacts to 0.02 acre of coastal California gnatcatcher occupied Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

- **BIO-12** Mitigation for Segment 3 permanent impacts to 0.01 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.01 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-13** The following Hermes copper butterfly conservation measures apply to Segment 4c.

Step 1, Survey

• Conduct focused Hermes copper butterfly survey of the area of Segment 4c shown as Additional Hermes Copper Survey Areas on Figure 7 in spring-summer 2020.

Step 2, Avoidance and Minimization Measures:

- Realign the trail within the Study Area, if possible, to avoid direct impacts to occupied Hermes copper butterfly habitat, if mapped during the 2020 focused Hermes copper butterfly survey.
- All construction within occupied Hermes copper butterfly habitat, if any, will be prohibited during the Hermes copper butterfly flight season (defined as 3rd full week of May through the first full week of July).

Step 3, Compensatory Mitigation:

- If the 2020 focused Hermes copper butterfly survey is negative, mitigation for Segment 4c permanent impacts to 0.05 acre of Potential Hermes Copper Butterfly Habitat shall occur at a 1:1 ratio with 0.05 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank. -OR-
- If the 2020 focused Hermes copper butterfly survey is positive and impacts cannot be avoided, mitigation for Segment 4c permanent impacts to 0.05 acre of Occupied Hermes Copper Butterfly Habitat shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat, with 0.10 or 0.15 acre of Occupied Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-14** Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6, rare plant surveys shall be conducted by a County-approved biologist for County List A and B sensitive plant species, including, but not limited to, Dean's milk-vetch (*Astragalus deanei*), Delicate clarkia (*Clarkia delicata*), and Dehesa beargrass

(*Nolina interrata*), which are species determined to have a moderate or high potential to occur and that would require additional measures for unavoidable impacts.

Should County List A or B species be identified in the impact areas of the Segment 4c Additional Study Area, the project alignment shall be adjusted to minimize impacts to the maximum extent practicable, consistent with the BMO Section 86.507.a.1. If impacts to County List A or B species are unavoidable, they shall be quantified and limited to no more than 20 percent of the total population in the area, consistent with the BMO Section 86.507.a.1, as determined during pre-construction surveys and documented in a letter report submitted by the County-approved biologist to DPR and BIA. The mapping of plant populations will extend beyond the impact area into the adjacent area that meets that species' habitat requirements, as determined by the County-approved biologist. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species, consistent with the BMO Section 86.507.a.1, with List B species mitigated at a 1:1 ratio, List A species such as Dean's milk-vetch mitigated at a 2:1 ratio, and federally- or state-listed endangered or threatened species such as Dehesa beargrass mitigated at a 3:1 ratio.

Mitigation will consist of on- or off-site preservation, translocation, and/or restoration, with a preference for species salvage and transplantation on-site if feasible. DPR and BIA will review and approve the letter report and implement the mitigation according to the Mitigation Monitoring and Reporting Program for the project. If species are transplanted for mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure **BIO-15**.

- **BIO-15** Prior to trail grading in the Segment 4c Additional Study Area shown on Figure 6. if County List A or B species will be impacted by the project and translocation is selected as part of the mitigation package according to the survey conducted under mitigation measure BIO-14, a plant salvage and translocation plan shall be prepared for County List A and B species impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Study Area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a County-approved biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project.
- **BIO-16** Mitigation for Segment 5b impacts to 0.07 acre of Occupied Hermes Copper Butterfly Habitat, shall occur at a 2:1 or 3:1 ratio, depending on the quality of the habitat at the impact site and the mitigation site, and the importance of the habitat,

with 0.14 or 0.21 acre of Potential Hermes Copper Butterfly Habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

- **BIO-17** Mitigation for Segment 6b impacts to 0.41 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.21 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-18** Mitigation for Segment 1 impacts to 0.46 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.23 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-19** Mitigation for Segment 2a impacts to 1.61 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.42 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-20** Mitigation for Segment 2a impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-21** Mitigation for Segment 2b impacts to 1.69 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.54 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-22** Mitigation for Segment 2b impacts to 0.34 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.17 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-23** Mitigation for Segment 2c impacts to 0.31 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

