NATURAL ENVIRONMENT STUDY

Interstate 10 Corridor Project

San Bernardino and Los Angeles Counties

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Natural Environment Study

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Summary

The California Department of Transportation (Caltrans), in cooperation with the San Bernardino Associated Governments (SANBAG), proposes to add lane(s) and provide additional improvements on Interstate 10 (I-10) for an approximate 33-mile-long Biological Study Area (BSA) that spans both Los Angeles and San Bernardino counties. The I-10 Corridor Project will consider one no build and two build alternatives. Both build alternatives include the construction of additional lane(s) in each direction of I-10, auxiliary lanes, shoulders, median barriers, soundwalls, retaining walls, drainage facilities, and improvements to bridges and ramps. The purpose of the proposed project is to improve the movement of people and goods through the I-10 corridor.

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Caltrans is the lead agency for California Environmental Quality Act (CEQA) compliance and National Environmental Policy Act (NEPA) compliance and consultation under the Federal Endangered Species Act (FESA) pursuant to the Safe, Accountable, Flexible and Efficient Transportation Act: A Legacy for Users (SAFETEA-LU), Section 6005. SANBAG is a project proponent and a responsible agency under CEQA.

In addition to this Natural Environment Study (NES), other documentation prepared includes a jurisdictional delineation and survey reports for focused species surveys. These documents are included within this document as appendices. In addition, formal FESA Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) will be required for potential effects to critical habitat (CH) for the southwestern willow flycatcher (*Empidonax extimus traillii*) (SWWF) and Santa Ana sucker (*Catostomus santaanea*) (SAS), and may be required for effects to suitable habitat (Delhi Sands) for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) (DSF) and/or take of DSF if found during presence/absence surveys. Once presence/absence surveys for DSF are completed in 2016, Caltrans will prepare a Draft Biological Assessment (BA) and initiate formal consultation with USFWS.

Three alternatives are being proposed for this project: Alternative 1 (No Build), Alternative 2 (One High-Occupancy Vehicle Lane in Each Direction), and Alternative 3 (One Express Lane in Each Direction). Alternative 3 has the largest impact footprint of the two proposed build alternatives.

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The BSA contains extensively disturbed and developed areas, primarily consisting of the I-10 freeway and freeway right-of-way (ROW), local arterial roadways and adjacent buildings, and other urban development. Urban areas dominate the BSA. Other vegetation communities recorded include freshwater marsh, southern willow scrub, mule fat scrub, Riversidean sage scrub (RSS), non-native grassland, ruderal, ornamental, and agriculture.

For this project, the following studies were conducted in 2013: general biological plant and wildlife surveys; focused coastal California gnatcatcher (*Polioptila californica*) (CAGN) surveys; focused SWWF surveys; focused least Bell's vireo (*Vireo bellii pusillus*) (LBV) surveys; focused rare plant surveys; habitat assessment for DSF; habitat assessment for burrowing owl (*Athene cunicularia*) (BUOW); habitat assessment for bats and swallows; and a jurisdictional assessment of waters and wetlands. No CAGN, LBV, or SWWF were found within the project BSA. Suitable habitat for DSF, BUOW, and bat and swallow species was found within the BSA and would be impacted by both of the proposed alternatives. Jurisdictional features to the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) were mapped within the project BSA and would be impacted by both proposed alternatives.

The Santa Ana River is the only area in the BSA with federal CH. Within the banks of the Santa Ana River, there is CH identified for the SWWF and SAS. Although CH is identified for these two species at this location, the primary constituent elements (PCEs) of suitable habitat for both species are absent where project impacts would occur. Within the BSA, the Santa Ana River is concrete lined and entirely devoid of soil, vegetation, or PCEs for the SWWF and the SAS.

For impacts to RSS and riparian vegetation communities, SANBAG's Project Engineer would coordinate with a qualified biologist and develop areas not identified for temporary or permanent impacts to be fenced and protected as Environmentally Sensitive Areas (ESAs).

To offset impacts to Waters of the United States and Waters of the State, SANBAG will compensate for impacts by purchasing mitigation credits from a mitigation bank or in-lieu fee program at a minimum 1:1 impact to mitigation ratio.

Prior to completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed all temporarily impacted vegetation communities and

earthen-bottom Waters of the United States, Waters of the State, and other drainages with plant species that are native to the vicinity and approved by the Caltrans District 8 Biologist. Plant species used in the seeding will be similar to what was present in each area prior to the impact.

Each build alternative for the proposed project would affect potentially suitable DSF habitat. Alternative 2 would incur 2.13 acres of permanent impacts and 48.10 acres of temporary impacts to DSF habitat. Alternative 3 would result in 9.70 acres of permanent impacts and 48.15 acres of temporary impacts to DSF habitat. Presence/absence surveys for the DSF will be conducted in areas identified by the 2014 habitat assessment as suitable habitat during the 2015 and 2016 survey periods. Presence/absence surveys will conform with the latest USFWS guidelines for conducting these surveys, which are likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions. Once DSF presence/absence surveys are completed in 2016, Caltrans will prepare a Draft BA and initiate formal consultation with USFWS for take of DSF, if any, and effects to CH for other federally listed species, including potential impacts to CH for SWWF If presence/absence surveys determine that DSF are present, mitigation credits will be purchased at a minimum 1:1: ratio for all permanent impacts to occupied suitable DSF habitat. Potential regional DSF conservation programs that may be used for compensatory mitigation include the Reichel Habitat Conservation Plan (HCP), the Angelus Block Property, the Owl Company Property, the Laing Homes (King is Coming) Site, the Hospital Site, the Colton Substation Site, and/or the Vulcan Materials DSF Mitigation Bank. Concurrence by USFWS is required. Caltrans will not begin construction on the proposed project until a Biological Opinion has been completed, which will require providing documentation to the satisfaction of USFWS regarding successful implementation and funding of the conservation strategy. In addition, prior to completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed all temporarily impacted suitable DSF habitat areas with appropriate native plant species that are approved by the Caltrans District 8 Biologist. Plant species used in the seeding should be similar to what was present in each area prior to the impact.

To avoid effects to nesting birds, SANBAG's Resident Engineer will require the contractor to conduct any native or exotic vegetation removal or tree trimming activities outside of the nesting bird season (i.e., February 15 through August 31). If vegetation clearing or the start of construction in a previously disturbed area is necessary during the nesting season, SANBAG's Resident Engineer will require the

contractor to have a qualified biologist conduct a preconstruction survey within 300 feet of construction areas no more than 30 days prior to construction at the location to identify the locations of nests (if any). A qualified biologist is one that has previously surveyed for nesting bird species within southern California. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist around each nest site. The buffer will be clearly marked in the field by construction personnel under guidance of the contractor's qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

The qualified biologist will monitor the nests on a weekly basis to ensure that construction activities do not disturb or disrupt nesting activities. If the qualified biologist determines that construction activities are disturbing or disrupting nesting activities, then the biologist will notify the Resident Engineer, who has the authority to stop or modify construction to reduce the noise and/or disturbance to the nests. Responses may include, but are not limited to, increasing the size of the exclusionary buffer; curtailing nearby work activities; turning off vehicle engines and other equipment whenever possible to reduce noise; installing a protective noise barrier between the nest and the construction activities; and/or working in other areas until the young have fledged. If more than 30 days lapses between the preconstruction survey and construction start date at that location, the survey will be reconducted.

Because work may occur during the swallow/swift nesting season (March 1 through August 31) swallows will be excluded from structures, if necessary, by a qualified biologist during the nonbreeding season immediately prior to the start of construction. Exclusion structures (e.g., netting and weep hole plugs) will be left in place and maintained through August 31 of each breeding season or until the work is complete. All nest exclusion techniques will be coordinated among the Caltrans District 8 Biologist, SANBAG's Project Manager, SANBAG's Resident Engineer, the contractor, and CDFW.

Although current known areas of BUOW habitat have been mapped as part of this study, land development or other factors could modify the distribution of habitat within the BSA. During final design, SANBAG's Project Engineer will coordinate with the Designated Qualified Biologist to reassess potential BUOW habitat within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.

To ensure that any BUOW that may occupy the site in the future are not affected by construction activities, SANBAG's Resident Engineer will require the contractor to have preconstruction BUOW surveys conducted by a qualified biologist within 30 days prior to any phase of construction in the areas identified as potential BUOW habitat in the project specifications. These preconstruction surveys are also required to comply with the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, SANBAG's Resident Engineer will contact CDFW to identify appropriate avoidance and minimization measures, such as establishing an avoidance buffer and/or work in the vicinity with a biological monitor on hand.

During final design, SANBAG's Project Manager will coordinate with the designated qualified biologist to identify all areas of potential bat habitat within and immediately adjacent to the project footprint and will designate those areas on the project specifications including, but not limited to, the following assessment features: bridge type, geographic region, and potential deterrents. Structures currently considered to contain potential bat habitat include bridges that span surface water within the vicinity including, but not limited to, the Warm Creek Channel, Santa Ana River, San Sevaine Channel, Etiwanda Wash, Rialto Channel, Mission Channel, San Timoteo Creek, and Zanja Creek. Ornamental trees that will be impacted where roosting may occur will also be included in the bat surveys.

Prior to construction at structures with potential bat habitat as identified in the project specifications, SANBAG's Project Manager will require the contractor to have a qualified bat biologist conduct a series of surveys of all potential bat habitat areas within the project impact areas. Surveys will occur during the bat breeding season (preferably May or June) immediately preceding the start of construction to assess the potential for the presence of roosts. The qualified bat biologist must have previously conducted bat surveys for the bat species most likely to be present within the BSA. Bat surveys may be conducted acoustically, using an acoustic bat-call detector such as an Anabat device, or they may be conducted visually by inspection of suspected bat roost areas.

The qualified bat biologist will also perform preconstruction surveys at structures and ornamental trees potentially containing bats because bat roosts can change seasonally. The surveys will include structure inspection, sampling, exit counts, and acoustic surveys.

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If bat roosts are found, a qualified bat biologist will be onsite for the duration of construction activities that may impact bats. If it is determined that the roosts are present and, based on consultation with CDFW, exclusion is warranted, bats will be excluded from the bridge using CDFW-approved exclusionary devices to the extent necessary to prevent mortality to the colony. Exclusion will take place prior to April 15. Caltrans will confer with CDFW to identify and implement appropriate avoidance and minimization efforts that are satisfactory to CDFW.

If bat exclusion is conducted, replacement roosting habitat may also be required by CDFW to offset and minimize impacts to excluded bats in the project's Lake and Streambed Alteration Agreement. Replacement roosts will be built according to bat house standards (e.g., those endorsed by Bat Conservation International) and will be placed within close proximity to impact areas. Bat houses must be constructed, painted, and placed carefully in specific locations based on the aspect of a given site, the expected temperatures within the bat house location, and the exposure to weather elements. All bat exclusion techniques and replacement roosting habitat will be coordinated among the Caltrans District 8 Biologist, SANBAG's Project Manager, SANBAG's Resident Engineer, the contractor, the contractor's Designated Qualified Bat Biologist, and CDFW. Replacement roosting habitat will adhere to guidance provided in the *Bat and Bridges Technical Bulletin: Hitch Hikers Guide to Bat Roosts (September 2002).*

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List of Abbreviated Terms

°F	degrees Fahrenheit
BA	Biological Assessment
BMPs	Best Management Practices
BSA	Biological Study Area
BUOW	burrowing owl
CAGN	coastal California gnatcatcher
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEHC	California Essential Habitat Connectivity
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
СН	Critical Habitat
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	construction staging area
CWA	Clean Water Act
DSF	Delhi Sands flower-loving fly
ECORP	ECORP Consulting, Inc.
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GIS	Geographic Information System
GP	general purpose
GPS	Global Positioning System
НСР	Habitat Conservation Plan

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HOV	high-occupancy vehicle
HUC	Hydrologic Unit Code
I-10	Interstate 10
I-10 CP	Interstate 10 Corridor Project
I-215	Interstate 215
LA/SB	Los Angeles/San Bernardino
LBV	least Bell's vireo
MBTA	Migratory Bird Treaty Act
msl	mean sea level
NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
NWP	Nationwide Permit
PCE	primary constituent element
PM	Post Mile
ROW	right-of-way
RSS	Riversidean sage scrub
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible and Efficient Transportation Act: A Legacy for Users
SAN	Streambed Alteration Notification
SANBAG	San Bernardino Associated Governments
SAS	Santa Ana sucker
SBKR	San Bernardino kangaroo rat
SCAG	Southern California Association of Governments
SR	State Route
SSC	species of special concern
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Control Board
SWWF	southwestern willow flycatcher
TCE	temporary construction easement
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
v/c	volume-to-capacity
YBC	yellow-billed cuckoo

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Chapter 1 Introduction

This Natural Environment Study (NES) was developed to support the preparation of the environmental document in accordance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). Because the biological resources and Biological Study Area (BSA) are seasonally and annually variable (i.e., location, species, and quality of habitat may change over time), the impact analysis may have to be re-evaluated during the design stage of the project if any new species are listed pursuant to the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA) or if any special-status species are found during the preconstruction habitat assessment surveys described in this NES.

1.1 Purpose for the Project

The purpose of the project is to improve traffic operations on Interstate 10 (I-10) in San Bernardino County to reduce congestion, increase throughput, and enhance trip reliability for the planning design year of 2045.

The objectives of the project are to:

- Reduce volume-to-capacity (v/c) ratios along the corridor;
- Improve travel times within the corridor;
- Provide a facility that is compatible with transit and other modal options;
- Provide consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP);
- Provide a cost-effective project solution; and
- Minimize environmental impacts and right-of-way (ROW) acquisition.

1.2 Need for the Project

Deficiencies of I-10 within the project limits are summarized below:

- Substantial portions of the I-10 mainline general purpose (GP) lanes peakperiod traffic demand currently exceeds capacity;
- Nearly all of the I-10 mainline GP lanes are projected to exceed capacity in future years; and
- I-10 existing mainline high-occupancy vehicle (HOV) lanes operation is degraded during peak periods.

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1.3 Proposed Project

The California Department of Transportation (Caltrans), in cooperation with the San Bernardino Associated Governments (SANBAG), proposes to add freeway lanes through all or a portion of the 33-mile-long stretch of I-10 from the Los Angeles/San Bernardino (LA/SB) county line to Ford Street in San Bernardino County. The project limits, including transition areas, extend from approximately 0.4 mile west of White Avenue in Pomona at Post Mile (PM) 44.9 to Live Oak Canyon Road in Yucaipa at PM 37.0. The site vicinity and overall BSA for this NES is depicted in Figure 1-1.

1.3.1 Alternative 1 (No Build Alternative)

Alternative 1 (No Build Alternative) would maintain the existing lane configuration of I-10 within the project limits with no additional mainline lanes or associated improvements to be provided.

1.3.2 Alternative 2 (One HOV Lane in Each Direction)

Alternative 2 (One HOV Lane in Each Direction) would extend the existing HOV lane in each direction of I-10 from the current HOV terminus near Haven Avenue in Ontario to Ford Street in Redlands, a distance of approximately 25 miles. For details and imagery of this build alternative, refer to Figure 1-2.

1.3.3 Alternative 3 (Two Express Lanes in Each Direction)

Alternative 3 (Two Express Lanes in Each Direction) would provide two Express Lanes in each direction of I-10 from the LA/SB county line to California Street (near State Route [SR]-210) in Redlands and one Express Lane in each direction from California Street to Ford Street in Redlands, a total of 33 miles. The Express Lanes would be price-managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll. West of Haven Avenue, a single new lane would be constructed and combined with the existing HOV lane to provide two Express Lanes in each direction; east of Haven Avenue, all Express Lanes would be constructed by the project. For details and imagery of this build alternative, refer to Figure 1-3.



Service Layer Credits: USGS, ESRI, AND, and TANA

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Figure 1-1. Site Vicinity

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Figure 1-2. Project Impact Map Alternative 2 (Sheets 1A and 1B)





Figure 1-2. Project Impact Map Alternative 2 (Sheets 2A and 2B)



Map Date: 4/14/2015 Source: Ecorp Consulting Inc., Parsons Transportation Group, USGS 2011

N



Biological Study Area <u>Alternative 2 Impacts</u> Permanent

Z Temporary

Figure 1-2. Project Impact Map Alternative 2 (Sheets 3A and 3B)







N

Biological Study Area <u>Alternative 2 Impacts</u> Permanent

Z Temporary

Figure 1-2. Project Impact Map Alternative 2 (Sheets 4A and 4B)



Figure 1-2. Project Impact Map Alternative 2 (Sheets 5A and 5B)





Figure 1-2. Project Impact Map Alternative 2 (Sheets 6A and 6B)




Biological Study Area <u>Alternative 2 Impacts</u>

Permanent Z Temporary

Figure 1-2. Project Impact Map Alternative 2 (Sheets 7A and 7B)



Figure 1-2. Project Impact Map Alternative 2 (Sheet 8A and 8B)



Figure 1-3. Project Impact Map Alternative 3 (Sheets 1A and 1B)



Figure 1-3. Project Impact Map Alternative 3 (Sheets 2A and 2B)



Figure 1-3. Project Impact Map Alternative 3 (Sheets 3A and 3B)





Figure 1-3. Project Impact Map Alternative 3 (Sheets 4A and 4B)



Temporary

Figure 1-3. Project Impact Map Alternative 3 (Sheets 5A and 5B)









N

Biological Study Area <u>Alternative 3 Impacts</u> Permanent

Z Temporary

Figure 1-3. Project Impact Map Alternative 3 (Sheets 6A and 6B)



Figure 1-3. Project Impact Map Alternative 3 (Sheets 7A and 7B)





Figure 1-3. Project Impact Map Alternative 3 (Sheets 8A and 8B)







Temporary

Feet

Figure 1-3. Project Impact Map Alternative 3 (Sheets 9A and 9B)



Figure 1-3. Project Impact Map Alternative 3 (Sheets 10A and 10B)

Chapter 2 Study Methods

This section discusses the regulatory requirements and the study methods for evaluating the natural resources within the BSA. The following studies were conducted: general biological plant and wildlife surveys; focused coastal California gnatcatcher (*Polioptila californica*) (CAGN) surveys; focused southwestern willow flycatcher (*Empidonax extimus traillii*) (SWWF) surveys; focused least Bell's vireo (*Vireo bellii pusillus*) (LBV) surveys; focused rare plant surveys; habitat assessment for Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) (DSF); habitat assessment for burrowing owl (*Athene cunicularia*) (BUOW); habitat assessment for bats and swallows; and a jurisdictional assessment of waters and wetlands.

2.1 Regulatory Requirements

2.1.1 Federal Policies and Regulations

2.1.1.1 Clean Water Act: Section 404

The U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to the federal Clean Water Act (CWA) Section 404 regulates the discharges of dredged or fill material into Waters of the United States. These waters include wetlands and nonwetland bodies of water that meet specific criteria as outlined in the guidelines provided in the USACE 1987 Manual (USACE, 1987) and are founded on a connection, or nexus, between the water body in question and interstate commerce. The following definition of Waters of the United States is taken from the discussion provided at Title 33 *Code of Federal Regulations* (CFR) Part 328.3:

"The term Waters of the United States means:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce...;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams)...the use, degradation or destruction of which could affect interstate or foreign commerce...;
- (4) All impoundments of waters otherwise defined as Waters of the United States under the definition; and
- (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section."

USACE and the U.S. Environmental Protection Agency (EPA) define wetlands as follows:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

To be considered a jurisdictional wetland under CWA Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied.

In 2006, the United States Supreme Court further considered USACE jurisdiction of "Waters of the United States" in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are "Waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, USACE issued guidance regarding the *Rapanos* decision. This guidance states that USACE will continue to assert jurisdiction over traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that have a continuous flow at least seasonally (i.e., typically 3 months), and wetlands that directly abut relatively permanent tributaries. USACE will determine jurisdiction over waters that are non-navigable tributaries that are not relatively permanent and wetlands adjacent to non-navigable tributaries that are not relatively permanent only after making a significant nexus finding.