- **BIO-24** Mitigation for Segment 3 impacts to 0.18 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.18 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-25** Mitigation for Segment 4a impacts to 0.06 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.09 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-26** Mitigation for Segment 4b impacts to 1.95 acres of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 2.93 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-27** Mitigation for Segment 4c impacts to 0.70 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 1.05 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-28** Mitigation for Segment 4c impacts to 0.16 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.16 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-29** Mitigation for Segment 5b permanent impacts to 0.08 acre of coast live oak woodland, a Tier I habitat, shall occur at a 2:1 ratio with 0.16 acre of Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-30** Mitigation for Segment 5b impacts to 0.02 acre of Diegan coastal sage scrub, a Tier II habitat, shall occur at a 1.5:1 ratio with 0.03 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-31** Mitigation for Segment 5b impacts to 0.51 acre of scrub oak chaparral, a Tier III habitat, shall occur at a 1:1 ratio with 0.51 acre of Tier III, Tier II, or Tier I habitat in the South County MSCP area, within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.

- **BIO-32** Mitigation for Segment 5b permanent impacts to 0.09 acre of non-native grassland, a Tier III habitat, shall occur at a 0.5:1 ratio with 0.05 acre of Tier III or better habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through one or a combination of the following: on- and/or off-site preservation, restoration, and/or purchase of mitigation credits at an approved mitigation bank.
- **BIO-33** In keeping with DPR policy to minimize impacts to oak trees whenever possible, the following measures will be implemented in Segments 6a, 6b, 1, 2a, 2b, 2c, 3, 4b, 4c, and 5b to protect avoided woodlands, forests, and coast live oak trees:

General Construction Site Recommendations

- A minimum 4-foot tall, brightly colored, synthetic fence should be installed around the outermost edge of the protected zone of oaks and other native trees that are designated for retention on-site. Encroachment into the fenced areas should be restricted to the minimum amount feasible and fencing should remain in place until all construction activities have ceased. The protected zone is the Oak Root Protection Zone depicted on BRTR Figures 14b through 14g or in cases where construction is encroaching on the Oak Root Protection Zone of a retained tree, the protected zone is the portion of the tree's Oak Root Zone that is being protected.
- The fenced area should be kept clear of building materials, waste, and excess soil.
- No digging, trenching, compaction, or other soil disturbance should be allowed in the fenced area.
- The storage of construction equipment or hazardous materials such as gasoline, oil, or other toxic chemicals should not be allowed in or adjacent to the fenced area.
- Storage areas for equipment, soil, and construction materials as well as burn sites (if permitted), cement washout pits, and construction work zones should be kept away from protected oaks and other native trees and outside the fenced in area.
- Cable, chain, rope or signage should not be attached to retained oaks and other native trees.
- Designated roads and parking areas should be established. All construction personnel should be restricted to driving and parking in designated areas. Discharge of exhaust from construction vehicles and equipment should not be allowed near the protected zone of trees.
- Grade changes should be avoided near fenced areas to the maximum extent possible.
- To prevent soil compaction when working within the Oak Root Zone, spread several inches of wood chips in the root zone area and bridge root areas with plates of steel.

Recommendations for Construction Activities in the Vicinity of Retained Trees

- All necessary clearance pruning on oaks and other native trees should be conducted by a Certified Tree Worker or Certified Arborist.
- Trenching within the Oak Root Zone should be avoided to the maximum extent practicable and kept a minimum distance of 10 times the diameter of the tree away from its trunk, if feasible; e.g. for a six inch diameter trunk, trenching should be kept at least 5 feet away. If necessary, this trenching should be conducted using hand excavation or compressed air to reduce impacts to tree roots. Machine trenching should not be allowed within the dripline of retained trees. If pipes must be installed closer to the tree than a distance of 10 times the diameter of the tree away from its trunk, they should be bored beneath the tree a minimum of three feet below the ground surface to reduce impacts to roots.
- Excavation should also be minimized within the dripline of retained oaks and other native trees. Construction within the dripline of retained trees should be conducted in a manner that minimizes excavation and provides for the best preservation of roots as determined by the Project Arborist.
- If tree roots of oaks and other native trees are severed outside of the fenced area, they should be severed cleanly and kept moist. During hot, dry weather all exposed roots outside of fenced areas should be covered with protective material during construction such as mulch or plywood sheets to reduce soil compaction. Protective material should be removed upon completion of construction activities.
- Trenching and excavation should be avoided during hot, dry, weather if possible and trees shall be watered before, during, and after trenching and excavation within the dripline of retained trees to offset water loss due to cut roots.
- Grading within the driplines of retained oaks and other native trees should be avoided wherever feasible.

Recommendations for Protection of Trees Post-Construction

- Post-construction inspections of the retained oaks and other native trees should be conducted by a Certified Arborist or Certified Tree Worker to determine if the retained trees are stressed (e.g., water stress, nutrient stress) or damaged (e.g., broken branches, trunk damage). Appropriate corrective actions should be implemented as necessary. Such corrective actions may include application of root stimulant to encourage new root growth in trees that have a significant portion of their roots lost due to cutting or soil compaction.
- Aeration of soil by vertical mulching or similar technique should be implemented around retained oaks and other native trees to offset the impacts of soil compaction that has already occurred due to construction activities and other site uses.

Compensatory Mitigation

• Mature oak trees that cannot be avoided and are removed or killed by trail construction will be replaced with on- or off-site planting or preservation of coast live oak trees at a 2:1 ratio.

The findings contained within this document are based on County records and the BRTR for the proposed project. The information contained within these Findings is correct to the best of staff's knowledge at the time the findings were completed. Any subsequent environmental review completed due to changes in the proposed project or changes in circumstance shall need to have new findings completed based on the environmental conditions at that time.

The project has been found to conform to the County's Multiple Species Conservation Program (MSCP) Subarea Plan, the Biological Mitigation Ordinance (BMO) and the Implementation Agreement between the County of San Diego, the CA Department of Fish and Wildlife and the US Fish and Wildlife Service. Third Party Beneficiary Status and the associated take authorization for incidental impacts to sensitive species (pursuant to the County's Section 10 Permit under the Endangered Species Act) shall be conveyed only after the project has been approved by the County, these MSCP Findings are adopted by the hearing body and all MSCP-related conditions placed on the project have been satisfied.

II. Biological Resource Core Area Determination

The impact area and the mitigation site shall be evaluated to determine if either or both sites qualify as a Biological Resource Core Area (BRCA) pursuant to the BMO, Section 86.506(a)(1).

A. Report the factual determination as to whether the proposed Impact Area qualifies as a BRCA. The Impact Area shall refer only to that area within which project-related disturbance is proposed, including any on and/or off-site impacts.

The project area qualifies as a BRCA because the majority of the impact area is located within PAMA and is located within an area of habitat that contains biological resources that support or contribute to the long-term survival of sensitive species.

B. Report the factual determination as to whether the Mitigation Site qualifies as a BRCA.

The project area qualifies as a BRCA because it is mostly located within PAMA. Any on-site or off-site mitigation proposed will be located within the PAMA or within a BRCA.

III. Biological Mitigation Ordinance Findings

The project is exempt from the BMO (Section 86.503(a)(8)), which states:

A public facility or public project, determined to be essential by the County, including but not limited to a County Park or County recreational facility, provided that the County decision making body considering such a project makes the following findings:

a. The facility or project is consistent with the County General Plan, the MSCP Plan and Subarea Plan, as approved by the Board of Supervisors;

General Plan conformance: The proposed project is consistent with the County of San Diego General Plan as shown in the following findings:

The proposed project is located within the Crest-Dehesa Community Plan Area. The proposed project supports the goals and policies outlined by the Community Trails Master Plan (County 2005) which includes objectives, policies, goals, implementation strategies, and guidelines for the management and expansion of the recreational trail network throughout the County. Implementation of the project would provide a critical regional and community trail connection between two regional trails, the Sweetwater River Loop Trail and the California Riding and Hiking Trail. This project is within the County's Crest/Dehesa/Granite Hills/Harbison Canyon planning area, which serves as a hub connecting the neighboring communities of El Cajon, Lakeside, Willow Glen/Singing Hills, Valle de Oro, Dulzura, and Jamul. The non-motorized recreational trail would provide increased opportunities for walking, bicycling, and equestrian use, as well as provide safe pedestrian and cyclist access to Dehesa Elementary School. The project is intended to increase and improve connectivity and mobility of non-motorized users within the community and throughout the region.

The proposed trail segments have been designed to follow the County's Preserve Trail Guidelines (County 2018) and to support the goals and policies outlined by the Community Trails Master Plan (County 2005) and comply with the MSCP Framework Management Plan. The trails would generally follow trail types defined in the Preserve Trail Guidelines.