Furthermore, the preamble to USACE regulations (Preamble Section 328.3, Definitions) states that USACE does not generally consider the following waters to be Waters of the United States; however, USACE does reserve the right to regulate these waters on a case-by-case basis:

- Nontidal drainage and irrigation ditches excavated on dry land;
- Artificially irrigated areas that would revert to upland if the irrigation ceased;
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons; and
- Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for purposes of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of Waters of the United States.

Waters found to be isolated and not subject to CWA regulation are often still regulated by the Regional Water Quality Control Board (RWQCB) under the State Porter–Cologne Water Quality Control Act (Porter–Cologne Act).

2.1.1.2 Clean Water Act: Section 401

The RWQCB has regulatory authority over Waters of the United States pursuant to CWA Section 401 and Waters of the State pursuant to the Porter–Cologne Act. USACE cannot issue authorization for fill or discharge into Waters of the United States without a Certification of Water Quality from the RWQCB. Isolated non-navigable waters and wetlands excluded from USACE jurisdiction are also subject to RWQCB authority as Waters of the State, and any discharge of waste (the RWQCB considers fill to be waste) may require a Report of Waste Discharge and may be subject to Waste Discharge Requirements by the RWQCB.

The RWQCB can require mitigation measures beyond those required by USACE or the California Department of Fish and Wildlife (CDFW); however, typically the mitigation proposed to satisfy USACE and CDFW meets RWQCB requirements to offset impacts to water quality.

2.1.1.3 Federal Endangered Species Act

Under provisions of FESA, Section 7(a)(2), a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat (CH) that may be affected by the project.

Chapter 4 of this NES discusses potential impacts of the proposed project to federally listed plants and wildlife. Formal FESA Section 7 consultation with USFWS will be required for potential effects to CH for SWWF and Santa Ana Sucker (SAS), and it may be required for effects to suitable habitat (Delhi Sands) for the DSF and/or take of DSF if found during presence/absence surveys. Once presence/absence surveys for

DSF are completed in 2016, Caltrans will prepare a Draft Biological Assessment (BA) and initiate formal consultation with USFWS. No Section 2081 Incidental Take Permit from CDFW is anticipated given that no State-listed species are expected to occur within the BSA.

2.1.1.4 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects all migratory birds, including their eggs, nests, and feathers. The MBTA is enforced by USFWS, and potential constraints to species protected under this law may be evaluated by USFWS during the consultation process.

If any trees, shrubs, or other vegetation that could support nesting bird species would be removed during the typical nesting season (i.e., February 15 through August 31), preconstruction nest surveys should be conducted to determine if birds are actively nesting within the BSA. Any work near active bird nests would have to be avoided until the young have left the nest. As feasible, removal of vegetation should be completed outside the nesting season.

2.1.1.5 Executive Order 11990: Protection of Wetlands

On May 24, 1977, President Carter signed Executive Order (EO) 11990, requiring federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The term "wetlands" is defined as those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Examples of wetlands are also provided in the EO: wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. An Individual EO 11990 "Wetlands Only Practicable Alternative Finding" is required from the Federal Highway Administration (FHWA) if a state project is federally aided and involves fill in wetlands requiring a USACE Section 404 Individual or Nationwide Permit (NWP) or a DEC/APA Article 24 Wetlands Permit. An additional requirement is to provide early public involvement in projects affecting wetlands.

2.1.1.6 Executive Order 13112: Invasive Species

On February 3, 1999, President Clinton signed EO 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "...any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of CEQA analysis for a proposed project.

2.1.2 State Policies and Regulations

2.1.2.1 California Endangered Species Act

The CESA is administered by CDFW and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Section 2050–2097). "Take" means to hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. CESA Sections 2091 and 2081 allow CDFW to authorize exceptions to the prohibition of take of the State-listed threatened or endangered plant and animal species for purposes such as public and private development. CDFW requires formal consultation to ensure that these actions would not jeopardize the continued existence of any listed species or destroy or adversely modify CH.

Chapter 4 of this NES details the impacts of the proposed project to State-listed plant and wildlife species. No Section 2081 Incidental Take Permit from CDFW is anticipated, and no State-listed species are expected to occur within the BSA.

2.1.2.2 State of California Fish and Game Code Section 1602

State of California Fish and Game Code Section 1602 requires any person, state, or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or adversely affect existing fish and wildlife resources, then a Streambed Alteration Agreement is required.

A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the project, and it serves as an agreement between an applicant and CDFW for a term of not more than 5 years for the performance of activities subject to this section. A CDFW Streambed Alteration Notification (SAN) is required for all activities potentially affecting streambeds and/or their associated riparian habitats. Subsequently, implementation of the project may require a 1602 Streambed Alteration Agreement if these areas are determined to be jurisdictional by CDFW. A Streambed Alteration Agreement will be required for potential impacts to drainages within the study area.

Other Fish and Game Code Sections

California Fish and Game Code Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect fully protected species, such as (1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species; and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. CDFW cannot authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species. Any project-related activities that could result in the take of any fully protected species would have to be avoided.

Natural Community Conservation Plans

In an effort to respond to growing concerns over the conservation of coastal sage scrub and other biological communities, federal, State, and local agencies have developed a multispecies approach to habitat conservation planning known as the Natural Community Conservation Planning (NCCP) process. This was made possible by legislation (Assembly Bill 2172) that authorized CDFW to enter into agreements for the preparation and implementation of NCCPs. USFWS joined in this effort, utilizing the Section 4(d) Special Rule and the Habitat Conservation Plan (HCP) processes.

The goal of this NCCP program is to identify significantly important coastal sage scrub habitat and to develop ways and means to preserve and/or restore the ecological value of this and associated plant communities and their attendant sensitive species in a rapidly urbanizing setting. There are no NCCPs or HCPs within the immediate vicinity of the BSA.

2.2 Studies Required

2.2.1 Literature Search

Prior to performing the field surveys, existing documentation relevant to the BSA was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) (3-mile radius) and the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2013) were reviewed for the quadrangles containing and surrounding the BSA (i.e., *Guasti, Fontana, San Bernardino South,* and *Redlands, California* U.S. Geological Survey [USGS] 7.5-minute quadrangles). These databases contain records of reported occurrences of federal- or State-listed endangered, threatened, proposed endangered, or threatened species; California Species of Special Concern (SSC); or other special-status species or habitat that may occur within, or in the immediate vicinity of, the BSA. In addition, a list of proposed, threatened, or endangered species potentially occurring within the BSA was obtained from USFWS in January 2015. The USFWS species list is provided in Appendix A.

2.2.2 Field Reviews

The BSA was surveyed by biologists from ECORP Consulting, Inc., to determine the extent of plant communities, conduct focused surveys for several plant and animal species, and assess the presence of suitable habitat for sensitive plant and wildlife species.

Focused survey work included CAGN surveys, LBV surveys, SWWF surveys, and rare plant surveys. Habitat assessments were conducted for DSF, BUOW, bats, and swallows. Vegetation communities within the entire BSA were mapped. A jurisdictional delineation of the BSA was conducted in accordance with the Unified Federal Method.

2.2.2.1 Coastal California Gnatcatcher Surveys

Focused, protocol-level CAGN surveys were conducted by federal 10(a)(1)(A) permitted biologists in accordance with 1997 Coastal California Gnatcatcher Presence/Absence Survey Guidelines published by USFWS. Six surveys were conducted at least 1 week apart between April 17 and June 20, 2013, to determine the distribution and abundance of CAGN within the project site. The survey did not include the entire BSA, but only the Riversidean sage scrub (RSS) areas within and adjacent to areas to be impacted by the project.

Weather conditions met USFWS survey protocol requirements designed to optimize CAGN detections. Weather conditions that were too cold (less than 45 degrees Fahrenheit [°F]), too hot (greater than 95°F), or too windy (greater than 15 miles per hour) were avoided. Surveys were conducted by slowly walking through all suitable habitats while listening and watching for CAGN activity. Recordings of CAGN vocalizations were played as an attempt to elicit responses from any CAGN present. Various routes were utilized to conduct an unbiased presence/absence survey of the project site, and recorded vocalizations of CAGN were played for 5- to 15-second intervals every 40 to 80 feet. Less than 100 acres of suitable habitat was systematically surveyed per day for CAGN presence. For each focused survey, the general weather conditions, date, start and end times, and all wildlife species observed during the surveys were documented on data sheets.

2.2.2.2 Least Bell's Vireo Surveys

Surveys for LBV followed the protocol provided by USFWS from 2001. The protocol specifies a requirement for eight surveys from the time period of April 10 through July 31.

Each survey was conducted during the morning, between dawn and 11:00 a.m., by a qualified biologist familiar with LBV, its songs, its appearance, and its habits. Surveys were not conducted on excessively windy days, rainy days, or days in which the weather conditions were not conducive to LBV observations. All LBV observations were recorded using a handheld Global Positioning System (GPS) unit capable of 3- to 10-foot accuracy. Survey data were recorded in a field notebook and on LBV Survey Forms.

2.2.2.3 Southwestern Willow Flycatcher Surveys

Surveys for the SWWF followed the protocol outlined by Sogge *et al.* (2010). The 2010 protocol recommends five surveys during three survey periods, with two surveys occurring within each of the last two survey periods. These three survey periods are Period 1: May 15 to 31; Period 2: June 1 to 24; and Period 3: June 25 to July 17.

Each survey was completed in 1 day. Surveys were conducted within all areas of suitable habitat along east-west transects spaced approximately 100 feet apart. SWWF vocalizations were played at approximately 100-foot intervals along each transect using a portable MP3 player and speaker system. Vocalizations were played following an initial 1-minute listening period. The period of listening followed by

audio playback was repeated with another listening period before moving to the next 100-foot interval. Locations of SWWF detections were recorded using a handheld GPS unit capable of 3- to 10-foot accuracy. Survey data were recorded in a field notebook and copied onto Willow Flycatcher Survey and Detection Forms.

2.2.2.4 Rare Plant Surveys

A rare plant assessment of the BSA was conducted during spring 2013 to identify any rare plant species present within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. The survey was conducted through suitable habitat by meandering transects. Plant species were identified using the Jepson Manual (Baldwin *et al.*, 1993). Any rare plants observed were mapped using hand-held GPS units and mapped on project maps. The survey timing was established based on observations of reference populations within the vicinity of the BSA and at known population sites for the rare plant species with potential to occur within the BSA.

2.2.2.5 Delhi Sands Flower-Loving Fly Habitat Assessment

On July 30, 2014, a DSF habitat assessment was conducted along portions of I-10 in Colton and Ontario.

Areas included in the habitat assessment were defined by shapefiles of Delhi sands soils provided by Scott Taylor from ECORP Consulting, Inc. The habitat assessment area included mapped Delhi fine soils that occur within the existing and proposed I-10 ROW, whichever was larger. Delhi fine soils mapping originated from the Natural Resources Conservation Service (NRCS) website mapping, and habitat used as a baseline came from USFWS mapping.

The results of the assessment were divided into three categories, defined as follows:

- Suitable habitat Presence of Delhi series soils at the surface with vegetation components. This definition is consistent with USFWS protocols that define the baseline criteria for areas suitable for focused surveys.
- Restorable habitat A thin layer of removable material lies on substantially unaltered Delhi series soils. Typical overlying layers encountered in this survey included mulch and ice plant. Currently not suitable for use by DSF.
- Unsuitable habitat Lack of Delhi series soils at the surface, Delhi series soils that have been severely contaminated with other soils or substances, or the addition of a permanent soil covering that would preclude restoration of underlying Delhi series soils (e.g., pavement). Not suitable for use by DSF.

Presence/absence surveys for DSF will be conducted in areas identified by the habitat assessment as suitable habitat during the 2015 and 2016 survey periods. Presence/ absence surveys will conform with the latest USFWS guidelines for conducting these surveys, likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions.

2.2.2.6 Burrowing Owl Habitat Assessment

BUOW habitat areas were mapped using 7.5-minute USGS topographic base maps and high-resolution aerial photography (2013). Habitat consisted of any open vegetation, such as grassy fields or disturbed vacant lots, that contained potential for BUOW burrows. It also included native habitat areas with characteristics that were conducive to BUOW occupation. Areas with burrow concentrations were identified where the burrows potentially could support BUOW. Areas with observed populations of California ground squirrels were also noted as having potential for BUOW. Squirrel burrows are often used by BUOW once the squirrels vacate.

2.2.2.7 Bat and Swallow Habitat Assessment

Bat habitat areas were identified based on the presence of suitable refugia, such as crevices in bridge joints, abandoned structures, cracks, culverts, or other areas where bats could be present. Bridges over waterways, such as the Santa Ana River, were particularly identified as having more bat potential. No specific flight surveys or acoustic surveys for bats were conducted. Habitat was identified by the presence of potential habitat rather than by the presence of observed sign of bat use (e.g., musk stains, presence of guano).

2.2.2.8 Vegetation Community Mapping

Plant communities were mapped using 7.5-minute USGS topographic base maps and high-resolution aerial photography (2013). The vegetation communities within the BSA were classified according to Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). A compendium of all flora and fauna observed during the field surveys is provided in Appendix B.

2.2.2.9 Jurisdictional Delineation

A delineation of jurisdictional waters and wetlands within the BSA was conducted in accordance with regulations set forth in 33 CFR Part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (online edition), "Wetlands Delineation Manual," Environmental Laboratory, 1987 (Wetland Manual).
- USACE "Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest," 2001 (Arid Southwest Guidelines).
- USACE "Minimum Standards for Acceptance of Preliminary Wetlands Delineations," November 30, 2001 (Minimum Standards).
- USACE "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)," September 2008 (Arid West Supplement).
- USACE "Jurisdictional Determination Form Instructional Guidebook," May 30, 2007 (JD Form Guidebook).
- USACE and EPA guidance (2007) and draft guidance on jurisdictional delineations (2011).

Prior to the field visit, a 200-scale (1 inch = 200 feet) aerial photograph and applicable USGS 7.5-minute topographic quadrangle maps (Ontario, Guasti, Fontana, San Bernardino South, and Redlands, California) were reviewed and compared to identify potential drainage features within the BSA. The National Wetland Inventory (NWI) was also reviewed to identify any documented wetlands within the BSA. It should be noted that there is no NWI data for the Fontana, San Bernardino South, and Redlands quadrangles. In addition, the United States Department of Agriculture (USDA) Soil Survey Map was reviewed to determine soil series that occur within and adjacent to the BSA.

The unified federal method, as defined by USACE using methodology outlined in the Corps of Engineers Wetlands Delineation Manual [Environmental Laboratory, 1987] and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement Version 2.0) [USACE, 2008] was used to delineate the jurisdictional areas. The boundaries of potential Waters of the United States were delineated through a field determination, made in conjunction with aerial photograph interpretation. Tools used during the jurisdictional delineation fieldwork included a Trimble GeoXT Handheld GPS unit, shovel, Munsell color chart, and digital camera.

The field surveys were conducted by walking the BSA limits to determine the location and extent of potential Waters of the United States and Waters of the State. For areas suspected of being a wetland, paired sample points were taken. The total

area of the potential waters within the study corridor was recorded in the field using a post-processing capable GPS unit with sub-meter accuracy (Trimble GeoXT). All potentially jurisdictional features within the BSA and immediate vicinity were systematically inspected to record existing conditions and to determine the jurisdictional limits of waters and wetlands within the BSA. Although many of the drainages were fenced off, access was sufficient to gather pertinent data regarding existing conditions. The apparent flow regimes and corresponding hydrogeomorphic features were subsequently identified.

Measurements were entered into Geographic Information System (GIS) ArcView software to identify the location and dimensions of potential jurisdictional areas. The GIS ArcView application was then used to compute federal and State jurisdictional acreages located within the BSA. Acreage computations were verified using a 200-scale aerial photograph and field data.

Where potential wetlands were identified, paired sample points were collected. One sample point was collected within the potential wetland area, while the other was located within the nearby upland area.

Jurisdictional delineators based their field interpretation of the boundaries of jurisdictional areas on guidelines contained within the references cited above. Waters of the United States that may be regulated by USACE under Section 404 of the CWA include traditionally navigable waters, other Waters of the United States, and wetlands. Wetlands are a subset of Waters of the United States that meet specific vegetative, soil, and hydrologic criteria.

2.2.3 Biological Study Area

The BSA for this NES is located along a 33-mile-long segment of I-10 in San Bernardino County, California, between the cities of Montclair and Redlands. The BSA consists of Caltrans ROW, anticipated temporary construction easements (TCEs), proposed construction staging areas (CSAs), and areas within a 50-foot buffer immediately adjacent to the ROW and CSAs. The BSA includes all areas anticipated to be disturbed during construction of the proposed project.

The BSA is based on preliminary project design information for Alternative 3, which represents the maximum area potentially affected by the proposed project and extends to the ROW line throughout the study corridor. The BSA also includes a 50-foot buffer beyond Caltrans ROW and around the proposed CSAs. The BSA includes all areas required for construction of the proposed project, including TCEs and ROW to
accommodate construction of proposed retaining and sound walls. The buffer (i.e., areas outside Caltrans ROW) is generally restricted due to the intense urbanization associated with land use adjacent to I-10 within the study corridor. The BSA extends from Garey Avenue in Montclair to Ford Street in Redlands.

2.3 Personnel and Survey Dates

Focused, protocol-level CAGN surveys were conducted by federal 10(a)(1)(A) permitted ECORP Consulting, Inc., biologist Shannan Shaffer (TE67555A-0) at least 1 week apart between April 17 and June 20, 2013.

LBV surveys were conducted by ECORP Consulting, Inc., biologist Scott Taylor. Scott Taylor has conducted LBV surveys for more than 20 years within the coastal lowlands of southern California and has conducted nesting surveys and LBV banding studies. Survey dates were April 20, May 3, May 14, June 6, June 18, July 3, July 16, and July 26, 2013.

SWWF surveys were performed by ECORP Consulting, Inc., biologist Ben Smith (Federal Recovery Permit TE-67390A-0, CDFW Scientific Collecting Permit SCP-10933). Survey dates were May 31, June 5, June 12, June 25, and July 4, 2013.

Rare plant surveys were conducted by Kristina Walker on April 15 and May 13, 2013. Kristina Walker is a former U.S. Forest Service botanist who has conducted population studies of rare plant species in the San Bernardino Mountains, within the High Deserts, and in the Inland Empire. She conducted a population survey and led a transplantation effort for the Santa Ana River woolly-star for a project located within a tributary of Lytle Creek that involved approximately 350 individual plants.

The DSF habitat assessment was conducted on July 30, 2014, by Brian Drake (TE006328-6, expiring 1-23-2018) and Gilbert Goodlett (TE005535-5, expiring 11-9-2015), both of whom possess current USFWS Section 10(a)1(A) permits for DSF.

The BUOW habitat assessment was conducted by Brad Haley, who has more than 8 years of professional experience with BUOW and their habitats. He has conducted and led focused BUOW survey efforts for more than 50 large and small project sites, from parcels of land in the Inland Empire to linear freeway projects in the High Desert. He has been approved as a BUOW lead surveyor by the California Public Utilities Commission for renewable energy projects in the Mojave Desert.

The bat and swallow habitat assessment was conducted by Scott Taylor during the jurisdictional delineation field efforts, and during LBV survey efforts, which allowed close examination of various potential bat and swallow habitat areas.

The jurisdictional delineation was conducted by Scott Taylor and Kristina Walker. Scott Taylor has conducted more than 100 jurisdictional delineations for State and federal agencies for projects located in southern California and elsewhere. Kristina Walker also has conducted jurisdictional delineations throughout the Inland Empire and High Desert and provided botanical support for the field effort.

Vegetation mapping was conducted during the jurisdictional delineation and rare plant survey efforts.

2.4 Agency Coordination and Professional Contacts

On March 17, 2008, a letter requesting a list of proposed, threatened, or endangered species potentially occurring within the BSA was sent to USFWS. A copy of the request and USFWS response is provided in Appendix A.