This Project is consistent with the County's MSCP Subarea Plan as detailed in this MSCP Conformance Statement. The Project proposes passive recreation (trails), which are an allowable use in the Preserve per the MSCP. The proposed Project will help create public access while ensuring all potential impacts are mitigated to a less than significant level.

b. All feasible mitigation measures have been incorporated into the facility or project, and there are no feasible, less environmentally damaging locations, alignments or non-structural alternatives that would meet project objectives;

The proposed Project is a proposed non-motorized multi-use trail system. The Project includes 5 miles of proposed trails. The width of proposed trails has been minimized, with trails ranging from 4 to 8 feet in width. Trail surface will be native soil, decomposed granite, crushed granite, or existing road. The trail alignment and design were created to avoid or minimize impacts to the surrounding habitat, sensitive species, and natural resources. Trail alignments were adjusted during the environmental analysis to reduce habitat impacts and avoid wetlands and streams, and the least impactive combination of trail alignments was selected as the preferred alternative. However, the preferred alternative would result in direct impacts on 2.67 acres of sensitive natural or naturalized vegetation communities. Habitat-based

mitigation for permanent and temporary direct impacts will be implemented through on-site or off-site habitat preservation, enhancement, restoration, and/or purchase of mitigation credits, all within BRCA. Mitigation would be done according to the mitigation ratios in Attachment M of the BMO, as illustrated in Table 1 above. Mitigation for habitat impacts is described in mitigation measures **BIO-17** through **BIO-32.** Mitigation for impacts on sensitive species and nesting bird protected under the MBTA and CFG Code is described in mitigation measures **BIO-1** through **BIO-16**, and oak tree protection and mitigation is described in mitigation measure **BIO-33**. These mitigation measures ensure that any significant impacts on sensitive habitat, sensitive species, and mature oak trees would be reduced to a less-than-significant level.

c. Where the facility or project encroaches into a wetland or floodplain, mitigation measures are required that result in a net gain in wetland and/or riparian habitat;

The project does not encroach into a wetland or floodplain or result in any impacts to jurisdictional features. The proposed Project has been designed to reduce impacts on sensitive vegetation within BRCA, and although the trail will be located adjacent to wetland/riparian habitat, it has been designed to avoid impacts on wetland waters or jurisdictional features.

d. Where the facility or project encroaches into steep slopes, native vegetation will be used to revegetate and landscape cut and fill areas;

The Project would require limited grading for the new trails. However, the project would use trail placement, reduced trail width, and/or retaining walls to avoid creating large cut or fill slopes.

e. No mature riparian woodland is destroyed or reduced in size due to otherwise allowed encroachments; and

The Project would have no impact on mature riparian woodland. The southern coast live oak riparian forest, southern riparian forest, southern willow scrub, and mule fat scrub within the Study Area will all be avoided.

f. All Critical Populations of Sensitive Plant Species Within the MSCP Subarea, (Attachment C); Rare, Narrow Endemic Animal Species Within the MSCP Subarea, (Attachment D); Narrow Endemic Plant Species Within the MSCP Subarea, (Attachment E); and San Diego County Sensitive Plant Species, as defined herein will be avoided as required by, and consistent with, the terms of the Subarea Plan.

Dehesa beargrass, arroyo toad, Quino checkerspot butterfly, and least Bell's vireo are narrow endemic species observed within and adjacent to the Study Area.

The preferred alignment avoids impacts to Dehesa beargrass. If the non-preferred Segment 6b is selected, it will first be redesigned to avoid impacts to the extent

feasible, and if impacts cannot be completely avoided, they will be mitigated per mitigation measures **BIO-4** and **BIO-5**. The potential for impacts to Dehesa beargrass in Segment 4c is low, but if present, impacts will be mitigated by mitigation measures **BIO-14** and **BIO-15**. The project site is not one of the core populations of Dehesa beargrass to be avoided per MSCP Plan table 3-5.

The proposed project avoids impacts to all observed arroyo toad locations. As discussed in the BRTR, potential impacts from construction of Segments 1, 2a, 2b, 2c, 4a, 4b, 5b, 6a, and 6b will be avoided during construction, per mitigation measure **BIO-2**. The project site is not one of the important habitat areas for arroyo toad mentioned in MSCP Plan Table 3-5.