On January 14, 2009, Caltrans and consultant staff met Eric Porter of USFWS onsite to discuss preliminary results of the DSF Habitat Assessment. Analysis of the habitat quality and potential project effects was revised consistent with discussions at the field meeting. Since that time, SANBAG has decided to conduct a more formal assessment and protocol-level presence-absence surveys to determine whether DSF is present in areas that will be impacted in the project footprint.

On August 27, 2014, a preliminary coordination meeting was conducted onsite with Veronica Chan of USACE to discuss the results of the jurisdictional delineation. As a result of this meeting, it was concluded that impacts to concrete channels that were to remain concrete would be considered temporary impacts, assuming hydrologic connectivity is maintained. It was determined that areas supporting wetland features that were concrete lined would not be considered wetlands because they do not meet all three of the wetland parameters

2.5 Limitations that may Influence Results

Due to the nature of the proposed project along the margins of I-10, not all areas within the BSA were fully examined in an on-the-ground survey. A combination of on-the-ground surveys, multiple driving surveys, and accurate aerial photography and aerial interpretation of the BSA formed the basis for the analysis. Where vegetation

community mapping was required within an area where access was restricted, the biologists viewed the area from a distance and mapped according to visual assessment coupled with analysis of aerial photography. Flood control channels were not accessible during the field surveys, but they were visually examined and later mapped by using obvious boundaries visible on aerial imagery.

The BSA includes a 50-foot buffer around the area of impact. Because most of the area of impact is within Caltrans ROW, the buffer in most areas consists of private property outside the I-10 ROW. Biologists did not access private property outside Caltrans and other public ROW. Wherever feasible, a visual assessment of the adjacent properties was conducted in the field; however, in areas where a wall, solid fence, or dense vegetation was present, it was not possible to assess adjacent properties.

During the wildlife surveys, the traffic noise levels along I-10 made it difficult to hear and identify the more secretive avian species that would normally be detectable by vocalizations rather than by visual identification; however, special-status species with the potential to occur and their associated habitat within the BSA were evaluated regardless of whether they were observed during surveys.

Several projects along the study corridor have either been constructed or have begun within the past year since survey work was completed for this assessment. Work includes some highway improvements, development of business parks, and other surface roadway improvements. Vegetation mapping and other resource mapping was updated visually based on the most recent aerial imagery. To the best of our knowledge, this report reflects the current conditions.

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Chapter 3 Results: Environmental Setting

The BSA was mapped using 2013 aerial photos and verified by field surveys. The mapped areas quantify the visible areas on the map and do not include the areas of landscaping and disturbed areas under bridges and overpasses. A total of 5,290 acres were included within the BSA.

Areas within the BSA were categorized into eight "habitat/vegetation types." These areas include a mixture of paved areas associated with the freeway; local streets; developed areas (i.e., adjacent residential, commercial, and industrial structures within the buffer); flood control channels; and five vegetation communities. Section 3.1.3 provides a detailed discussion of each habitat type.

3.1 Description of the Existing Biological and Physical Conditions

The BSA includes the proposed I-10 ROW and additional areas (i.e., TCE and CSAs) required for construction of the I-10 Corridor Project from North Garey Avenue in Pomona (western limit) to Ford Street in Redlands (eastern limit). The BSA extends for approximately 33 miles along the I-10 corridor and passes through the developed urban areas of Pomona, Montclair, Upland, Ontario, Fontana, Bloomington, Rialto, Colton, San Bernardino, Loma Linda, and Redlands.

3.1.1 Study Area

The results presented in this NES and summarized below are based on literature searches and biological resource surveys conducted in 2007, 2008, and 2013. Unless otherwise discussed in this NES, precluded by Caltrans policy, or constrained by the plans and specifications through the designation of environmentally sensitive areas (ESAs), all areas would be available for the contractor's use and may be temporarily affected through construction disturbance or permanently lost due to the proposed improvements for the I-10 Corridor Project.

The BSA is located in a broad valley between the San Bernardino Mountains to the north, the Jurupa Mountains to the southwest, and Reche Canyon and the Badlands to the south and southeast. The Santa Ana River and San Timoteo Creek pass through the study corridor toward the west-central portion of the BSA. The Santa Ana River originates in the San Bernardino Mountains, flows from northeast to southwest, and intersects the study area near the I-10/Interstate 215 (I-215) interchange. San Timoteo

Creek originates in the San Jacinto Mountains, flows from southeast to northwest, and intersects the study area near I-10 and the Redlands city limits. The BSA slopes gently from the east and west towards the Santa Ana River. The elevation at the study area's western limit at Haven Avenue is 980 feet above mean sea level and 1,640 feet at the study area's eastern limit at Ford Street. All drainages within the BSA flow to the Santa Ana River.

NRCS mapping indicates seven soil series within the BSA, as shown in Figure 3-2. Dominant soil series grade from Delhi fine sand and Tujunga loamy sand west of the Santa Ana River and San Emigdio and Hanford series soils east of the Santa Ana River.

The land uses within the BSA are predominantly composed of urban and other developed uses, with specific uses being primarily residential, commercial, and industrial properties. As recently as 50 years ago, most of the BSA was a mixture of urban areas, vineyards, and orchards. The ensuing urbanization has resulted in conversion of nearly all agriculture to commercial, industrial, and residential land use. Along with the urbanization of the area came the need to provide flood control for various larger riverine systems traversing the area.

Other less dominant land uses in the vicinity of I-10 include agricultural land, which is between Fontana and Rancho Cucamonga north of I-10. A major railroad switchyard is also located south of I-10 near Colton. There is also a large gravel extraction facility near Colton.

3.1.2 Physical Conditions

3.1.2.1 Topography

The I-10 Corridor is located within a relatively flat portion of the Inland Empire, formed by several broad alluvial floodplains and alluvial fans associated with runoff from the San Gabriel and San Bernardino mountains (Figure 3-1). Most of the study corridor has been developed by urban land uses, resulting in additional leveling off of topography. The study corridor ranges in elevation from approximately 1,440 feet above mean sea level (msl) in the east to 1,000 feet above msl in the west.

The land generally slopes from north to south through the study corridor, also decreasing in elevation from east to west. Most historic stream features crossing the I-10 corridor follow this trend, though all of them have been channelized to provide flood protection for the many urban communities along I-10. The Santa Ana River is the largest of these historic stream courses, but it has also been channelized through the study corridor.



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 1)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 2)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 3)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 4)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 5)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 6)



Source: USGS Topographic Quadrangles

Map Date: 11/19/2014

Figure 3-1. Topographic Map (Map Sheet 7)

3.1.2.2 Hydrology

The study corridor is located within the Santa Ana River Watershed (Hydrologic Unit Code [HUC] 18070203). The watershed is approximately 3,000 square miles (SAWA, 2013), and all drainage features within the BSA drain to the Santa Ana River.

The Santa Ana River Watershed encompasses approximately 3,000 square miles (1,696,000 acres), spanning parts of San Bernardino, Riverside, Los Angeles, and Orange counties, following the path of the Santa Ana River, whose headwaters are located in the San Bernardino Mountains near San Gorgonio Summit within National Forest lands to the east of the city of San Bernardino. The San Bernardino Mountains comprise part of the Transverse Ranges of California and trend northwest to southeast. The San Gabriel Mountains, to the west, are the source of many of the larger named and unnamed features within the BSA. The Santa Ana River flows approximately 100 miles, through a combination of natural areas and urban environments, to enter the Pacific Ocean near Huntington Beach. Other tributaries to the Santa Ana River also flow from the Cajon Pass and the Santa Ana Mountains. Major tributaries include Day Creek, San Sevaine Wash, Etiwanda Creek, Lytle Creek, San Timoteo Creek, Temescal Wash, Santiago Creek, and many others (USGS, 2001).

The Santa Ana River Watershed is within an arid region, and although it is one of the largest regional watersheds, there is little natural perennial surface water in most of the watershed's various drainage courses. Surface waters within the Santa Ana River, however, start in the upper erosion zone of the watershed. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest; the water is generally high quality at this point. In this zone, the Santa Ana River is usually confined in its lateral movement, contained by the slope in the mountainous regions. In the upper valley, flows from the Seven Oaks Dam to the city of San Bernardino are augmented by storm flows, urban runoff, flows from many tributaries, and groundwater that is rising due to local geological conditions.

Between the city of San Bernardino and the city of Riverside, due to urbanization, the Santa Ana River flows perennially and includes treated discharges from wastewater treatment plants between the city of Riverside and the recharge basins below Imperial Highway. River flow also consists of highly treated wastewater discharges, urban runoff, irrigation runoff, and groundwater forced to the surface by shallow/rising bedrock. Near Corona, the river cuts through the Santa Ana Mountains and the Puente-Chino Hills. The river then flows into the Orange County Coastal Plain, where the channel lessens and the gradient decreases.

3.1.2.3 Soils

Eleven (11) different soil series occur on or in the immediate vicinity of the BSA (USDA Soil Survey, San Bernardino County, 2005) (see Figure 3-2). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These soil series were checked against the USDA, NRCS National Hydric Soils List. The presence of hydric soils was field verified. Seven of the soil series present within the BSA are identified by the NRCS as hydric soils.

3.1.3 Biological Conditions in the Biological Study Area

3.1.3.1 Vegetation Communities

The BSA contains extensively disturbed and developed areas, primarily consisting of the I-10 freeway and freeway ROW, local arterial roadways and adjacent buildings, and other urban development. Urban areas dominate the study corridor. Other vegetation communities recorded include freshwater marsh, southern willow scrub, mule fat scrub, RSS, non-native grassland, ruderal, ornamental, and agriculture. The components of the vegetation communities within the study area are described below and are mapped in Figure 3-3. The figure also depicts impacts from Alternative 3, the larger in scope of the two proposed build alternatives for this project. Acreages of all vegetation communities are provided in Table 3-1.

Vegetation Type	Acres
Freshwater Marsh	0.29
Southern Willow Scrub	0.72
Mule Fat Scrub	1.42
Riversidean Sage Scrub	14.29
Non-native Grassland	564.04
Ruderal	37.08
Ornamental	394.84
Agriculture	30.50
Disturbed	193.62
Developed	4,053.61

Table 3-1. Existing Vegetation Community Acreage in the BSA



Map Date: 12/3/2014 Photo Source: Esri

Figure 3-2. Natural Resources Conservation Service Soil Types (Sheet 1 of 2)



Map Date: 12/3/2014 Photo Source: Esri

Figure 3-2. Natural Resources Conservation Service Soil Types (Sheet 2 of 2)





Figure 3-3. Vegetation Communities and Impacts (Sheets 1A and 1B)





Figure 3-3. Vegetation Communities and Impacts (Sheets 2A and 2B)



Figure 3-3. Vegetation Communities and Impacts (Sheets 3A and 3B)





Figure 3-3. Vegetation Communities and Impacts (Sheets 4A and 4B)





Figure 3-3. Vegetation Communities and Impacts (Sheets 5A and 5B)




Figure 3-3. Vegetation Communities and Impacts (Sheets 6A and 6B)

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Figure 3-3. Vegetation Communities and Impacts (Sheets 7A and 7B)





Figure 3-3. Vegetation Communities and Impacts (Sheets 8A and 8B)





Figure 3-3. Vegetation Communities and Impacts (Sheets 9A and 9B)



Figure 3-3. Vegetation Communities and Impacts (Sheets 10A and 10B)

Freshwater Marsh

Freshwater marsh is an emergent wetland vegetation community that occurs where water sits for long periods of time. Dominant plant species within marsh communities are usually obligate wetland species and can include cattail (*Typha latifolia*), bulrush (*Scirpus angustifolia*), sedges (*Cyperus* sp.), or other similar species. Within the study corridor, marsh habitat is very limited and is only associated with soil deposits within concrete-lined channel areas. These deposits are created by urban runoff and have built up sufficiently to allow wetland vegetation to develop. Some of the marsh areas are associated with unlined channel features. None of the marsh areas occur within natural stream channels.

Southern Willow Scrub

Willows (*Salix* sp.) are a species associated with riverine environments and wetland fringes. They occur where there is flooding but not prolonged inundation. Within the study corridor, willows primarily observed include arroyo willow (*Salix lasiolepis*) and black willow (*Salix goodingii*). Associated species include a variety of riparian plant species such as mule fat (*Baccharis salicifolia*), sunflower (*Helianthus annuus*), marsh plants, Fremont cottonwoods (*Populus fremontii*), western sycamores (*Platanus racemosa*), and a wide variety of riparian herbaceous plants. Southern willow scrub is mainly found within the study corridor in association with natural stream course locations, such as the Santa Ana River. It is also found within portions of Etiwanda Creek.

Mule Fat Scrub

Also a riverine plant community, mule fat scrub is dominated almost exclusively by mule fat. This community occurs on higher, drier terraces within alluvial floodplains and smaller stream courses. It can also occur within disturbed sites where a water source is present, such as a leaky water pipe.

Riversidean Sage Scrub

Areas mapped as RSS contain native shrubs mixed with non-native grasses and other ruderal species. Dominant shrubs include California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia californica*), croton (*Croton californicus*), and dove weed (*Croton setigerus*).

Non-native Grassland

Grasslands are dominated by grasses rather than forbs, and the grasses present are usually of Mediterranean origin. Non-native grassland can be dominated by slender wild oats (Avena barbata), rip-gut brome (Bromus diandrus), red brome (Bromus madritensis ssp. rubens), Bermuda grass (Cynodon dactlyon), cheat grass (Bromus tectorum), or a variety of other species of exotic origin. Most non-native grasses were brought to southern California to serve as feed crops for the cattle industry.

Ruderal

Ruderal areas are characterized by disturbed areas and non-native annual plants. The dominant species in the ruderal areas include non-native grasses, including rip-gut brome, red brome, slender wild oats, Russian thistle (*Salsola tragus*), lamb's quarters (*Chenopodium album*), telegraph weed (*Heterotheca grandiflora*), and common sunflower.

Ornamental

Ornamental areas are planted with common landscaping plants. Groundcover plants include hottentot fig (*Capobrotus edulis*), and lantana (*Lantana camara*). Tree species include eucalyptus (*Eucalyptus* sp.), Peruvian pepper tree (*Schinus molle*), olive (*Olea europaea*), Mexican fan palm (*Washingtonia robusta*), and Canary Island date palm (*Phoenix canariensis*). Within the ornamental areas, there are also some native trees planted including Fremont's cottonwood and western sycamore. There is also a decorative recirculating waterfall feature near the interchange between SR-210 and I-10 that is included within this designation.

Agriculture

Agricultural areas consist of any part of the study corridor that is under active cultivation, either irrigated or not. It includes orchards such as orange groves. There are a few active agricultural row crops, consisting mostly of strawberries, near Loma Linda and San Bernardino; otherwise, all of the agricultural areas are citrus groves.

Disturbed

Areas considered disturbed include, but are not limited to, all cleared locations, dirt lots maintained free of vegetation for parking, and nonpaved equipment storage locations. The disturbed designation indicates a location that is actively maintained to be free of vegetation or that has compacted to such a degree that vegetation is very sparse. Vegetation within disturbed areas is usually quite limited.

Developed

Developed areas include all areas within the buffer areas outside the freeway ROW, some smaller landscaped areas, buildings, and paved areas. These areas include

residential, commercial, and agricultural areas, as well as railroad facilities. Paved parking areas, driveways, landscaping, and bare soils that are not part of freeway landscaping are also included in the developed category.

3.1.3.2 Dominant Plant Species

The dominant vegetation within the study corridor is primarily ornamental landscaping; including freeway landscaping, park landscaping and commercial or residential development landscaping. Typical ornamental species include eucalyptus, Peruvian pepper tree, hottentot fig, and various exotic pine tree or palm tree species. Most of the landscaped areas are irrigated.

Where landscaping has not been planted in vacant lots, vegetation is typically dominated by ruderal species, including non-native grasses such as wild oat, Russian thistle, cheeseweed (*Malva parviflora*), common fiddleneck (*Amsinckia menziesii* var. *intermedia*), and tree tobacco (*Nicotiana glauca*).

Native plant areas are generally restricted to the Santa Ana River, some undeveloped lots near Ontario, and vacant slopes at the east end of the study corridor in Redlands.

3.1.3.3 Common Animal Species

Within the BSA, most of the environment is heavily urbanized with paved roads, commercial and industrial developments, residential developments, and ornamental landscaping. Natural areas primarily remain within small pockets surrounded by otherwise developed lands. The most common animal species within urbanized environments include urban-adapted bird species such as rock pigeon (Columbia livia), house finch (Carpodacus mexicanus), house sparrow (Passer domesticus), and northern mockingbird (*Mimus polyglottus*), along with more generalist species such as the common raven (Corvus corax). Reptile and amphibian species that are more commonly observed within urban environments include western fence lizard (Sceloporus occidentalis) and Pacific treefrog (Pseudacris regilla). There are also mammal species adapted to urban environments, such as opossums (Didelphia virginiana). These species can move freely about within urban environments. In addition, there are species, such as many bats and swallow species, that can roost or nest in urban environments but typically require natural or seminatural areas nearby. Some otherwise uncommon bird species, such as raptor species, will regularly migrate through urban environments.

The natural areas, while small, have a set of common species associated with each individual habitat type. Although general surveys were not conducted for wildlife use

of all areas within the study corridor, it can be presumed that the natural areas surrounded by urban areas are less diverse for smaller habitat patches due to the presence of the urban environment.

3.1.3.4 Aquatic Resources

The aquatic resources within the study corridor include several channelized drainage features, many of which correspond to natural streams. Examples of historic drainage features that still flow through the study corridor include the Santa Ana River, Warm Creek, Day Creek, Deer Creek, Cucamonga Creek, San Sevaine Creek, San Antonio Creek, Mission Creek, and Zanja Creek. Most of these features are channelized with concrete sides and bottom, but a few have earthen bottoms or sides. There are a series of percolation basins adjacent to San Antonio Creek Channel and north of I-10 that serve the function of groundwater recharge, and there is also a detention basin along Cucamonga Creek Channel just south of I-10.

3.1.3.5 Invasive Species

Twelve (12) plant species considered exotic/invasive by the California Invasive Plant Council (Cal-IPC) were observed within the BSA. These species generally occurred in areas identified as ruderal, ornamental, or ruderal/ornamental and include wild oat, slender wild oat, Russian thistle, tree tobacco, hottentot fig (ice plant), rip-gut brome, and red brome and eucalyptus, Peruvian pepper, olive, Mexican fan palm, and Canary Island date palm trees. See Chapter 5 for further discussion of invasive plant species.

No substantial populations of invasive wildlife have been documented in the BSA. House sparrows, rock pigeons, and European starlings (*Sturnus vulgaris*), as well as Virginia opossums and feral dogs (*Canis lupus familiaris*) and cats (*Felis catus*), are known to occur in urban areas along the I-10 corridor.

3.2 Regional Species and Habitats and Natural Communities of Concern

Based on the findings of the NES, Caltrans has determined that the project would have "no effect" on SWWF and SAS, and it "may affect" DSF through permanent and temporary (direct and indirect) impacts to DSF individuals and its potentially suitable habitat. Formal FESA Section 7 consultation with USFWS will be required to obtain concurrence with these findings. As described later in this section, once presence/absence surveys for DSF are completed in 2016, Caltrans will prepare a Draft BA and initiate formal consultation with USFWS. No Section 2081 Incidental

Take Permit from CDFW is anticipated given that no State-listed species are expected to occur within the BSA.

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3.2.1 Critical Habitat

Figure 3-4 shows the CH within and near the BSA. Figure 3-5 shows the CH impacts for Alternative 3.

3.2.1.1 Southwestern Willow Flycatcher

CH for SWWF occurs within the study corridor along I-10 within the Santa Ana River Channel. Even though the CH designation occurs at this location, the primary constituent elements (PCEs) are absent from the Santa Ana River Channel directly adjacent to I-10. PCEs are the physical and biological features of a landscape that are essential to the conservation of a species where CH occurs. In the section of the Santa Ana River where CH for SWWF occurs, the river is channelized and completely devoid of dense riparian vegetation and insect prey populations are minimal.

3.2.1.2 Delhi Sands Flower-Loving Fly

CH has not been designated for the DSF, but Delhi Soils correspond with the areas where this species can be found. Delhi soils for the endangered DSF occur in several areas within the study corridor in Caltrans ROW. Presence/absence surveys for the DSF will be conducted in areas identified by the 2014 habitat assessment as suitable habitat during the 2015 and 2016 survey periods. Presence/absence surveys will conform with the latest USFWS guidelines for conducting these surveys, likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions. Once presence/absence surveys are completed in 2016, Caltrans will prepare a Draft BA for take of DSF, if any, and effects to CH for other federally listed species, including SWWF and SAS.

3.2.1.3 San Bernardino Kangaroo Rat

CH for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SBKR) Unit 1 exists approximately 3.3 miles upstream from the BSA. The 2008 Final Critical Habitat Designation (USFWS, 2008) indicates "habitat downstream of the Tippecanoe Avenue Bridge is heavily channelized with steep banks inhibiting the use of upland habitat." In addition, it indicates that there is no data available indicating that the area downstream of the Tippecanoe Avenue Bridge is occupied.

The portion of the BSA within and adjacent to the Santa Ana River is a concrete-lined channel or adjacent upland areas outside the levees. The concrete-lined channel extends for approximately 2,250 feet south of the BSA and 300 feet to the north of

the BSA. Because no suitable habitat occurs within the BSA, no focused surveys were conducted for the SBKR.

3.2.1.4 Santa Ana Sucker

On December 2, 2010, USFWS issued a final rule to redesignate CH for the SAS (USFWS, 2010). The rule identified three CH Units for the SAS: Santa Ana River (Unit 1), San Gabriel River (Unit 2), and Big Tujunga Creek (Unit 3). Unit 1 totals 1,559 acres divided into three subunits. Subunit 1A is not occupied by the SAS but is essential to its conservation. Subunits 1B and 1C are both occupied by the species. The study corridor crosses Unit 1B; however, an approximate 5.1-mile portion of the Santa Ana River between La Cadena Drive and Tippecanoe Avenue within Subunit 1B, including the study corridor, is not considered to be currently occupied due to a steep concrete revetment/drop structure at the La Cadena Drive bridge, which serves as barrier to SAS upstream dispersal at La Cadena Drive. Regardless, Subunit 1B, including the stretch of the Santa Ana River that runs through the project corridor, was considered occupied at the time of listing and is essential to conservation of the species and contains sources of water and coarse sediment essential to conservation of existing downstream populations of SAS. Subunit 1B has been heavily impacted by urban development. Threats to SAS and PCEs in this subunit include, but are not limited to, water diversion; dams; water quality impacts from non-point source and point source pollution (including untreated urban runoff and discharge of treated wastewater); and altered hydrology throughout the watershed (including alterations from in-stream barriers, construction of bridges, channelization, and other flood control structures). According to the CH final rule, special management considerations or protection may be needed in this subunit to protect its essential features.

3.2.1.5 Western Yellow-Billed Cuckoo

Proposed CH for the western yellow-billed cuckoo (*coccyzus americanus*) (YBC) was designated in August 2014 and reopened for public comment in November 2014. Within the proposed CH rule, PCEs include riparian woodlands, the presence of a preybase consisting of large insect fauna and tree frogs, and a river system that is dynamic and provides hydrologic processes that encourage sediment movement. CH is proposed within the Prado Flood Control Basin 15 miles southwest of I-10. No adverse modification of CH is associated with construction or operation of the I-10 Corridor Project is anticipated at this time.





Figure 3-4. Critical Habitat Mapping within and near the BSA

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	Critical	Habitat ¹	labitat 1							
	CS	Coastal	California Gnatcatcher (2007)							
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N^{-1}	C	San Beri	mardino Kangaroo Rat (2011)							
Pas.	03	Santa Ar	na Sucker (2010)	6						
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Map Date: 4/10/2015 Photo Source: USGS (2011) ¹ US Fish and Wildlife Service

Figure 3-5. Critical Habitat Impact Map (Alternative 3)

3.2.2 Sensitive Plant Communities

Sensitive plant communities identified within the BSA include RSS and riparian plant communities (southern willow scrub, mule fat scrub, freshwater marsh). Further discussion of RSS and the riparian plant communities is provided in Sections 4.1.1 and 4.1.2.

3.2.3 Sensitive Plant Species

The literature review and database search of the Ontario, Guasti, Fontana, San Bernardino South, and Redlands quadrangles indicated that 13 special-status plant species potentially occur within the region. Four of the 13 special-status plant species are federal- and State-listed endangered species. Further information on the 13 special-status species, including habitat requirements and potential for occurrence within the BSA, is summarized in Table 3-2. Based on surveys discussed in Section 2.2 and the rationale discussed for each species in Table 3-2, there is no suitable habitat for any of the sensitive plant species within the BSA; however, outside the BSA within the Santa Ana River, there is marginally suitable habitat for the Santa Ana River woolly-star and slender-horned spineflower. These designations are based on their current distribution, habitat requirements, and information concerning land use within the vicinity of the BSA.

3.2.4 Sensitive Wildlife Species

The literature review and database search of the Ontario, Guasti, Fontana, San Bernardino South, and Redlands USGS quadrangles indicated that 33 special-status wildlife species potentially occur within the region. Ten of the 33 special-status species are federal- and/or State-listed as proposed, threatened, or endangered species. Further information on all 33 special-status species, including habitat requirements and potential for occurrence within the BSA, is summarized in Table 3-2. Of these 33 species, the BSA provides limited habitat for 10 sensitive faunal species having a low potential to occur within the BSA and 6 species having a moderate potential to occur within the BSA. There are no species with a high potential to occur within the BSA. These designations are based on their current distribution, habitat requirements, and information concerning land use within the vicinity of the site.

Table 3-2. Regional Plant and Wildlife Species of Concern

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Plants	Į	ł			
Berberis nevinii	Nevin's barberry	US:FE CA:SE	Occurs on steep north-facing slopes or sandy washes in chaparral, coastal scrub, and riparian scrub.	A	Not likely to occur. The BSA contains disturbed land typical of urban freeway ROW with maintained and irrigated landscaped areas. Adjacent land use generally consists of dense commercial, industrial, and residential. No suitable habitat within the BSA.
Dodecahema leptoceras	slender-horned spineflower	US:FE CA:SE	Occurs in coastal scrub, chaparral in sandy soils on river floodplain, or terraced fluvial deposits.	Ρ	Low potential to occur. No suitable habitat currently exists within the BSA; however, limited habitat may occur in the Santa Ana River and Warm Creek channels in the future due to seasonal and annual variability of the species, variability of climatic and physical conditions within the channels, and the potential passage of time between environmental approval and construction. Surveys for this species in 2013 were negative.
Eriastrum densifolium ssp. sanctorum	Santa Ana River woolly-star	US:FE CA:SE	Chaparral, coastal scrub, alluvial fan, sandy, or gravelly soils.	Ρ	Low potential to occur. No suitable habitat currently exists within the BSA; however, limited habitat may occur in the Santa Ana River and Warm Creek channels in the future due to seasonal and annual variability of the species, variability of climatic and physical conditions within the channels, and the potential passage of time between environmental approval and construction. Surveys for this species in 2013 were negative in the BSA, although a single plant was observed approximately 500 feet outside of the BSA. Nearest CNDDB occurrence is 0.5 mile away from the BSA in the Santa Ana River.

Table 3-2. Regional Plant and Wildlife Species of Concern

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Rorippa gambellii	Gambel's watercress	US:FE CA:ST	Historically known to occur in marshes and other perennially mesic areas (i.e., streams, creeks) from Arroyo Grande in central California (San Luis Obispo County) to the Santa Ana River in southern California (Orange and San Bernardino Counties). Relatively little is known about the habitat conditions at the historical locations.	A	Not likely to occur. No suitable habitat within the BSA.
Calochortus plummerae	Plummer's mariposa lily	CNPS 1B	Occurs in coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland on alluvial or granitic, rocky or sandy soils. RSS not considered suitable habitat.	A	Not likely to occur. No suitable habitat within the BSA. A focused rare plant survey was conducted within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. Plummer's mariposa lily was not found during the survey.
Horkelia cuneata ssp. puberula	mesa horkelia	CNPS 1B	Coastal strand, closed-cone pine forest, foothill woodland, northern coastal scrub, chaparral, coastal sage scrub. RSS not considered suitable habitat.	A	Not likely to occur. No suitable habitat within the BSA. A focused rare plant survey was conducted within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. Mesa horkelia was not found during the survey.
Centromadia pungens ssp. laevis	smooth tarplant	CNPS 1B	Occurs in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland on alkaline soils.	A	Not likely to occur. No suitable habitat within the BSA.
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	CNPS 1B	Occurs in chaparral and coastal scrub; prefers dry soils and shrubland. RSS not considered suitable habitat.	A	Not likely to occur. No suitable habitat within the BSA. A focused rare plant survey was conducted within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. Robinson's pepper-grass was not found during the survey.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Symphyotrichum defoliatum	San Bernardino aster	CNPS 1B	Grasslands and disturbed places.	A	Not likely to occur. No suitable habitat within the BSA.
Chorizanthe parryi var. parryi	Parry's spineflower	CNPS 1B	Occurs in chaparral and coastal scrub in rocky/sandy openings. RSS not considered suitable habitat.	A	Not likely to occur. No suitable habitat within the BSA. A focused rare plant survey was conducted within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. Parry's spineflower was not found during the survey.
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	CNPS 1A	Coastal salt marsh, wetland-riparian.	A	Not likely to occur. No suitable habitat within the BSA.
Malacothamnus parishii	Parish's bush- mallow	CNPS 1A	Chaparral, coastal sage scrub. RSS not considered suitable habitat.	A	Not likely to occur. No suitable habitat within the BSA. A focused rare plant survey was conducted within native habitat areas of the Santa Ana River, Warm Creek, and within other native habitats such as RSS. Parish's bush-mallow was not found during the survey.
Imperata brevifolia	California satintail	CNPS 2	Wet areas and floodplains below 1,600- foot elevation. Widespread in California and the western U.S. Also occurs in Mexico.	A	Not likely to occur. No suitable habitat within the BSA.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Birds					
Vireo bellii pusillus	least Bell's vireo	US: FE CA: SE	Prefers dense riparian habitats, but can also be found in more open riparian habitats such as mule fat. Nests from central California to northern Baja California. Winters in southern Baja California. Although identified in the USFWS Species List (Appendix P1), no USFWS-designated CH occurs within the BSA for this species. The nearest CH is located approximately 6.3 miles south of the BSA.	A	Not likely to occur. No suitable habitat within the BSA. No riparian or mule fat scrub habitat within the BSA. Nearest CNDDB occurrence/suitable habitat occurs approximately 0.5 mile upstream to the east of the I-215/Santa Ana River Crossing. Surveys for this species within the study corridor in 2013 were negative in the project BSA.
Empidonax traillii extimus	southwestern willow flycatcher	US:FE CA:SE	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, and usually with standing water. Winters in Central and South America. USFWS-designated CH is located within the BSA for this species.	P CH	Low potential to occur. No suitable habitat within the BSA. No dense riparian habitat present within the BSA. BSA within the Santa Ana River is within CH; however, the BSA contains only concrete channel and no riparian habitat. Nearest CNDDB occurrence is 2 miles southwest of the eastern project limits. Surveys for this species in the study corridor in 2013 were negative in the project BSA.
Polioptila californica californica	coastal California gnatcatcher	US:FT, CA:SSC	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California. May be found in coastal sage scrub below 2,500 feet; prefers low, coastal sage scrub in arid washes, mesas, and slopes.	Ρ	Low potential to occur. Disturbed and fragmented sage scrub vegetation occurs within the BSA. Only RSS near Ford Street adjacent to I-10 would be potentially affected by the proposed project. Surveys for CAGN in this area in 2013 were negative. No known occurrences within 5 miles of RSS near Ford Street. Nearest CH is 2 miles away.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Coccyzus americanus occidentalis	western yellow- billed cuckoo	US:FC CA:SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Prefers riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	A	Not likely to occur. No suitable habitat within the BSA .No suitable riparian habitat within the BSA. Last CNDDB occurrence within the Santa Ana River reported in 1930.
Agelaius tricolor	Tricolored blackbird	US:BCC CA:	Associated with dairies, agricultural areas, and wetlands.	A	Not likely to occur. No suitable habitat within the BSA.
Athene cunicularia	Burrowing owl	US:BCC CA:SSC	Uses large rodent burrows or other burrows in grasslands, prairies, and agricultural areas.	Ρ	Moderate potential to occur. No habitat within Caltrans ROW. Suitable habitat occurs within the BSA in former agricultural fields, non-native grasslands, and disturbed areas.
Eremophila alpestris actia	California horned lark	US: CA:WL	Found in coastal regions in short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, or alkali flats.	A	Not likely to occur. No suitable habitat within the BSA.
Icteria virens	yellow-breasted chat	US: CA:SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Ρ	Low potential to occur. A limited amount of dense linear strands of riparian with sandy soils present in BSA.
Accipiter cooperii	Cooper's hawk	US: CA: WL	Occurs primarily in forests and woodlands throughout North America. Increasingly common in urban habitats. Nests in tall trees, especially pines. Occasionally nests in isolated trees in more open areas.	Ρ	Low potential to occur. Several ornamental trees could provide nesting habitat for the species.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Lanius Iudovicianus	loggerhead shrike	US: BCC CA: SSC	Nests in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	A	Not likely to occur. No suitable habitat within the BSA.
Dendroica petechia brewsteri	yellow warbler	US: CA: SSC	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	Ρ	Low potential to occur. Minimally suitable habitat exists in eastern portion of survey area in willow thickets of the Santa Ana River and Etiwanda Creek.
Reptiles					
Crotalus ruber ruber	northern red- diamond rattlesnake	US: CA: SSC	Associated with chaparral, woodland, grassland, and desert communities from coastal San Diego County to the eastern slopes of the mountains. Prefers rocky areas with dense vegetation. Needs rodent burrows, cracks in rocks, or surface cover objects for shelter.	A	Not likely to occur. No suitable habitat within the BSA. The closest CNDDB occurrence for this species is more than 5 miles away.
Anniella pulchra	silvery legless lizard	US: CA:SSC	Loose organic soil or where there is plenty of leaf litter in a variety of habitats, including coastal sage scrub, chaparral, oak woodland, and pine forests.	A	Low potential to occur. Limited areas of shrubs bordered by developed areas are present in BSA. The nearest CNDDB occurrences are 1.14 miles south of the BSA in Redlands (1999) and 2 miles south of the BSA in Ontario (1993).
Aspidoscelis hyperythra	orange-throated whiptail	US: CA:SSC	May be found in low-elevation coastal scrub, chaparral, and valley-foothill hardwood; prefers sandy washes with patches of brush and rocks.	Ρ	Low potential to occur. Minimally suitable habitat exists within the BSA where RSS occurs near Colton to Ontario. The nearest CNDDB occurrence is 1.5 miles south of the BSA in Redlands (1990).

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale		
Phrynosoma coronatum (blainvillii)	coast (San Diego) horned lizard	US: CA:SSC	May be found in coastal sage scrub and chaparral in arid and semi-arid climate; prefers friable, rocky, or shallow sandy soils. Requires harvester ants for food.	Ρ	Low potential to occur. Minimally suitable habitat exists within the BSA at the Etiwanda Wash/Fan. The most recent CNDDB record for this species from 1998 is located approximately 0.75 mile south of the BSA in Fontana. The site and surrounding open space have since been developed.		
Amphibians							
Anaxyrus californicus	arroyo toad	US:FE CA:SSC	Found within third-order streams and associated with braided alluvial floodplains. Breeds within stream braids that are at least season in flow patterns, contain sandy and well-oxygenated stream water, and with open to sparse riparian habitats. The toad aestivates during summer months away from riparian areas within surrounding uplands.	A	Not likely to occur. No suitable habitat within the BSA.		
Rana muscosa	mountain yellow- legged frog	US:FE CA:SSC	Inhabits ponds, dams, lakes, and streams at moderate to high elevations. Appears to prefer open stream and lake margins that gently slope up to a depth of 2 to 3 inches. Always encountered within a few feet of water. Tadpoles may require up to 2 years to complete their aquatic development.	A	Not likely to occur. No suitable habitat within the BSA. The nearest occupied stream is approximately 10 miles north of the project BSA at East Fork City Creek in the San Bernardino Mountains. The nearest historical occurrences are approximately 5 miles north of the project BSA.		

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Mammals					•
Dipodomys merriami parvus	San Bernardino kangaroo rat	US:FE CA:SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and floodplains. Needs early to intermediate seral stages. USFWS- designated CH for this species exists within the Santa Ana River upstream of the BSA.	A	Not likely to occur. No suitable habitat within the BSA; however, SBKR CH Unit 1 is located approximately 3.3 miles upstream to the east of the I-215 crossing.
Dipodomys stephensi	Stephens' kangaroo rat	US:FE CA: ST	Occurs at elevations below 2,000 feet in flat or gently rolling, often degraded, annual grassland. Often associated with locations where grass cover and bare ground are abundant but where bush and rock are uncommon.	A	Not likely to occur. No suitable habitat within the BSA. Closest known occurrence to the BSA is near Reche Canyon, southeast of the I-10/I-215 interchange.
Antrozous pallidus	pallid bat	US: CA:SSC	May be found in rocky, mountainous areas and near water. Found in a variety of habitats, from scattered desert scrub, grassland, shrub land, woodland, and forests, from sea level through mixed conifer. In addition, found over more open, sparsely vegetated grasslands, and seem to prefer to forage in the open. Commonly found roosting in bridges.	Ρ	Moderate potential to occur. Although the vegetation is disturbed, ruderal areas adjacent to the BSA may provide foraging opportunities for this species. May roost in trees, buildings, and bridges within and near study corridor.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	US: CA:SSC	May be found in coastal scrub, chaparral, grasslands, and sagebrush; prefers sandy, herbaceous areas in rocks or coarse gravel.	Ρ	Moderate potential to occur. Suitable habitat exists within the BSA at Haven Avenue. The nearest CNDDB occurrence is 0.6 mile south of the BSA in Fontana in 1999. There were other multiple occurrences of this species in 2001 and 2002 2.75 miles north of the BSA in Redlands and 2.25 miles south of the BSA in Reche Canyon.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Nyctinomops femorosaccus	pocketed free- tailed bat	US: CA:SSC	Found in the lower Colorado Desert and coastal areas of southern California, but are known as far north as Los Angeles and southern San Bernardino counties. Associated with arid lowland areas, particularly desert canyons, and creosote bush and chaparral habitats. Day roosts primarily in crevices in cliff faces and boulders, although has been found in caves and buildings.	A	Not likely to occur. No suitable habitat within the BSA. Species not known to roost in bridges in California.
Eumops perotis californicus	western mastiff bat	US: CA:SSC	Primarily a cliff-dwelling species and is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. Characteristically, day roosts are located in large cracks in exfoliating slabs of granite or sandstone. Mastiff bats have great difficulty taking flight, and must drop at least 7 to 10 feet for launching.	Ρ	Low potential to occur. Species may forage at open areas associated with the proposed construction staging areas. Site is comprised of ruderal and disturbed communities with no significant rock features; however, developed areas adjacent to the BSA could provide suitable roosting sites. This species is not known to roost in bridges within California.
Lasiurus xanthinus	western yellow bat	US: CA:SSC	Found in fan palm oases and associated riparian habitats in the Colorado Desert of California. Appears to be expanding its range northward in association with ornamental palms. Range extends into Los Angeles and southern San Bernardino counties.	Ρ	Moderate potential to occur. This species is not known to use bridges for roosting; however, the BSA contains ornamental palms within and adjacent to the BSA.