Segment 2c is occupied by Quino checkerspot butterfly and supports Quino checkerspot butterfly host plants. The preferred alignment avoids impacts by selecting Segment 2a instead of Segment 2c. If the non-preferred Segment 2c is selected, the trail will avoid impacts to the maximum extent feasible and mitigate for unavoidable impacts per mitigation measure **BIO-9**. The project was not confirmed to support Quino checkerspot butterfly breeding, and therefore it does not constitute a core population of Quino checkerspot butterfly.

The project avoids and preserves all suitable least Bell's vireo habitat within open space. Breeding season impacts in Segments 1, 2a, 2b, 2c, and 6b would be avoided in accordance with MSCP Plan Table 3-5 by mitigation measures **BIO-1** and **BIO-7**.

The Project will also avoid and mitigate impacts to County List A and B species. The preferred alignment would avoid impacting these species. If non-preferred Segment 4c were selected, it could potentially impact delicate clarkia and/or Dean's milk-vetch. If these species are found within the proposed impact footprint, the trail will be redesigned to minimize impacts to the maximum extent practicable and unavoidable impacts will be mitigated consistent with the Subarea Plan, as detailed in mitigation measures **BIO-14** and **BIO-15**.

In addition, although it is not an MSCP covered species, the Project will avoid and mitigate impacts to Hermes copper butterfly in accordance with the County guidelines for Hermes copper butterfly. Conservation measures will be implemented, impacts to potential habitat will be mitigated at a 1:1 ratio, and occupied habitat will be mitigated at a 2:1 or 3:1 ratio, as detailed in mitigation measures **BIO-6**, **BIO-8**, **BIO-12**, **BIO-13**, and **BIO-16**.

With the proposed avoidance, minimization, and mitigation measures, the Project will avoid impacts to critical populations of sensitive plant species, narrow endemic animal species, narrow endemic plant species, and San Diego County sensitive plant species consistent with the terms of the Subarea Plan.

IV. Subarea Plan Findings

Conformance with the objectives of the County Subarea Plan is demonstrated by the following findings:

1. The project will not conflict with the no-net-loss-of-wetlands standard in satisfying State and Federal wetland goals and policies.

The project has been designed to avoid impacts on wetland waters or jurisdictional features. As the project will not result in any impacts to jurisdictional waters, the project will be consistent with the no-net-loss-of-wetlands standard, satisfying State and Federal wetland goals and policies.

2. The project includes measures to maximize the habitat structural diversity of conserved habitat areas including conservation of unique habitats and habitat features.

The Project maximizes the habitat structural diversity of conserved habitat areas by confining impacts to only 2.67 acres of sensitive habitat out of an 83-acre Study Area. The Project will place trails along existing paved or dirt roads when possible in order to preserve a wide range of existing habitats in place, ranging from non-native grassland to scrub and chaparral habitats, to woodland and riparian forest habitats, to non-vegetated channel.

3. The project provides for conservation of spatially representative examples of extensive patches of Coastal sage scrub and other habitat types that were ranked as having high and very high biological values by the MSCP habitat evaluation model.

The preferred alignment will impact only 1.69 acres of Diegan coastal sage scrub out of 20.16 acres existing within the Study Area, thus preserving 92% of the Diegan coastal sage scrub within the Study Area. There are extensive patches of Diegan coastal sage scrub surrounding the Study Area that are preserved within the San Diego National Wildlife Refuge and KDLC lands. Additional undeveloped lands surrounding the Study Area include the Sycuan Indian Reservation and non-profit ownership. These areas, in combination with the preserved areas within the Study Area itself, provide for conservation of spatially representative examples of extensive patches of Coastal sage scrub and other high value habitat types. The majority of the study area is mapped as very high and high habitat value on the MSCP habitat evaluation model, and the Project has been designed to conserve these areas as much as possible by following existing dirt roads, sidewalk and paved roads where possible, avoiding jurisdictional waters and riparian habitats, reducing trail widths, evaluating multiple trail segments, and selecting the least impactive trail segments as the preferred alternative. The Project would result in direct and permanent impacts on 2.67 acres of sensitive natural or naturalized vegetation communities. Habitatbased mitigation for direct impacts on sensitive habitats will be satisfied through purchase of mitigation credits or habitat preservation, enhancement, and/or restoration within a BRCA.

4. The project provides for the creation of significant blocks of habitat to reduce edge effects and maximize the ratio of surface area to the perimeter of conserved habitats.