Table 3-2. Regional Plant and Wildlife Species of Concern

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Taxidea taxus	American badger	US: CA:SSC	Drier open stages of shrub, forest, and herbaceous habitats, with friable soils; needs sufficient food and open, uncultivated ground; digs burrows.	A	Not likely to occur. No suitable habitat within the BSA.
Lepus californicus bennettii	San Diego black- tailed jackrabbit	US: CA:SSC	Inhabits deserts, grasslands, and open scrub habitats.	Ρ	Low potential to occur. The BSA is highly developed, and only limited habitat exists within the BSA at the proposed CSAs and at other adjacent undeveloped parcels outside the BSA along I-10. The nearest CNDDB occurrence of this species is within the BSA at the I-10/Pepper Avenue interchange (1995). Since 1995, significant development in this area has resulted in less suitable habitat in the vicinity for this species.
Neotoma lepida intermedia	San Diego desert wood rat	US: CA:SSC	3.3 Alluvial fan sage scrub; moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes.	A	Not likely to occur. No suitable habitat within the BSA.
Onychomys torridus ramona	Southern grasshopper mouse	US: CA:SSC	Found in grasslands and sparse coastal sage scrub habitats.	A	Not likely to occur. No suitable habitat within the BSA.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	US: CA:SSC	May be found in lower elevation grasslands and coastal sage communities; prefers open ground with fine sandy soils.	Ρ	Moderate potential to occur. Suitable habitat exists within/near Haven Avenue. There are multiple CNDDB occurrences for this species approximately 0.4 mile north of the BSA in Ontario (1999, 2001, 2003). Much of this area has since been developed to commercial land uses. Another CNDDB record from 2001 occurred 0.65 mile south of the BSA in Colton.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale			
Fish	-							
Catostomus santanae	Santa Ana sucker	US: FT CA:	Endemic to Los Angeles basin south coastal streams. Is a habitat generalist, but prefers sand-rubble-boulder bottoms, cool, clear water, and algae. USFWS- designated CH is located within the BSA for this species.	A	Not likely to occur. No suitable habitat within the BSA. BSA at the Santa Ana River is concrete lined with minimal permanent flow. Potential habitat occurs adjacent to the BSA to both the north and south within the Santa Ana River. Nearest CNDDB occurrence is approximately 3 miles southwest of the BSA.			
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	US: CA:SSC	Found in the headwaters of the Santa Ana and San Gabriel rivers. Requires permanent flowing streams with summer water temperatures of 17 to 20 degrees Celsius. Usually inhabits shallow cobble and gravel riffles.	A	Not likely to occur. No suitable habitat within the BSA. BSA at the Santa Ana River is concrete lined with minimal permanent flow.			
Gila orcuttii	arroyo chub	US: CA:SSC	Inhabits sandy and muddy bottoms in flowing pools and runs of headwaters, creeks, and small to medium rivers.	A	Not likely to occur. No suitable habitat within the BSA. BSA at the Santa Ana River is concrete lined with minimal permanent flow.			
Invertebrates								
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	US:FE CA:	Found only in fine, sandy soils, often with wholly or partly consolidated dunes referred to as the Delhi Sands. The fly is typically found in relatively intact, open, sparse, native habitats with less than 50 percent vegetative cover.	Ρ	Moderate potential to occur. Suitable habitat was identified within the BSA along I-10 between the Riverside Avenue and Rancho Avenue interchanges.			

Scient	ific Name	Common Name	Status	General Habitat Description		Habitat Present/ Absent	Rationale			
US: Federal Classifications					CA: State Classifications					
FE	Federal Endangered				SE	State Endangered				
FT	F Federal Threatened				ST	State Thre	Threatened			
PE	Proposed Endangered			:	SR	State Rare	re			
PT	Proposed Threatened			:	SSC	California	fornia Species of Concern			
FC	Federal Candidate									
BCC	Bird of Conservation Concern									
CNPS: California Native Plant Society Classifications										
1A	1A Plants presumed extinct in California									
1B Plants considered by CNPA to be rare, threatened, or endangered in California and elsewhere. Plants considered by CNPS to be rare, threatened, or endangered in California, but more common elsewhere										

Habitat Present/Absent within the BSA

P Present

A Absent

CH Critical Habitat

3.4 Habitat Connectivity

Habitat connectivity is established when there is a wildlife movement corridor that connects two blocks of native habitat. A wildlife corridor between such habitats functions to allow genetic interchange between populations. Movement corridors allow dispersal of young and allow animals to flee one patch of habitat in the event of a fire or other large-scale disturbance. Viable connections between habitat areas act as a linkage between those habitats contained in each connected habitat, effectively expanding the usable areas for wildlife that use both the habitats and the corridors connecting them. The major regional blocks of habitat in the region of the project include San Gabriel Mountains, San Bernardino Mountains, Chino Hills, Prado Basin, Jurupa Hills, San Timoteo Badlands, and Crafton Hills. The upper Santa Ana River floodplain between Redlands and San Bernardino is also a major block of habitat. Wildlife movement connections between these features, across I-10, are generally limited by urbanization. Restrictions are lessened where these habitat blocks are closer to each other, mainly in the eastern portions of the study corridor.

Most of the study corridor is so heavily urbanized that there is little to no opportunity for regular, regional movement of wildlife across I-10. Urban developments are not generally conducive to wildlife travel between natural areas because of vehicular traffic, human presence, and the presence of too much noise and light. Along the study corridor, on either side, most of the expanse of urban development between blocks of open space encompasses a total width of 6 miles (near Redlands) to 11 miles (Fontana-Ontario). At the far eastern portion of the study corridor, there is a 1-mile gap between the Crafton Hills and San Timoteo Canyon. That area is an exception to what is typical for the study corridor. The amount of urban development along most of the study corridor severely limits the presence of functional wildlife movement corridors to major stream corridors.

There are no designated wildlife corridors that cross I-10 in the project BSA. According to the California Essential Habitat Connectivity (CEHC) mapping developed by CDFW and Caltrans in 2010, there are no critical linkages within the project BSA. In addition, no missing linkages are identified within the project BSA according to the South Coast Missing Linkages conservation plan.

Although no designated wildlife corridors occur in the BSA, it should be mentioned that there are some wildlife species that are well adapted to urban environments and will thrive among residential and commercial developments. A discussion of these species is included above within Section 3.1.3. Most of the species that are commonly

observed in urban environments do not have specific movement corridor requirements, instead using nonspecific movement patterns across these urban areas.

Rivers, streams, and canyons provide natural movement corridors for wildlife. They provide a regular water source and cover in the form of native riparian vegetation, and they supply a steady food source. Studies have found that the width of a riparian corridor and its amount of vegetative cover is important in determining the wildlife capable of using it. Larger mammal species, such as deer (*Odocoileus hemionus*) or mountain lions (*Felis concolor*), require larger movement corridors with ample cover. Smaller mammal species, such as bobcats (*Lynx rufus*) or coyotes (*Canis latrans*), are more apt to use smaller movement corridors.

Within the study corridor, there are several streams that cross I-10, but all of them have been channelized. Even though these streams form a conduit across the entire urban landscape, their channelization limits wildlife interaction. Many of the channels, such as Day Creek Channel and Lower Deer Creek Channel, are completely concrete lined and have vertical sidewalls greater than 15 feet in height and no natural vegetation to provide cover. Animal species using such features for movement would be very visible and exposed. Generally, concrete channels with no vegetative cover are not considered adequate for wildlife movement. Some of the smaller streams in the east end of the study corridor, such as Mission Creek Channel and Zanja Creek Channel, are natural-bottom streams that contain varying amounts of ruderal vegetation and are more conducive to wildlife movement.

The Santa Ana River, the largest of these stream corridors, is approximately 600 feet wide within a distance of 0.75 mile through the study corridor. The channel is concrete lined with trapezoidal concrete sides within the immediate vicinity of I-10, but to the north and south, the river is natural bottom with concrete sides. Natural vegetation occurs approximately 0.1 mile upstream and 0.3 mile downstream of I-10, but the river immediately near I-10 is sparse and devoid of substantial vegetative growth that could provide cover. The Santa Ana River Channel is likely used as a wildlife movement corridor for many species, because it is a major riparian corridor. Due to the extensive urban environment surrounding the study corridor, and because larger mammals such as deer are sensitive to the presence of urban environments, most wildlife use within the river across the study corridor is expected to be small- to medium-sized mammal species, riparian birds, common reptiles, and common amphibian species. The river, downstream of the study corridor, is also known to support a population of the federal endangered SAS. Other species found within the

Santa Ana River upstream or downstream of the study corridor include SWWF, LBV, and (farther upstream) SBKR. The river is also known to support several rare and endangered plant species. There are also known bat populations with artificial roost boxes in place over the Santa Ana River at the I-215 interchange.
Chapter 4 Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

4.1.1 Riparian Vegetation Communities

4.1.1.1 Survey Results

Three riparian vegetation communities were identified within the study corridor: freshwater marsh, southern willow scrub, and mule fat scrub. Freshwater marsh is found within the Montclair Basins, near San Antonio Creek Channel, and within a couple of smaller channel features that were constructed to drain urban runoff. Southern willow scrub is found primarily along the Santa Ana River beyond the immediate I-10 footprint. It also occurs in smaller patches along Etiwanda Creek Channel. Mule fat scrub occurs within and adjacent to some of the southern willow scrub areas, but it is also found in a few isolated patches in the study corridor. These vegetation communities would be considered ESAs.

4.1.1.2 Avoidance and Minimization Efforts

NC-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs include riparian vegetation communities and RSS vegetation that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

4.1.1.3 **Project Impacts**

Most of the mapped riparian plant communities are outside of proposed project impact areas. There would be no permanent impact to riparian and other wetland habitat associated with the project, for either alternative. For both alternatives, there would be temporary impacts to southern willow scrub and mule fat scrub. The impact acreages are depicted in Table 4-1.

Riparian Habitat Type	Alternative 2 Ir	npacts (Acres)	Alternative 3 Impacts (Acres)		
	Permanent	Temporary	Permanent	Temporary	
Freshwater Marsh	0.00	0.00	0.00	0.00	
Southern Willow Scrub	0.00	0.06	0.00	0.09	
Mule Fat Scrub	0.00	0.96	0.00	0.96	
Total	0.00	1.02	0.00	1.05	

Table 4-1. Project Impacts to Riparian Vegetation Communities

4.1.1.4 Compensatory Mitigation

NC-2: Prior to the completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed all temporarily impacted vegetation communities with appropriate native plant species that are approved by the Caltrans District 8 Biologist. Plant species used in the seeding will be similar to what was present in each area prior to the impact.

4.1.1.5 Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the study corridor. Many of the actions that are reasonably certain to occur within this project vicinity will not be subject to federal or State review or consultations for plant or wildlife species because they occur within heavily urbanized zones that support limited natural habitat. Actions within the Santa Ana River, in particular, such as flood control measures, recreational use, or changes in use, could contribute to habitat degradation and loss. There are no known occurrences of riparian habitats along the Santa Ana River within the project impact area, but impacts elsewhere could contribute to overall loss of riparian habitats within the region.

4.1.2 Riversidean Sage Scrub

4.1.2.1 Survey Results

RSS was found at various locations along the study corridor, with the largest concentrations in the eastern portions near Redlands. Patch size ranges from less than 1 acre to 5 acres, with the largest patches near the Crafton Hills across from Ford Street, at the eastern end of the study corridor.

4.1.2.2 Avoidance and Minimization Efforts

NC-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs include riparian vegetation communities and RSS vegetation that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

4.1.2.3 Project Impacts

Most of the mapped RSS plant communities are outside of proposed project impact areas. The area of permanent impact of RSS habitat was calculated to be 0.23 acre for Alternative 2 and 0.25 acre for Alternative 3. The area of temporary impact of RSS habitat was calculated to be 2.85 acres for both Alternative 2 and Alternative 3.

4.1.2.4 Compensatory Mitigation

NC-2: Prior to the completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed all temporarily impacted vegetation

communities with appropriate native plant species that are approved by the Caltrans District 8 Biologist. Plant species used in the seeding will be similar to what was present in each area prior to the impact.

4.1.2.5 Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the study corridor. Many of the actions that are reasonably certain to occur within this project vicinity will not be subject to federal or State review or consultations for plant or wildlife species because they occur within heavily urbanized zones that support limited natural habitat. Actions within the eastern portion of the study corridor near Redlands, along with smaller areas near Ontario, could adversely affect this habitat and contribute to regional losses. Most of the RSS near Redlands occurs in smaller habitat patches along freeway slopes. The patch near Ontario occurs along a small drainage corridor. Any impacts to RSS will contribute to the overall loss of the habitat within the region. The I-10 Corridor Project would only affect patches of this habitat that occur immediately adjacent to I-10. These areas are of limited habitat value both due to their small patch size and their proximity to extended urban developments. Cumulative effects due to the I-10 Corridor Project on this habitat type are expected to be minimal.

4.1.3 Waters of the United States

4.1.3.1 Survey Results

Within the BSA, 27 features were determined to be jurisdictional Waters of the United States, as set forth in 33 CFR 328.33(a). These features within the Interstate 10 Corridor Project (I-10 CP) BSA are under the jurisdiction of USACE because they are associated with historic, named drainage features, and/or convey substantial flows through the BSA, ultimately leading to the Santa Ana River and to Traditional Navigable Waterways. These features account for 156.81 acres of non-wetland waters and 0.28 acre of wetland waters within the BSA.

4.1.3.2 Avoidance and Minimization Efforts

Waters of the United States impacts have been avoided to the maximum extent practicable by project design to avoid work that fills these areas. Many of the smaller features identified within the study corridor will be relocated and retained nearby to maintain their functionality in stormwater collection during rain events. The following measures are proposed to reduce and minimize impacts:

WET-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and other Waters of the U.S. and Waters of the State that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will be required to install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

- **WET-2:** Construction activities within the Santa Ana River will be designed and conducted to maintain downstream flow conditions. All construction activities will be effectively isolated from water flows to the greatest extent feasible. This may be accomplished by working in the dry season or dewatering the work area in the wet season. When work in standing or flowing water is required, structures for isolating the in-water work area and/or diverting the water flow must not be removed until all disturbed areas are cleaned and stabilized. The diverted water flow must not be contaminated by construction activities. Structures used to isolate the in-water work area and/or diverting the water flow (e.g., coffer dam, geotextile silt curtain) must not be removed until all disturbed areas are stabilized.
- **WET-3:** If groundwater dewatering is required for the project, the Applicant shall consult with the RWQCB to determine if additional permits are

required. If additional RWQCB permits relating to dewatering are required, the designated State Water Resources Control Board (SWRCB) staff contact identified in this Certification must be notified and copied on pertinent correspondence pertaining to those other required permits.

When dewatering is necessary, the water must be pumped or channeled through a sediment settling or filtration device prior to return discharge to the water body. The enclosure and the supporting material for settling or filtration devices must be removed when the dewatering activity is completed. Removal must proceed from upstream to downstream when multiple devices are deployed. Construction plans and specifications for dewatering and nonstormwater construction Best Management Practices (BMPs) for clearwater diversion and dewatering operations will be implemented.

4.1.3.3 Project Impacts

On August 27, 2014, a preliminary coordination meeting was conducted onsite with Veronica Chan of USACE to discuss the results of the jurisdictional delineation. As a result of this meeting, it was concluded that impacts to concrete channels that were to remain concrete would be considered temporary impacts, assuming hydrologic connectivity is maintained. It was determined that areas supporting wetland features that were concrete lined would not be considered wetlands because they do not meet all three of the wetland parameters.

With the exception of two features (Features 19 and 52), most of the USACE jurisdictional waters being impacted consist of previously constructed concrete drainage channels, v-ditches, concrete channels, and other man-made features. As discussed above, impacts to concrete-lined features would be considered temporary, as long as connectivity to the earthen-bottom upstream and downstream waters remains the same.

As such, based on preliminary engineering, Alternative 2 would result in 0.07 acre of permanent impacts and 4.56 acres of temporary impacts to USACE jurisdictional areas. Alternative 3 would result in 0.09 acre of permanent impacts and 20.41 acres of temporary impacts to waters pursuant to USACE jurisdiction. These impacts are provided in Table 4-2 for each project build alternative.

Geomorphic Feature	Alternative 2 Impacts (Acres)		Alternative 3 Impacts (Acres)	
	Temporary	Permanent	Temporary	Permanent
9 (Cucamonga Creek Channel)	0.00	0.00	0.17	0.00
12 (Lower Deer Creek Channel)	0.00	0.00	0.01	0.00
16 (Day Creek Channel)	0.02	0.00	0.02	0.00
19 (Lower Etiwanda Creek Channel)	0.00	0.06	0.00	0.08
20 (San Sevaine Creek)	0.06	0.00	0.15	0.00
21 (I-10 Channel)	0.49	0.00	12.53	0.00
24 (Rialto Tributary)	2.76	0.00	5.68	0.00
35 (Warm Creek Channel)	0.38	0.00	0.71	0.00
36 (Santa Ana River Channel)	0.30	0.00	0.59	0.00
38 (San Timoteo Creek Channel)	0.08	0.00	0.08	0.00
51	0.47	0.00	0.47	0.00
52	0.00	0.01	0.00	0.01
Total	4.56	0.07	20.41	0.09

 Table 4-2. Potential USACE Jurisdictional Area Impacts

4.1.3.4 Compensatory Mitigation

Before construction activities begin for the proposed project, the following approvals/ permits must be obtained or determined not applicable by Caltrans through additional coordination with the applicable federal and State resource agencies:

- USACE NWP pursuant to CWA Section 404; and RWQCB 401 Water Quality Certification pursuant to CWA Section 401.
- Streambed Alteration Agreement pursuant to California Fish and Game Code Section 1602; and
- USFWS Biological Opinion and take authorization pursuant to the FESA.

As part of the permitting processes discussed above, the project will confirm compensatory mitigation requirements. Compensatory mitigation currently proposed is discussed in measures WET-4 and WET-5 below.

WET-4: Prior to the completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed temporarily impacted, earthenbottom Waters of the U.S., Waters of the State, and other drainages with appropriate native plant species that are approved by the Caltrans

District 8 Biologist. Plant species used in the seeding should be similar to what was present in each area prior to the impact.

WET-5: To offset impacts to jurisdictional resources and riparian vegetation communities, SANBAG will compensate for impacts by purchasing mitigation credits from a mitigation bank or in-lieu fee program at a minimum 1:1 impact to mitigation ratio.

4.1.3.5 Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the study corridor. Many of the actions that are reasonably certain to occur within this project vicinity will not be subject to federal or State review or consultations for plant or wildlife species because they occur within heavily urbanized zones that support limited natural habitat. With incorporation of the avoidance and minimization measures identified in Section 4.1.3.2 and permit conditions that would be identified during permit coordination with USACE, CDFW, and RWQCB, no substantial cumulative impacts are anticipated.

4.1.4 Waters of the State

4.1.4.1 Survey Results

RWQCB/CDFW jurisdiction includes the entirety of the 27 USACE jurisdictional features cited above. An additional 25 features, for a total of 52 features, were found to be nonjurisdictional to USACE because they exhibit no ordinary high water mark, are constructed within uplands outside of historic drainage courses, and do not convey flows between Waters of the U.S.; however, these features are thought to be jurisdictional to RWQCB and CDFW. In general, RWQCB/CDFW jurisdiction for the larger features with trapezoidal sides is considered to include the entire bank-to-bank width, whereas the USACE jurisdictional boundary includes the main channel only and not the entire width at the top of the bank.

Table 4-3 and Appendices F and G show the jurisdictional areas and impacts for Alternatives 2 and 3, respectively. The limits of jurisdictional waters and potential impacts will be verified with the regulatory agencies as part of the permitting process described above.

Geomorphic Feature Number	Alternative 2 Impacts (Acres)		Alternative 3 Impacts (Acres)	
	Temporary	Permanent	Temporary	Permanent
4	0.00	0.00	0.21	0.00
5	0.00	0.00	0.32	0.00
6	0.00	0.00	0.48	0.00
8	0.00	0.00	0.07	0.00
0.000.000.000.009 (Cucamonga Creek Channel)	0.00	0.00	0.17	0.00
11	0.00	0.00	0.05	0.00
12 (Lower Deer Creek Channel)	0.00	0.00	0.01	0.00
13	0.00	0.00	0.27	0.00
16 (Day Creek Channel)	0.02	0.00	0.02	0.00
17	0.15	0.00	0.15	0.00
19 (Lower Etiwanda Creek Channel)	0.00	0.06	0.00	0.08
20 (San Sevaine Creek)	0.06	0.00	0.15	0.00
21 (I-10 Channel)	0.49	0.00	12.53	0.00
24 (Rialto Tributary)	2.76	0.00	5.68	0.00
27	0.02	0.00	0.02	0.00
28	0.03	0.00	0.03	0.00
29	0.01	0.00	0.01	0.00
30	0.00	0.00	0.05	0.00
31	0.01	0.00	0.01	0.00
33	0.09	0.00	0.09	0.00
35 (Warm Creek Channel)	0.38	0.00	0.71	0.00
36 (Santa Ana River Channel)	0.30	0.00	0.59	0.00
38 (San Timoteo Creek Channel)	0.08	0.00	0.08	0.00
39	1.33	0.00	2.93	0.00
41	1.69	0.00	1.69	0.00
42	0.56	0.00	0.56	0.00
43	0.00	0.00	0.01	0.00
45	0.00	0.00	0.04	0.00
51	0.47	0.00	0.47	0.00
52	0.00	0.01	0.00	0.01
Total	8.45	0.07	27.40	0.09

Table 4-3. Potential CDFW and RWQCB Jurisdictional Area Impacts

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4.1.4.2 Avoidance and Minimization Efforts

Impacts to Waters of the U.S. and Waters of the State have been avoided to the greatest extent practicable during project design. A key component to the project's avoidance and minimization of impacts to jurisdictional waters includes the August 27, 2014, meeting between the project team and USACE staff Veronica Chan to review potential jurisdictional waters within the BSA. Based on information from that meeting, the project design team was able to adjust the design for each of the build alternatives to avoid impacts to the extent feasible.

The following measures are being proposed to reduce and minimize impacts:

WET-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and other Waters of the United States and Waters of the State.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will be required to install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

WET-2: Construction activities within the Santa Ana River will be designed and conducted to maintain downstream flow conditions. All construction activities will be effectively isolated from water flows to the greatest extent feasible. This may be accomplished by working in the dry season or dewatering the work area in the wet season. When work in standing or flowing water is required, structures for isolating the in-water work area and/or diverting the water flow must not be removed until all disturbed areas are cleaned and stabilized. The diverted water flow must not be

contaminated by construction activities. Structures used to isolate the inwater work area and/or diverting the water flow (e.g., coffer dam, geotextile silt curtain) must not be removed until all disturbed areas are stabilized.

WET-3: If groundwater dewatering is required for the project, the Applicant shall consult with the RWQCB to determine if additional permits are required. If additional RWQCB permits relating to dewatering are required, the designated SWRCB staff contact identified in this Certification must be notified and copied on pertinent correspondence pertaining to those other required permits.

When dewatering is necessary, the water must be pumped or channeled through a sediment settling or filtration device prior to return discharge to the water body. The enclosure and the supporting material for settling or filtration devices must be removed when the dewatering activity is completed. Removal must proceed from upstream to downstream when multiple devices are deployed. Construction plans and specifications for dewatering and nonstormwater construction BMPs for clearwater diversion and dewatering operations will be implemented.

4.1.4.3 **Project Impacts**

Based on preliminary engineering, Alternative 2 would result in 4.56 acres of temporary impacts and 0.07 acre of permanent impacts. Alternative 3 would result in 20.41 acres of temporary impacts and 0.09 acre of permanent impacts. Permanent and temporary impacts for each alternative are summarized in Table 4-3.

4.1.4.4 Compensatory Mitigation

Before construction activities begin for the proposed project, the following approvals/ permits must be obtained or determined not applicable by Caltrans through additional coordination with the applicable federal and State resource agencies:

- USACE NWP pursuant to CWA Section 404; and RWQCB 401 Water Quality Certification pursuant to CWA Section 401;
- Streambed Alteration Agreement pursuant to California Fish and Game Code Section 1602; and
- USFWS Biological Opinion and take authorization pursuant to the FESA.

As part of the permitting processes discussed above, the project will confirm compensatory mitigation requirements. Compensatory mitigation currently proposed is discussed in measures WET-4 and WET-5 below.

- **WET-4:** Prior to the completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed temporarily impacted, earthenbottom Waters of the U.S., Waters of the State, and other drainages with appropriate native plant species that are approved by the Caltrans District 8 Biologist. Plant species used in the seeding should be similar to what was present in each area prior to the impact.
- **WET-5:** To offset impacts to jurisdictional resources and riparian vegetation communities, SANBAG will compensate for impacts by purchasing mitigation credits from a mitigation bank or in-lieu fee program at a minimum 1:1 impact to mitigation ratio.

4.1.4.5 Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the study corridor. Many of the actions that are reasonably certain to occur within this project vicinity will not be subject to federal or State review or consultations for plant or wildlife species because they occur within heavily urbanized zones that support limited natural habitat. With incorporation of the avoidance and minimization measures identified in Section 4.1.4.2 and permit conditions that would be identified during permit coordination with USACE, CDFW, and RWQCB, no substantial cumulative impacts are anticipated.

4.2 Special-Status Plant Species

During 2013, focused biological surveys were conducted for rare plant species within the study corridor, and no sensitive plant species within the study corridor were noted. Prior to the survey, during the literature search, some special-status plants with a moderate potential to occur were identified, including Santa Ana River woolly-star *(Eriastrum densifolium ssp. sanctorum)*, slender-horned spineflower *(Dodecahema leptoceras)*, Brand's phacelia *(Phacelia stellaris)*, and San Diego ambrosia *(Ambrosia pumila)*.

4.2.1 Santa Ana River Woolly-Star

The Santa Ana River woolly-star is a federal and State endangered species that is found only within open washes and early-successional alluvial fan scrub on open slopes above main watercourses on fluvial deposits where flooding and scouring occur at a frequency that allows the persistence of open scrublands. It blooms between May and September.

Suitable habitat is comprised of a patchy distribution of gravelly soils, sandy soils, rock mounds, and boulder fields (Zembal and Kramer, 1984 and 1985; USFWS, 1986). Suitable habitat typically contains low amounts of clay, silt, and micro-organic materials (Burk *et al.*, 1989). These areas typically maintain a perennial plant cover of less than 50 percent. Associated perennial plants include California buckwheat, California croton, yerba santa (*Eriodictyon trichocalyx*), and scalebroom (*Lepidospartum squamatum*) (Burk *et al.*, 1989; Zembal and Kramer, 1984 and 1985).

The Santa Ana River woolly-star is an early-successional species and possibly requires flood-mediated habitat rejuvenation (Wheeler and Burk, 1990). Sheet flood flows probably occur in this habitat every 100 to 200 years (USFWS, 1986).

4.2.1.1 Survey Results

No Santa Ana River woolly-star plants were observed within the study corridor. A single plant was observed outside of the study corridor during surveys for the LBV. This plant was approximately 500 feet away from the eastern edge of the project limit and would not be affected by project activities.

4.2.1.2 **Project Impacts**

There is no suitable habitat for the Santa Ana River woolly-star currently within the BSA. With incorporation of the measures in Section 4.2.1.3, no impacts to the species are anticipated.

4.2.1.3 Avoidance and Minimization Efforts

It is not anticipated that the species would occur within the project footprint; however, due to the seasonal and annual variability of the species and related climatic conditions and the potential passage of time between environmental approval and initiation of construction activities, the following avoidance and minimization measures are required to ensure that the species will not be affected by the proposed project:

TE-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs include

the Santa Ana River, Warm Creek Channel, and DSF potentially suitable habitat that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

TE-2: A preconstruction survey will be conducted by a qualified biologist for the Santa Ana River woolly-star within the BSA in the vicinity of Warm Creek Channel and the Santa Ana River. The preconstruction survey will be conducted during the blooming season (i.e., May to September) prior to initiation of construction activities within the area of Warm Creek Channel and the Santa Ana River. If the species is found during the preconstruction surveys, then Caltrans will reinitiate consultation with USFWS and CDFW in accordance with FESA and CESA. If present, one or more of the following mitigation strategies will be required: purchase of credits from a mitigation bank; onsite conservation of existing Santa Ana River woollystar through avoidance and designation of ESAs; and/or translocation of Santa Ana River woolly-star outside of the project ROW to areas of suitable habitat, as identified by a contractor-supplied plant biologist with knowledge of and experience with translocation of local flora species of the region.

4.2.1.4 Compensatory Mitigation

No compensatory mitigation would be required for this species because it is not expected to occur within the project footprint. If the species is discovered within the project footprint during future surveys, Caltrans would reinitiate consultation with USFWS and CDFW in accordance with FESA and CESA. During consultation, USFWS and/or CDFW may require compensatory mitigation, exclusive of or in combination with the avoidance and minimization strategies described in measures TE-1 and TE-2 above.

4.2.1.5 Cumulative Impacts

There is no suitable habitat for the species, and it not expected to occur within the project footprint. The proposed project would have no cumulative effects on the Santa Ana River woolly-star.

4.2.2 Slender-Horned Spineflower

The slender-horned spineflower (*dodecahema leptoceras*) is a federal and State endangered species that is generally found in sandy soil in association with mature alluvial scrub (Reveal and Hardham, 1989; Rey-Vizgirdas, 1994). Prigge, *et al.* (1993) found that the ideal habitat appears to be a terrace or bench that receives over bank deposits every 50 to 100 years. The blooming period is between April and June.

Cryptogamic crusts are frequently present in areas occupied by slender-horned spineflower (Boyd and Banks, 1995; USFWS, 1996). These crusts on the soil surface are composed of associations of bryophytes (i.e., mosses), algae, lichens, and some xerophytic liverworts (Harper and Marble, 1988, as cited in USFWS, 1996). Cryptogamic crusts enable soils to retain moisture and may help suppress invasion by non-native plant species (Boyd and Banks, 1995; USFWS, 1996).

Slender-horned spineflower is endemic to southwestern cismontane California, ranging from central Los Angeles County east to San Bernardino County, and south to southwestern Riverside County in the foothills of the Transverse and Peninsular Ranges. Slender-horned spineflower typically occur at 656 to 2,296 feet in elevation (Hickman, 1993). Only eight areas are still known to support slender-horned spineflower, including two localities each in Los Angeles County (Bee Canyon and Big Tujunga Wash) and two in San Bernardino County (the Santa Ana River Wash and Cajon Wash) (Reveal and Hardham, 1989; Rey-Vizgirdas, 1994; CNDDB, 1999).

4.2.2.1 Survey Results

No slender-horned spineflower plants were observed within the BSA.

4.2.2.2 Project Impacts

There is currently no habitat for the slender-horned spineflower within the BSA. With incorporation of the measures in Section 4.2.2.3, no impacts to the species are anticipated.

4.2.2.3 Avoidance and Minimization Efforts

It is not anticipated that the species would occur within the project footprint; however, due to the seasonal and annual variability of the species and related climatic conditions and the potential passage of time between environmental approval and initiation of construction activities, the following avoidance and minimization measures are required to ensure that the species will not be affected by the proposed project:

TE-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and DSF suitable habitat that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

TE-3: A preconstruction survey will be conducted by a qualified biologist for the slender-horned spineflower within the BSA in the vicinity of Warm Creek Channel and the Santa Ana River. The preconstruction survey will be conducted during the blooming season (i.e., May through September) prior to initiation of construction activities within the area of Warm Creek Channel and the Santa Ana River. If the species is found during the preconstruction surveys, then Caltrans will reinitiate consultation with USFWS and CDFW in accordance with FESA and CESA. If present, one or more of the following mitigation strategies will be required: purchase of credits from a mitigation bank; onsite conservation of existing slender-

horned spineflower through avoidance and designation of ESAs; and/or translocation of slender-horned spineflower outside of the project ROW to areas of suitable habitat, as identified by a contractor-supplied plant biologist with knowledge of and experience with translocation of local flora species of the region.

4.2.2.4 Compensatory Mitigation

No compensatory mitigation would be required for this species because it is not expected to occur within the project footprint. If the species is discovered within the project footprint during future surveys, Caltrans would reinitiate consultation with USFWS and CDFW in accordance with FESA and CESA. During consultation, USFWS and/or CDFW may require compensatory mitigation, exclusive of or in combination with the avoidance and minimization strategies described in measure TE-4.

4.2.2.5 Cumulative Impacts

There is no suitable habitat for the species, and it is not expected to occur within the project footprint. The proposed project would not contribute to cumulative effects on the slender-horned spineflower.

4.2.3 Other Sensitive Plant Species

Other special-status species include all other plant species of special interest at the State or federal level. None of the other special-status plant species is likely to occur within the BSA. The BSA is highly disturbed, is directly adjacent to I-10 and developed areas, and provides limited potential for habitat for other special-status plant species.

4.2.3.1 Survey Results

During rare plant surveys conducted in 2013, no other sensitive plant species were observed within the BSA.

4.2.3.2 Project Impacts

No impacts from the project are anticipated at this time to other sensitive plant species. With incorporation of the avoidance measures identified below, no substantial impacts to other special-status plant species are anticipated.

4.2.3.3 Avoidance and Minimization Efforts

Although it is not anticipated that other special-status plant species will occur within the project footprint, due to the seasonal and annual variability of the species and related climatic conditions and the potential passage of time between environmental approval and initiation of construction activities, the following minimization measure is required to minimize/avoid any potential effects and ensure the opportunity for their protection prior to construction disturbance:

4.2.3.4 Compensatory Mitigation

No compensatory mitigation would be required for potential effects on other specialstatus plant species. There is no suitable habitat for these species, and they are not expected to occur within the project footprint. If other special-status plant species are discovered within the project footprint during future surveys, Caltrans would coordinate with CDFW regarding their collection or relocation in accordance with California Fish and Game Code Sections 1900-1913.

4.2.3.5 Cumulative Impacts

There is no suitable habitat for these species, and they are not expected to occur within the project footprint. The proposed project would not contribute to cumulative effects on other special-status species.

4.3 Special-Status Animal Species Occurrences

Section 2.3 contains descriptions of the dates and results of the biological surveys conducted for the project to assess the potential presence of sensitive species and species with protection measures assigned through federal, State, or local laws. Protocol presence/absence surveys were conducted for LBV, SWWF, and CAGN. Surveys were positive for SWWF and LBV, but all observations were made outside of the study corridor, and it is not likely that these species would occur in areas that would be impacted by the proposed project. Surveys were negative for CAGN. A habitat assessment was conducted for DSF, BUOW, bat roosting areas, and swallow nesting sites.

In addition, USFWS identified the potential for three additional listed species to occur within the BSA. These additional listed species include SAS, SBKR, and YBC. Due to the absence of suitable habitat in the BSA, no focused surveys were conducted for these species.

4.3.1 Delhi Sands Flower-Loving Fly

DSF is typically found in areas of unconsolidated sandy soils (Delhi series) supporting an open community of native and exotic plant species, including California buckwheat, California croton, telegraph weed, and deerweed (*Lotus*

scoparius). Adult DSF are known to nectar at flowers of California buckwheat and California croton. Many other plant species are common, including Thurber's eriogonum (*Eriogonum thurberi*), autumn vinegar weed (*Lessingia glandulifera*), and sapphire eriastrum (*Eriastrum sapphirinum*). DSF habitat also supports other associated insects, such as flies and wasps, which are considered indicator species.

The adult DSF flight period is typically mid-July through September, when individual adults emerge, reproduce, and die. The adult life span of an individual DSF lasts for a few days, and adults do not live beyond the flight period (Kiyani Environmental Consultants, Inc., 1995). DSF larvae are known to develop underground; however, the specific biology (i.e., larval biology, duration of the larval state, habits, and food requirements) are not yet known for DSF or any other *Rhaphiomidas* species.

Adult DSF are highly mobile, agile fliers. Male DSF are frequently seen flying low through habitat, using apparently random, circuitous paths around and between shrubs in search of females. Such "cruising" behavior often covers areas on the scale of 0.25 acre in 1 minute. Alternatively, male DSF are often seen flying about an open patch of ground (1,076 square feet), such as along a dirt path or dune blowout area. Here, males may repetitively land and rest on one or another object (e.g., small dried plants) in the area, and such rests are interrupted by periods of patrolling flight, which is apparently territorial, about the spot.

4.3.1.1 Survey Results

No DSF presence/absence surveys have been completed to date for the proposed project. Habitat assessments were completed in 2009 and 2014. The results of the 2014 habitat assessment are discussed in Section 2.2. Presence/absence surveys for DSF will be conducted in areas identified by the habitat assessment as potentially suitable habitat during the 2015 and 2016 survey periods. These surveys will conform with the latest USFWS guidelines for conducting these surveys, likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions (USDOI Fish and Wildlife Service Ecological Services – Carlsbad, 2014).

4.3.1.2 **Project Impacts**

Alternatives 2 and 3 would result in permanent loss and/or temporary effects to areas identified as potentially suitable DSF habitat in the Habitat Assessment.

If present, temporary indirect effects to DSF during construction would include increased exposure of DSF to noise, vibration, dust, and human presence.

Many of the areas with historic DSF soils have been impacted already and are currently unsuitable for the DSF. For reference, the impacts to areas known to either currently or previously support DSF soils are summarized in Table 4-4 and depicted in Appendices F and G.

	Alternative 2 Impacts (Acres)		Alternative 3 Impacts (Acres)	
Son Type (NKCS)	Temporary	Permanent	Temporary	Permanent
DaD2	50.35	1.62	71.01	8.31
Db	50.68	2.79	47.48	9.77
Total	101.03	4.41	118.49	18.08

 Table 4-4. DSF Historic Soil Impacts

The habitat assessment conducted in 2014 identified the current habitat areas known within the BSA. The impacts to DSF habitat are provided in Table 4-5.

Habitat Catagony	Alternative 2 Ir	npacts (Acres)	Alternative 3 Impacts (Acres)		
Habitat Category	Temporary	Permanent	Temporary	Permanent	
Potentially Suitable	48.10	2.13	48.15	9.70	
Potentially Restorable	10.13	0.07	13.27	1.81	
Unsuitable	8.99	0.74	14.68	3.61	

 Table 4-5. DSF Current Habitat Impacts

The potentially suitable DSF habitat is found between Archibald Avenue and Etiwanda Avenue and areas near Pepper Avenue within (see Figure 4-2). The affected DSF potentially suitable habitat areas all occur between the existing edge of shoulder and the Caltrans ROW line. Due to the secretive nature of the fly and lack of understanding of the various stages of the fly lifecycle, the proposed project may result in take of the fly during construction, pursuant to FESA if it is present. Permanent and temporary loss of suitable DSF habitat may adversely affect DSF. Therefore, Caltrans will conduct presence/absence surveys for DSF in 2015 and 2016 to determine if DSF are present in areas identified as potentially suitable habitat in the 2014 Habitat Assessment. Once DSF presence/absence surveys are completed in 2016, Caltrans will prepare a Draft BA and will initiate formal consultation with USFWS for take of DSF, if any, and effects to CH for other federally listed species, including SWWF and SAS. If DSF are found during presence/absence surveys, credits will be purchased from a USFWS-approved mitigation bank for this species.