This Project is consistent with the County's MSCP Subarea Plan. As a trail project, the Project would have the potential to increase edge effects. However, the Project will reduce edge effects through the following design features: (1) signs precluding access to areas outside of established trails shall be posted; (2) off-leash pets would not be allowed on trails or public areas and signs would be posted along trails notifying pet owners of this regulation; (3) only non-invasive, native plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]); (4) if night lighting is utilized during construction, the project is required to direct all necessary lighting in a downward direction with appropriate shield and illumination technology to prevent adverse spillover of light; (5) no operational project lighting is proposed; and (6) wildlife-friendly fencing will be installed to protect Quino checkerspot butterfly host plant areas as described in mitigation measure **BIO-9**. In addition, the Project has been designed to minimize impacts as much as possible by following existing dirt roads, sidewalk and paved roads where possible, avoiding jurisdictional waters and riparian habitats, reducing trail widths, evaluating multiple trail segments, and selecting the least impactive trail segments as the preferred alternative. Mitigation will occur either on-site or off-site within a BRCA, meaning that the Project's mitigation will contribute to preserving significant blocks of habitat on-site and/or off-site within a BRCA. This will contribute to preserving the significant blocks of habitat that surround the Study Area, including the San Diego National Wildlife Refuge, KDLC lands, and undeveloped habitat within the Sycuan Indian Reservation and non-profit ownership.

5. The project provides for the development of the least sensitive habitat areas.

The proposed Project has been designed to reduce impacts on sensitive vegetation and completely avoid impacts on wetland and non-wetland waters and riparian areas. With the preferred alignment, no impacts would occur on southern coast live oak riparian forest, southern riparian forest, mule fat scrub, non-vegetated channel, coast live oak woodland, or open coast live oak woodland. The Project would impact 8.00 acres in total, of which the majority, 5.33 acres, would be non-sensitive habitats including eucalyptus woodland, disturbed habitat, non-native vegetation, and urban/developed. This was accomplished by following existing dirt roads and paved roads where possible, including staying within existing ROW as much as possible and using the existing sidewalk for the west end of Segment 6a. During the design process the Project team also reduced trail widths, evaluated multiple trail segments, and selected the least impactive trail segments as the preferred alternative. The sensitive habitats that will be impacted consist of 2.67 acres of Diegan coastal sage scrub (including Baccharis-dominated), scrub oak chaparral, and non-native grassland, which are less sensitive than the riparian habitats that have been avoided.

6. The project provides for the conservation of key regional populations of covered species, and representations of sensitive habitats and their geographic sub-associations in biologically functioning units.

Limited development as part of the Project will not eliminate key regional populations of covered species. The preferred alignment would impact Diegan coastal sage scrub habitat occupied by the coastal California gnatcatcher, but there is abundant coastal sage scrub habitat remaining in and around the Study Area that supports or can support the coastal California gnatcatcher, and breeding season avoidance would be implemented to avoid breeding season impacts as described in mitigation measures BIO-1 and BIO-7. The Project avoids impacts to arroyo toad critical habitat supporting Primary Constituent Elements (PCEs) for the species and impacts during construction would be avoided through arroyo toad exclusion fencing and avoidance measures as described in mitigation measure **BIO-2**. The Project would impact small areas of occupied and potential Hermes copper butterfly habitat, but mitigation would be provided at a 1:1 to 3:1 ratio following County guidelines as described in mitigation measure **BIO-13**. Special status plant species would also be avoided consistent with the MSCP, and unavoidable impacts to up to 20 percent of the on-site population would be mitigated consistent with the MSCP and BMO. The Project has been designed to minimize trail impacts and locate them in the least sensitive areas, so that representative sensitive habitat areas and their biological functions are retained within and adjacent to the Study Area.

7. Conserves large interconnecting blocks of habitat that contribute to the preservation of wide-ranging species such as Mule deer, Golden eagle, and predators as appropriate. Special emphasis will be placed on conserving adequate foraging habitat near Golden eagle nest sites.