Map Date: 11/19/2014 Photo Source: Esri ¹ Natural Resource Conservation Service

Figure 4-1. Delhi Sands Flower-Loving Fly Potential Habitat and Impacts Alternative 3





Figure 4-2. Potential Delhi Sands Flower-Loving Fly Habitat and Impacts Alternative 3 (Sheets 1A and 1B)





Figure 4-2. Potential Delhi Sands Flower-Loving Fly Habitat and Impacts Alternative 3 (Sheets 2A and 2B)





Figure 4-2. Potential Delhi Sands Flower-Loving Fly Habitat and Impacts Alternative 3 (Sheets 3A and 3B)

4.3.1.3 Avoidance and Minimization Efforts

TE-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and DSF suitable habitat that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

4.3.1.4 Compensatory Mitigation

- NC-2: Prior to the completion of construction, SANBAG's Resident Engineer will require the contractor to hydroseed all temporarily impacted vegetation communities with appropriate native plant species that are approved by the Caltrans District 8 Biologist. Plant species used in the seeding will be similar to what was present in each area prior to the impact.
- **TE-4:** Presence/absence surveys for the DSF will be conducted in areas identified by the 2014 habitat assessment as potentially suitable habitat during the 2015 and 2016 survey periods. Presence/absence surveys will conform with the latest USFWS guidelines for conducting these surveys, likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions. Once presence/absence surveys are completed in 2016, Caltrans will initiate formal consultation with USFWS if required for this species, along with impacts to SWWF and SAS CH, pursuant to FESA Section 7. If presence/absence surveys determine that DSF are present, mitigation credits will be purchased at a

minimum 1:1: ratio for all permanent impacts to occupied suitable DSF habitat. Potential regional DSF conservation programs that may be used for compensatory mitigation include the Reichel HCP, the Angelus Block Property, the Owl Company Property, the Laing Homes (King is Coming) Site, the Hospital Site, the Colton Substation Site, and/or the Vulcan Materials DSF Mitigation Bank. Concurrence by USFWS is required. Caltrans will not begin construction on the proposed project until a BO has been completed, which will require providing documentation to the satisfaction of USFWS regarding successful implementation and funding of the conservation strategy.

4.3.1.5 Cumulative Impacts

The proposed project would result in the permanent loss of Delhi Sands, and the proposed project would contribute to the cumulative regional loss of suitable DSF habitat; however, suitable habitat within the BSA is degraded and occurs in narrow bands between the freeway and the ROW line. These areas of suitable Delhi Sands are subjected to heavy surface disturbance as part of Caltrans maintenance of I-10. Although the Delhi Sands remain intact with minimal mixing with other soils, the surface plant communities are ruderal in nature and primarily consist of non-native grasses. The potential for these areas to support an existing or future viable DSF population is low.

4.3.2 Coastal California Gnatcatcher

The CAGN is a small member of the thrush family. CAGN typically occur in or near sage scrub habitat, which is a broad category of vegetation that includes the following plant communities as classified by Holland (1986): Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, RSS, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. CAGN CH has been redesignated and no longer occurs within the vicinity of the BSA.

4.3.2.1 Survey Results

No CAGN were observed within the BSA.

4.3.2.2 Project Impacts

Based on the negative survey results, no known occurrences of CAGN in the vicinity, and absence of CH, CAGN is not expected to occur within the project footprint. The proposed project would not result in direct effects to this species; however, as previously discussed, construction activities would involve impacts to RSS, the favored habitat for CAGN.

4.3.2.3 Avoidance and Minimization Efforts

Based on the absence of CAGN, no specific avoidance or minimization efforts are warranted for this species; however, there is some possibility that CAGN could move into the RSS habitat within the BSA in the future. General avoidance and minimization of impacts to RSS are discussed in Section 4.1.2 above. These measures would preserve RSS habitat to the maximum extent practicable within the BSA.

4.3.2.4 Compensatory Mitigation

No direct impact on the species is anticipated; therefore, no compensatory mitigation is required.

4.3.2.5 Cumulative Impacts

The species is not expected to occur within the project footprint, and the measures previously discussed would protect CAGN habitat. The proposed project would not contribute to cumulative effects on CAGN.

4.3.3 Least Bell's Vireo

LBV was listed as a State endangered species by the CDFW Commission in 1980, and as a federal endangered species in 1986 after it was determined that the species was reduced to only 300 pairs nationwide. CH for the species was designated in 1994. The following is an abbreviated species account by Kus (2002), Patten (1998), and Wilbur (1980).

LBV was historically common in lowland riparian habitats, ranging from southern California (San Diego County) to Red Bluff (Tehama County). Populations also occurred on both sides of the Sierra Nevada and Coast Ranges, in Owens and Death Valley, and the Mojave Desert. The species also had a wide elevation tolerance, from -175 feet in Death Valley to 4,100 feet at Bishop, in Inyo County.

LBV has become a rare species throughout most of its former range. Most of the population decline was due to habitat loss and also has been correlated with increased cowbird parasitism. Today, nesting LBV remain mainly in southern California, with a few outliers. Roughly half of the current population utilizes riparian habitat areas within Camp Pendleton Marine Corps Base in San Diego County, and they occur as far north as the Santa Clara River in Ventura County and as far east as the Mojave

River in San Bernardino County. In 1977, a nesting pair of LBV was reported near Gilroy in Santa Clara County.

LBV typically occupy riparian areas with low shrubs in the vicinity of water or in dry parts of washes and canyon bottoms containing willows, mule fat, and wild blackberry (*Rubus ursinus*). They have also been associated with valley oaks (*Quercus lobata*), wild grape (*Vitis californica*), poison oak (*Toxicodendron diversilobum*), and sumac (*Rhus* sp.) along margins of water courses. In desert areas, mesquite (*Prosopis* sp.) and arrowweed (*Pluchea sericea*) may be occupied. There have also been observations of LBV utilizing catclaw (*Acacia greggii*), tree tobacco (*Nicotiana glauca*), and, to a greatly reduced extent, tamarisk (*Tamarix* sp.) stands in Baja California and the Colorado River.

LBV are monogamous; however, they may also be serial monogamous by switching mates within the same season or between years. LBV may have as many as five broods per year, but typically have only one or two broods. Nest building begins in late March, but it may continue through the beginning of July. Males use perches high in the canopy, which are often exposed, as territorial singing perches and for courtship display. Male courtship displays include wing flicking and tail fanning, often accompanied by rapid calls. Their nests are frequently located at the edges of bushes or in branches projecting into open areas.

Clutch sizes are typically three to four eggs, and both birds share incubation duties during the day. Only the female does so at night. Incubation lasts approximately 14 days, with fledging occurring 10 to 12 days after hatching. Both parents feed the nestlings and may continue to care for fledged young for at least 2 weeks, unless the pair has a second brood, after which care for the fledglings is provided primarily by the male.

LBV are small insectivorous birds, preferring to forage by gleaning small insects from vegetation within a few feet of the ground under protective canopies of willows, cottonwoods, and other riparian shrubs and trees. Prey items include caterpillars, beetles, grasshoppers, and moths.

4.3.3.1 Survey Results

No LBV were observed within the BSA; however, adult and juvenile LBV were observed upstream of the study corridor within the Santa Ana River, approximately 1,000 feet from the current I-10 Corridor Project footprint.

4.3.3.2 **Project Impacts**

Based on the absence of suitable habitat within the BSA, LBV is not expected to occur within the project footprint. The proposed project would not result in direct effects to this species; however, as previously discussed, construction activities, some of which involve soil disturbance and grading, would occur within the Santa Ana River and other drainages within the BSA that drain to the Santa Ana River. If the proposed construction activities increase sedimentation within the Santa Ana River, they could affect LBV habitat; however, with implementation of the avoidance measures discussed in Section 4.1.1 above, no substantial direct effects on LBV or indirect effects on downstream LBV CH are expected to occur.

4.3.3.3 Avoidance and Minimization Efforts

Based on the absence of suitable habitat for LBV within the BSA, no specific avoidance or minimization efforts are warranted for this species; however, CH is located downstream in the Santa Ana River. All drainages within the project alignment drain into either the Santa Ana River or the Prado Basin, both of which support LBV habitat.

General stormwater BMPs and conservation measures would be implemented during project construction to avoid any potential for downstream sedimentation effects on LBV CH. The BMPs would be determined through development of a Stormwater Pollution Prevention Plan (SWPPP) during the project permitting process and construction phase.

In addition, the ESA established within the Santa Ana River and Warm Creek Channel would reduce potential impacts (WET-1).

4.3.3.4 Compensatory Mitigation

No direct impact on the species or downstream CH is anticipated; therefore, no compensatory mitigation is required.

4.3.3.5 Cumulative Impacts

The species is not expected to occur within the project footprint, and the measures previously discussed would protect downstream water quality and LBV CH. The proposed project would not contribute to cumulative effects on LBV.

4.3.4 Southwestern Willow Flycatcher

SWWF is a member of the *Tyrannidae* family. The following is an abbreviated species account (Sogge *et al*, 2010; NatureServe, 2007).

Only 10 populations of this species currently exist in southern California, of which 2 are considered to be stable with 15 breeding pairs or more, along the San Luis Rey River in northern San Diego County and the Santa Margarita River in southwestern Riverside and northern San Diego counties. The remaining 8 southern California populations consist of 6 or fewer nesting pairs. In 1987, it was estimated that there were fewer than 1,000 breeding pairs of SWWF nationwide, and by 1996, there were only 104 pairs recorded in California.

As a result of the extreme decline and precipitous condition of this species, SWWF was listed as federal endangered on February 27, 1995, and CH was designated for the species in 1997 and expanded in 2005 to include the study corridor along the Mojave River (USFWS, 2005). They are also State listed as endangered in California, New Mexico, and Arizona.

SWWF were once considered to be a common breeder in coastal southern California and fairly common in the Los Angeles basin and the inland valleys of Riverside, San Bernardino, and San Diego counties. It is now only documented in small, isolated nesting groups.

The SWWF breeding range includes southern California, southern Nevada, Arizona, New Mexico, and western Texas, and possibly southwestern Colorado. There have also been records of SWWF breeding in northern Baja California and Sonora, Mexico. SWWF rarely remain in the United States after mid-October, preferring instead to leave their breeding areas in southern California by late August to migrate and over-winter in Mexico, Central America, and northern South America.

SWWF declines have been attributed mainly to loss and degradation of essential riparian habitat due to grazing, flood control projects, urban developments, and other human-caused land use impacts. Like LBV, they have also been adversely affected by cowbird parasitism. SWWF brood parasitism rates vary, but the impacts are adverse. Between 50 to 80 percent of nests surveyed were found to be affected in California in 1990, and as much as 100 percent of nests were found to be parasitized during a 1993 Grand Canyon survey conducted by USFWS.

SWWF are riparian obligates, preferring habitat along watercourses with dense growths of willow, mule fat, arrowweed, buttonbush (*Cephalanthus* sp.), and other dense riparian thickets.

SWWF prefer nesting sites in proximity to surface water or saturated soil. Their nests are typically built in thickets, 13 to 23 feet or more in height, that are usually canopied by willows or cottonwoods.

Sometimes polygamous, SWWF typically brood only once per year between early June through the end of July, with the peak nesting time occurring in mid-June. In warmer regions, they may begin nesting as early as late May. Their clutch size is typically three to four eggs, with incubation conducted by the female and lasting from 12 to 15 days. Hatchlings are tended by both parents, and fledging typically occurs between 12 to 15 days afterward, but usually by mid-July.

SWWF forage within and above dense riparian vegetation where they live. They are insectivorous and occasionally opportunistic omnivores, eating mainly insects caught in flight and by gleaning insects, and sometimes berries, from foliage.

4.3.4.1 Survey Results

Two SWWF detections were made outside the study corridor (upstream farther in the Santa Ana River) in Period 1 during the first survey on May 31, 2013. Two SWWF were detected in Period 2 during the third survey on June 12, 2013, also outside of the study corridor upstream within the more mature riparian woodland areas. SWWF were not detected within the survey area during Period 3.

The two SWWF detections on May 31, 2013, occurred on the south side of the Santa Ana River at the eastern end of the survey area but outside of the study corridor. The first and easternmost SWWF was observed foraging from a branch in Fremont cottonwood forest. The bird was visually identifiable as an SWWF; however, it was nonvocal and did not respond to audio playback. The second detection occurred 10 minutes later, approximately 280 feet to the west. An SWWF gave a weak "fitz-bew" response to audio playback and may have been a second detection of the previously observed individual.

The two SWWF observed on June 12, 2013, were found on the north side of the Santa Ana River at the eastern end of the survey area. The first and westernmost SWWF was detected in Fremont cottonwood forest when it responded to audio playback with the characteristic "fitz-bew" song. The second SWWF was detected in black willow thickets approximately 300 feet northeast of the first and also responded to audio playback with the characteristic "fitz-bew" song.

4.3.4.2 **Project Impacts**

Based on the absence of suitable habitat within the BSA, and the survey results, SWWF is not expected to occur within the project footprint. The proposed project would not result in direct effects to this species; however, as previously discussed, construction activities would occur within the Santa Ana River and other drainages within the BSA that drain to the Santa Ana River. If the proposed construction activities increase sedimentation within the Santa Ana River, they could affect SWWF habitat; however, with implementation of the avoidance measures discussed in Section 4.1.1 above, no substantial direct effects on SWWF or indirect effects on downstream SWWF CH are expected to occur. Within Alternative 2, there is 0.33 acre of temporary impacts and no permanent impacts to mapped SWWF CH. Within Alternative 3, there is 0.59 acre of temporary impacts and no permanent impacts to mapped SWWF CH.

4.3.4.3 Avoidance and Minimization Efforts

TE-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and DSF suitable habitat that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

4.3.4.4 Compensatory Mitigation

Although SWWF CH is within the BSA, the PCEs for SWWF habitat are missing from the areas directly adjacent to I-10; therefore, no direct effects to SWWF or
adverse modification of PCEs are expected. Implementation of the measures described in Section 4.1.1, including designation of an ESA at the Santa Ana River, would result in avoidance of project effects on SWWF; therefore, no compensatory mitigation would be required.

4.3.4.5 Cumulative Impacts

The species is not expected to occur within the project footprint, and the measures previously discussed would protect downstream water quality and SWWF CH. The proposed project would not contribute to cumulative effects on the SWWF.

4.3.5 Yellow-Billed Cuckoo

The western YBC was given protection by the State of California as an endangered species on March 28, 1988, and was listed as a federal threatened species under FESA in November 2014.

This species has declined from a fairly common, local breeder in much of California 60 years ago, to virtual extirpation, with only a handful of tiny populations remaining in all of California today. In California, YBC once numbered more than 15,000 pairs, but the population has been reduced to approximately 30 pairs in less than 100 years due to the destruction of preferred riparian habitat and to pesticide use (Hughes, 1999).

In California, nesting activities usually occur from late June to late July; however, breeding may also occur as early as late May and as late as the end of August. YBC have been observed in California into mid-September. The species begins migrating in late August to the northwestern portion of South America.

Western YBC in California requires dense, wide riparian woodland with a welldeveloped understory for breeding (Garrett and Dunn, 1981). It occurs in densely foliaged, deciduous trees and shrubs, especially willows, which are required for roost and nest sites. It is restricted when breeding in river bottoms and other mesic habitats where humidity is high and where the dense understory abuts slow-moving watercourses, backwaters, or seeps (Zeiner, *et al.*, 1990). Willow is usually a dominant component of the vegetation.

4.3.5.1 Survey Results

No focused surveys for YBC were conducted within the BSA; however, surveys conducted for both LBV and SWWF were conducted within YBC habitat in the BSA,

and if YBC were present, they could have been detected during this survey work. None were observed during the surveys.

4.3.5.2 **Project Impacts**

Based on the absence of suitable habitat within the BSA, YBC is not expected to occur within the project footprint. The proposed project would not result in direct effects to this species; however, as previously discussed, construction activities, some of which involve soil disturbance and grading, would occur within the Santa Ana River and other drainages within the BSA that drain to the Santa Ana River. If the proposed construction activities increase sedimentation within the Santa Ana River, they could affect YBC habitat; however, with implementation of the avoidance measures discussed in Section 4.1.1 above for SWWF and LBV, no substantial direct effects on YBC are expected to occur.

4.3.5.3 Avoidance and Minimization Efforts

WET-1: During final design, SANBAG's Project Engineer will coordinate with the qualified biologist to delineate all ESAs within the project footprint and immediately surrounding areas in the project specifications. ESAs will include the Santa Ana River, Warm Creek Channel, and other Waters of the United States and Waters of the State that are not identified as temporarily or permanently impacted in the environmental document.

Prior to clearing vegetation or construction within or adjacent to ESAs, the contractor will install highly visible barriers (e.g., orange construction fencing) adjacent to the project footprint to designate ESAs to be preserved in place. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. A qualified biologist will supervise the placement of ESA fencing.

4.3.5.4 Compensatory Mitigation

YBC habitat is absent from the areas directly adjacent to I-10 and would not be affected by the project; therefore, no direct effects on YBC are expected.

Implementation of the measures described in Section 4.1.1, including designation of the ESA, is expected to avoid any potential for project effects on YBC. No compensatory mitigation is proposed for this species.

4.3.5.5 Cumulative Impacts

The species is not expected to occur within the project footprint, and the measures previously discussed would protect downstream water quality and YBC habitat. The proposed project would not contribute to cumulative effects on the YBC.

4.3.6 San Bernardino Kangaroo Rat

SBKR is a federally endangered subspecies of the Merriam's kangaroo rat (*Dipodomys merriami*). It is typically found in Riversidean alluvial fan sage scrub on sandy loam soils, alluvial fans, and floodplains, and along washes with nearby sage scrub (McKernan, 1997, as cited in USFWS, 1998b). Soil texture is a primary factor in the occurrence of this subspecies. Sandy loam substrates allow for the digging of simple, shallow burrows (McKernan, 1997, as cited by USFWS, 1998b). SBKR and other kangaroo rat species actively avoid rocky substrates (Brown and Harney, 1993).

The historic range for SBKR lies west of the desert divide of the San Jacinto and San Bernardino mountains and extends from the San Bernardino Valley in San Bernardino County to the Menifee Valley in Riverside County (Lidicker, 1960; Hall, 1981). SBKR currently occupy approximately 3,247 acres of suitable habitat in approximately seven general locations (USFWS, 1998b), including the Santa Ana River, Cajon Creek Wash, Lytle Creek Wash, City Creek, and upper Etiwanda Wash in San Bernardino County.

4.3.6.1 Survey Results

The Santa Ana River is the only area within the BSA with potential for SBKR. SBKR CH Unit 1 exists approximately 3.3 miles upstream from the BSA. The 2008 Final Critical Habitat Designation (USFWS, 2008) indicates "habitat downstream of the Tippecanoe Avenue Bridge is heavily channelized with steep banks inhibiting the use of upland habitat." In addition, it indicates that there is no data available indicating that the area downstream of the Tippecanoe Avenue Bridge is occupied.

The portion of the BSA within and adjacent to the Santa Ana River is a concrete-lined channel or adjacent upland areas outside the levees. The concrete-lined channel extends for approximately 2,250 feet south of the BSA and 300 feet to the north of the BSA. No suitable habitat occurs within the BSA, and no focused surveys were completed for the SBKR.

4.3.6.2 **Project Impacts**

The BSA within the Santa Ana River consists of a concrete channel with steep concrete sidewalls and a heavily disturbed upland area proposed as a CSA. There are no areas within the BSA with the potential to support SBKR. No suitable habitat exists within the BSA, and no impacts on SBKR are anticipated.

4.3.6.3 Avoidance and Minimization Efforts

Incorporation of the ESA previously discussed for riparian bird species (NC-1) would limit construction activities within the BSA to the concrete-lined portion of the channel. This measure would ensure that no natural habitat that could support SBKR would be affected by the project.

4.3.6.4 Compensatory Mitigation

No effects on the species are expected, and no compensatory mitigation is proposed.

4.3.6.5 Cumulative Impacts

There is no suitable habitat for the species, and the species is not expected to occur within the project footprint. The proposed project would not contribute to cumulative effects on the SBKR.

4.3.7 Santa Ana Sucker

SAS generally lives in small, shallow streams, less than 23 feet in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. They are found in permanent streams in water ranging in depth from a few inches to 3 feet or more. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae (Smith, 1966; Moyle, 1976), but occasionally they are found on sand/mud substrates (Moyle *et al.*, 1995). It appears to be most abundant where the water is cool, clean, and clear, although the species can tolerate seasonally turbid water.

Streams in which the species is found are subject to periodic, severe flooding, resulting in drastic decreases in SAS population densities. California streams have strong seasonal patterns of flow (i.e., low flows during rainless summers and high flows during winter and spring from rainfall and snowmelt).