The specific mitigation location(s) for the Project have not been identified yet; however, the Project is consistent with the Subarea Plan, which provides for the conservation of large interconnecting blocks of habitat that contribute to the preservation of wide-ranging species. To the extent possible, the Project avoids impacts to sensitive species by minimizing trail width, locating trails on existing roads or sidewalk where possible, and selecting the least impactive trail segments as the preferred alignment in order to conserve the existing large interconnecting blocks of habitat within and adjacent to the Study Area. For unavoidable habitat impacts, mitigation will be provided either on-site or off-site within a BRCA according to the mitigation ratios pursuant to the County BMO and shown in Table 1 above. Mitigation for habitat impacts are described in mitigation measures BIO-17 through BIO-32. These mitigation measures ensure that any significant impacts from impacts on sensitive habitat would be reduced to a less-than-significant level. It was determined that implementation of the Project would not have a significant effect on sensitive animals occurring or potentially occurring within the Study Area, including wideranging species such as mule deer, mountain lion, and raptors. In addition, the Study Area does not contain eagle foraging habitat or nesting habitat and it is not within any known golden eagle territory.

8. All projects within the San Diego County Subarea Plan shall conserve identified critical populations and narrow endemics to the levels specified in the Subarea Plan. These levels are generally no impact to the critical populations and no

more than 20 percent loss of narrow endemics and specified rare and endangered plants.

Dehesa beargrass, arroyo toad, Quino checkerspot butterfly, and least Bell's vireo are narrow endemic species observed within and adjacent to the Study Area.

With the proposed avoidance, minimization, and mitigation measures, the Project will avoid impacts to critical populations of sensitive plant species, narrow endemic animal species, narrow endemic plant species, and San Diego County sensitive plant species consistent with the terms of the Subarea Plan, including the 20 percent impact limit, as detailed in Finding III.f above.

9. No project shall be approved which will jeopardize the possible or probable assembly of a preserve system within the Subarea Plan.

The Project is a trail project, and passive recreation (trails) are an allowable use and covered activity in the Preserve per the MSCP, meaning that the Project will not jeopardize preserve assembly. The Study Area includes San Diego National Wildlife Refuge and KDLC lands that are already preserved, and the Project is consistent with the preservation of these areas because the trail system has been designed to minimize habitat impacts, follow existing roads as closely as possible, stay within County Right of Way where possible, and use fencing and signage to keep trail users from intruding on preserved habitat. The Sweetwater River valley and ridgelines onsite may provide local movement for a wide range of wildlife, including mule deer, coyote, bobcat, and mountain lion, and these movement corridors will remain in place with the Project. The proposed Project will help create public access and improve appreciation of nature while ensuring all potential impacts are mitigated to a less than significant level.

10. All projects that propose to count on-site preservation toward their mitigation responsibility must include provisions to reduce edge effects.

The project will provide either on-site or off-site mitigation within a BRCA. If mitigation is provided on-site, it will be protected from edge effects through project design features including signs, a prohibition on off-leash pets, directing construction lighting downward, not lighting the trails once constructed, and installing wildlife-friendly fencing to protect Quino checkerspot butterfly host plant areas.

11. Every effort has been made to avoid impacts to BRCAs, to sensitive resources, and to specific sensitive species as defined in the BMO.

The project area qualifies as a BRCA because it is mostly located within PAMA. However, the Project has been designed to reduce impacts on sensitive vegetation within BRCA and avoid impacts on wetland waters or jurisdictional features. The trail construction would be conducted in compliance with state and federal criminal prohibitions against taking of nesting birds, in addition to arroyo toad protection measures, and would not be expected to result in any direct or indirect mortality of

general or sensitive wildlife species. Additionally, this Project has been designed to minimize impacts on BRCA and PAMA by reducing trail widths, routing trails along existing dirt roads and paved roads and sidewalks and within existing ROW where possible, analyzing multiple trail segments and selecting the least impactive trail segments as the preferred alternative. The Project would result in temporary and permanent impacts on 2.67 acres of sensitive natural or naturalized vegetation communities within a BRCA. Habitat-based mitigation for direct impacts on sensitive habitats will be satisfied through purchase of mitigation credits or habitat preservation, enhancement, or restoration on-site or within another BRCA. Mitigation would be provided according to the mitigation ratios in Attachment M of the BMO. Mitigation for habitat impacts from each analyzed trail segment are described in mitigation measures **BIO-17** through **BIO-32**. These mitigation measures ensure that any significant impacts from impacts on sensitive habitat would be reduced to a less-than-significant level and the Project is consistent with the MSCP.

HELIX Environmental Planning, Inc.

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