The native range of the SAS is southern California, including the San Gabriel (i.e., east, north, and west forks), Los Angeles, and Santa Ana river drainages (Smith, 1966; Page and Burr, 1991). Historically, SAS occurred from near the Pacific Ocean to its current locations. In the last 50 years, it has dramatically declined, and it is now

restricted to the headwaters of the San Gabriel River System, Big Tujunga Creek in the Los Angeles River basin, and portions of the Santa Ana River that are perennial.

4.3.7.1 Survey Results

Approximately 5.5 acres of the BSA are located within CH Unit 1, Subunit 1B. According to the 2010 final rule designating CH for SAS, PCEs for SAS include:

- 1. A functioning hydrological system within the historical geographic range of SAS that experiences peaks and ebbs in the water volume (either naturally or regulated) that encompasses areas that provide or contain sources of water and coarse sediment necessary to maintain all life stages of the species, including adults, juveniles, larvae, and eggs, in the riverine environment;
- 2. Stream channel substrate consisting of a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins necessary to maintain various life stages of the species, including adults, juveniles, larvae, and eggs, in the riverine environment;
- 3. Water depths greater than 1.2 inches and bottom water velocities greater than 0.01 foot per second;
- 4. Clear or only occasionally turbid water;
- 5. Water temperatures less than 86 °F;
- 6. Instream habitat that includes food sources (e.g., zooplankton, phytoplankton, and aquatic invertebrates), and associated vegetation such as aquatic emergent vegetation and adjacent riparian vegetation to provide: (a) Shading to reduce water temperature when ambient temperatures are high, (b) shelter during periods of high water velocity, and (c) protective cover from predators; and
- 7. Areas within perennial stream courses that may be periodically dewatered, but that serve as connective corridors between occupied or seasonally occupied habitat and through which the species may move when the habitat is wetted.

Although the BSA is within CH, it is not considered occupied due to a steep concrete revetment/drop structure at the La Cadena Drive Bridge, which serves as a physical barrier to SAS upstream dispersal at La Cadena Drive. The nearest CNDDB occurrence for the species is approximately 3 river miles downstream from the BSA. Because there is no suitable habitat for SAS within the BSA, and it is considered by federal agencies to be unoccupied, no focused surveys for this species were completed.

4.3.7.2 **Project Impacts**

No direct impacts to SAS are anticipated due to the project because the Santa Ana River within the BSA is considered to be unoccupied. Within Alternative 2, there is 0.39 acre of temporary impacts and less than 0.01 acre of permanent impacts to mapped SAS CH. Within Alternative 3, there are 0.59 acre of temporary impacts and less than 0.01 acre of permanent impacts to mapped SAS CH.

4.3.7.3 Avoidance and Minimization Efforts

SAS is expected to be absent from the project footprint. Incorporation of the ESA previously discussed for riparian bird species (NC-1) would limit construction activities within the BSA to the concrete-lined portion of the channel. This measure would ensure that no natural habitat that could support SAS would be affected by the project.

4.3.7.4 Compensatory Mitigation

No effects on the species are expected; therefore, no compensatory mitigation is proposed.

4.3.7.5 Cumulative Impacts

The species is not expected to occur within the project footprint, and the measures previously discussed would protect downstream water quality. The proposed project would not contribute to cumulative effects on SAS.

4.3.8 Other Sensitive Animal Species

Other special-status species include all other wildlife of species of special interest at the State and federal levels. Table 3-2 identifies all other special-status wildlife species with the potential to occur within the BSA. The BSA is highly disturbed, directly adjacent to I-10 and urbanized areas, and provides limited habitat for special-status wildlife species.

4.3.8.1 Survey Results

All wildlife species observed during the surveys discussed in Section 2.2 were noted and are included in the fauna compendium in Appendix B. Based on the habitat types and quality within the BSA, the following species are not likely to occur within the BSA: tricolored blackbird, California horned lark, loggerhead shrike, northern reddiamond rattlesnake, pocketed free-tailed bat, and American badger. There is a low potential to occur within the BSA for yellow-breasted chat, Cooper's hawk, yellow warbler, silvery legless lizard, orange-throated whiptail, coast (San Diego) horned lizard, and western mastiff bat. There is a moderate potential for BUOW, pallid bat, northwestern San Diego pocket mouse, and western yellow bat to occur within the BSA.

Areas with the highest potential for other special-status species include the undeveloped proposed CSAs, undeveloped areas within and adjacent to Etiwanda Creek, within bridges, and in trees and shrubs within the BSA. Although not specifically listed in Table 3-2 or observed during surveys, common raptors and other nesting birds protected by the MBTA have a high potential to occur within shrubs and trees within the BSA; however, no nests were observed within vegetation during biological studies. Based on recent surveys completed for a Caltrans project in March 2009 (EA 0J8800), which includes various improvements on bridges along I-10, swallow nests and bat guano were observed on and beneath the Warm Creek Channel and Santa Ana River bridges. No BUOW or sign of BUOW were observed within Caltrans ROW or TCEs. Proposed CSAs were surveyed from public ROWs as permitted; however, no pedestrian surveys of these areas were completed. No focused surveys for other special-status wildlife species were completed for the proposed project.

4.3.8.2 **Project Impacts**

Unless otherwise discussed in this NES, precluded by Caltrans policy, or constrained by the plans and specifications or through the designation of ESAs, all areas within the BSA would be available for the contractor's use and may be temporarily affected through construction disturbance or permanently lost due to improvements for the proposed project. The contractor is responsible for compliance with all environmental laws for use of CSAs not currently included within the BSA or not included for consideration and analysis in future revalidations of the project's environmental document and associated technical studies.

Direct impacts to wildlife would include temporary and permanent loss of habitat, including trees and shrubs used for nesting and burrows used by ground-dwelling mammals and reptiles. Species that are relatively mobile (e.g., birds and many small mammals and reptiles) would likely disperse into nearby areas. Some mortality of less mobile and burrowing species may occur.

Temporary impacts would be limited to the construction period and include increased noise levels and increased human disturbance. Construction noise may adversely affect nesting birds, particularly if construction and vegetation clearing begins after the onset of the nesting season; however, all vegetation clearing and nest removal would be completed in accordance with the measures previously discussed, and no substantial temporary effects on nesting birds are anticipated.

Indirect effects on wildlife beyond the BSA could result from impacts to water quality during construction; however, these impacts would be avoided and minimized through implementation of BMPs in accordance with the SWPPP. The SWPPP and anticipated treatment BMPs are designed to minimize impacts on water quality and accommodate and treat runoff from the road surface. Incorporation of BMPs into all phases of the project in accordance with Caltrans policy would ensure no substantial adverse effects on wildlife associated with construction or operational effects on water quality. With implementation of BMPs in accordance with Caltrans policy, no substantial adverse indirect impacts to wildlife beyond the BSA are expected as a result of the project. Additional common indirect effects associated with construction include noise and glare, invasive species, increased dust generation, mortality of displaced wildlife, and increased potential for soil erosion, siltation, and runoff.

Nesting Birds and Swallows

Raptors and migratory birds potentially using shrubs within the BSA could be affected by their removal and/or proximity to construction activities. In particular, construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestlings. Additionally, swallows are known to exist on the Warm Creek Channel and Santa Ana River bridges. Project impacts to nesting birds are primarily limited to the removal of trees and shrubs within the BSA and exclusion of swallows from prior nesting locations. No raptor nests or other nests in trees or shrubs were observed during biological surveys, indicating that these resources may be less suitable for nesting than other resources located outside the BSA and farther away from I-10. Permanent impacts to raptors and common bird species include loss of nesting trees and shrubs. Project effects would be offset through replacement landscaping and trees within the BSA, where feasible. Permanent impacts from loss of vegetation communities are limited to primarily ruderal and ruderal/ornamental species that do not provide any substantial value as wildlife habitat. Other than loss of vegetation, no other permanent effects on wildlife are expected.

Temporary effects on swallows would occur during exclusion activities. Depending on the timing of construction, swallow exclusion would not likely be required for more than two nesting seasons. In addition to project effects on general shrubs and vegetation within the BSA, the proposed project would require removal of large eucalyptus trees adjacent to I-10. These trees harbor a higher potential to support nesting bird species due to their age and size.

Based on the current project design, approximately 557 eucalyptus trees adjacent to the BSA would be removed and 682 trees would be protected from damage in place during construction.

Burrowing Owls

No BUOW were observed within the study area during the general biological surveys, but a BUOW habitat assessment was completed during 2013. Mapping depicted in this report shows BUOW habitat with the impact mapping for Alternative 3 overlain (Figure 4-3). Alternative 3 depicts the largest impact area of the two potential alternatives.

Under Alternative 2, there would be 11.68 acres of permanent impact and 309.84 acres of temporary impact to potential BUOW habitat. Under Alternative 3, there would be 39.43 acres of permanent impact and 312.47 acres of temporary impact to potential BUOW habitat. Most areas with suitable habitat are distant from the I-10 corridor and would not likely be affected by the proposed highway improvements. Some areas, however, might be located within proposed CSAs. The proposed CSAs have a moderate potential to support BUOW.

The proposed CSAs are the most likely areas for BUOW to occur at this time. By the time construction begins on this project, the proposed CSA may be changed from how it is currently assessed. The areas may be unusable due to being developed, or the contractor may choose to use alternative sites as CSAs. Preconstruction BUOW surveys, avoidance, and passive and/or active relocation would be completed in accordance with the measures previously discussed prior to ground disturbance or site preparation within the approved CSAs where habitat is present. If a new CSA is proposed, then a new BUOW habitat assessment should be conducted within that CSA prior to construction.

With implementation of the proposed measures, no substantial effects on BUOWs are anticipated.

Bats

Habitat assessments for bats will include assessment of crevices in bridge joints, abandoned structures, cracks, and culverts, with a focus on bridges over water, including the Santa Ana River, following guidelines of the *Level 1 Habitat Potential Screening of Bats and Bridges Technical Bulletin: Hitch Hikers Guide to Bat Roosts.* Further evaluation will occur at locations with the presence of bat indicators (i.e., guano, staining) if identified during the initial assessment.

It is known that bats currently use the Warm Creek Channel and Santa Ana River bridges and are likely present in other bridges that span surface water (i.e., San Sevaine Channel, Etiwanda Wash, Rialto Channel, Warm Creek Channel, Mission Channel, San Timoteo Creek, and Zanja Creek). Alternative 3 would require widening all bridges except for Mission Channel, San Timoteo Creek, and Zanja Creek. Alternative 2 is smaller and would require widening fewer bridges within the BSA; therefore, fewer permanent impacts to bats are anticipated under Alternative 2. The proposed widening of bridges to accommodate the additional eastbound and westbound lanes could result in increased bat mortality if they are not excluded from the structures prior to the bridge widening activities. As specified in Measure AS-5, if the project's bat surveys identify roosts, bat exclusion would be conducted.

Temporary effects on bats include excluding them from familiar roosting areas, noise, vibration, and increased lighting. Human disturbance can also lead to a change in humidity, temperatures, or the approach to a roost that could force the animals to change their mode of egress and/or ingress to a roost. In addition, construction activities may result in a shift in foraging locations and behaviors for bats that occur near the project.

Depending on the timing of the construction, bridge construction activities are not expected to require exclusion efforts for more than 1 year and a maximum of 2 years. With implementation of the bridge survey and exclusion measures, as discussed below in Measures AS-4, AS-5, and AS-6, no substantial project effects on bats are anticipated.



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 1A and 1B)



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 2A and 2B)



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 3A and 3B)





Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 4A and 4B)





Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 5A and 5B)

Z Temporary

Potential Burrowing Owl Habitat N Permanent

Feet





CC Temporary

Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 6A and 6B)



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 7A and 7B)





Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 8A and 8B)



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 9A and 9B)



Figure 4-3. Potential Burrowing Owl Habitat and Impacts Alternative 3 (Sheets 10A and 10B)

4.3.8.3 Avoidance and Minimization Efforts Nesting Birds and Swallow Species

AS-1: To avoid effects to nesting birds, SANBAG's Resident Engineer will require the contractor to conduct any native or exotic vegetation removal or tree trimming activities outside of the nesting bird season (i.e., February 15 through August 31). If vegetation clearing or the start of construction in a previously undisturbed area is necessary during the nesting season, SANBAG's Resident Engineer will require the contractor to have a qualified biologist conduct a preconstruction survey within 300 feet of construction areas no more than 30 days prior to construction at the location to identify the locations of nests (if any). A qualified biologist is one that has previously surveyed for nesting bird species within southern California. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist around each nest site. The buffer will be clearly marked in the field by construction personnel under guidance of the contractor's qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

The qualified biologist will monitor the nests on a weekly basis to ensure that construction activities do not disturb or disrupt nesting activities. If the qualified biologist determines that construction activities are disturbing or disrupting nesting activities, then the biologist will notify the Resident Engineer, who has the authority to stop or modify construction to reduce the noise and/or disturbance to the nests. Responses may include, but are not limited to, increasing the size of the exclusionary buffer, curtailing nearby work activities, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest and the construction activities, and/or working in other areas until the young have fledged. If more than 30 days lapses between the preconstruction survey and construction start date at that location, the survey will be reconducted.

AS-2: Because work may occur during the swallow/swift nesting season (March 1 through August 31) swallows will be excluded from structures, if necessary, by a qualified biologist during the nonbreeding season immediately prior to the start of construction. Exclusion structures (e.g., netting and weep hole plugs) will be left in place and maintained through

August 31 of each breeding season or until the work is complete. All nest exclusion techniques will be coordinated among the Caltrans District 8 Biologist, SANBAG's Project Manager, SANBAG's Resident Engineer, the contractor, and CDFW.

Burrowing Owls

AS-3: Although current known areas of BUOW habitat have been mapped as part of this study, land development or other factors could modify the distribution of habitat within the study corridor. During final design, SANBAG's Project Engineer will coordinate with the Designated Qualified Biologist to reassess potential BUOW habitat within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.

To ensure that any BUOW that may occupy the site in the future are not affected by construction activities, SANBAG's Resident Engineer will require the contractor to have preconstruction BUOW surveys conducted by a qualified biologist within 30 days prior to any phase of construction in the areas identified as potential BUOW habitat in the project specifications. These preconstruction surveys are also required to comply with the federal MBTA and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, SANBAG's Resident Engineer will contact CDFW to identify appropriate avoidance and minimization measures, such as establishing an avoidance buffer and/or work in the vicinity with a biological monitor on hand. SANBAG's Resident Engineer will ensure that any BUOW measures determined to be required based on the results of the preconstruction surveys and the required coordination described above are properly implemented by the contractor prior to and during construction in areas occupied by BUOW, as identified in the preconstruction surveys.

Bats

AS-4: **Bat Surveys.** During final design, SANBAG's Project Manager will coordinate with the designated qualified biologist to identify all areas of potential bat habitat within and immediately adjacent to the project footprint and will designate those areas on the project specifications, including, but not limited to, the following assessment features: bridge

type, geographic region, and potential deterrents. Structures currently considered to contain potential bat habitat include bridges that span surface water within the vicinity including, but not limited to, the Warm Creek Channel, Santa Ana River, San Sevaine Channel, Etiwanda Wash, Rialto Channel, Mission Channel, San Timoteo Creek, and Zanja Creek. Ornamental trees that will be impacted where roosting may occur will also be included in the bat surveys.

Prior to construction at structures with potential bat habitat as identified in the project specifications, SANBAG's Project Manager will require the contractor to have a qualified bat biologist conduct a series of surveys of all potential bat habitat areas within the project impact areas. Surveys will occur during the bat breeding season (preferably May or June) immediately preceding the start of construction, to assess the potential for the presence of roosts. The qualified bat biologist must have previously conducted bat surveys for the bat species most likely to be present within the study corridor. Bat surveys may be conducted acoustically, using an acoustic bat-call detector such as an Anabat device, or may be conducted visually by inspection of suspected bat roost areas.

The qualified bat biologist will also perform preconstruction surveys at structures and ornamental trees potentially containing bats because bat roosts can change seasonally. The surveys will include structure inspection, sampling, exit counts, and acoustic surveys.

AS-5: Bat Exclusion. If bat roosts are found, a qualified bat biologist will be onsite for the duration of construction activities that may impact bats. If it is determined that the roosts are present and, based on consultation with CDFW, exclusion is warranted, bats will be excluded from the bridge using CDFW-approved exclusionary devices to the extent necessary to prevent mortality to the colony. Exclusion will take place prior to April 15. Caltrans will confer with CDFW to identify and implement appropriate avoidance and minimization efforts that are satisfactory to CDFW. Examples of exclusion devices are provided in Figures 4-4, 4-5, and 4-6.



Figure 4-4. Exclusion Example for Small Openings¹



Figure 4-5. Mesh Bat Exclusion Method

¹ Figure by: <u>http://www.batcon.org/discover/unguest.html</u>.



Figure 4-6. Collapsible One-Way Tubes²

AS-6: Bat Replacement Roosting Structures. If bat exclusion is conducted, replacement roosting habitat may also be required by CDFW to offset and minimize impacts to excluded bats in the project's Lake and Streambed Alteration Agreement. Replacement roosts will be built according to bat house standards (e.g., those endorsed by Bat Conservation International and will be placed within close proximity to impact areas. Bat houses must be constructed, painted, and placed carefully in specific locations based on the aspect of a given site, the expected temperatures within the bat house location, and the exposure to weather elements. All bat exclusion techniques and replacement roosting habitat will be coordinated among the Caltrans District 8 Biologist, SANBAG's Project Manager, SANBAG's Resident Engineer, the contractor, the contractor's Designated Qualified Bat Biologist, and CDFW. Replacement roosting habitat will adhere to guidance provided in the Bat and Bridges Technical Bulletin: Hitch Hikers Guide to Bat Roosts (September 2002).

4.3.8.4 Compensatory Mitigation

Due to the relatively low level of sensitivity of the other sensitive species that could occur within the study corridor, no compensatory measures are proposed.

² Figure by: <u>http://batcon.org/discover/unguest.html</u>

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4.3.8.5 Cumulative Impacts

With incorporation of the avoidance and minimization measures previously discussed, no substantial cumulative effects on other special-status species are expected.
Chapter 5 Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

The species list for this project was requested in November 2014 and received in January 2015 (Appendix A).

CH for two species, SWWF and SAS, would be impacted by construction of the proposed project. No suitable habitat or PCEs exist for either the SWWF or SAS within these CH areas, which are located in the concrete-lined Santa Ana River. Therefore, although CH exists for these species within project impact areas, the species are not likely to occur, and no impacts to these species are anticipated.

In addition, one federally listed species, DSF, was determined to have a moderate potential to occur within the BSA. Alternative 2 would result in 2.13 acres of permanent effects to potentially suitable DSF habitat. Alternative 3 would result in 9.70 acres of permanent effects to potentially suitable DSF habitat. Presence/absence surveys for the DSF will be conducted in areas identified by the 2014 habitat assessment as suitable habitat during the 2015 and 2016 survey periods. Presence/absence surveys will conform with the latest USFWS guidelines for conducting these surveys, which are likely to include surveys two times per week from July 1 to September 20 for 2 consecutive years under suitable conditions. Once presence/absence surveys are completed in 2016, Caltrans will prepare a Draft BA and initiate formal consultation with USFWS pursuant to FESA Section 7 so that USFWS can issue a Biological Opinion.

5.2 Essential Fish Habitat Consultation Summary

No federal fisheries or essential fish habitat resources are present within the proposed BSA, and no consultation with National Marine Fisheries Service is required.

5.3 California Endangered Species Act Consultation Summary

No species listed pursuant to the CESA occur within or adjacent to the BSA, and no impacts on State-listed species are expected.

5.4 Wetlands and Other Waters Coordination Summary

In 2013, ECORP conducted a delineation of jurisdictional waters and wetlands along the 33-mile-long BSA. During the jurisdictional delineation, several drainage features, including potential wetlands, were identified within the project study area. The Jurisdictional Delineation Assessment Report is provided in Appendix E.

The JD was reviewed by the San Bernardino Associated Governments (SANBAG) and Caltrans, and it was submitted to USACE along with a request for a mixed Approved Jurisdictional Delineation (AJD) and Preliminary Jurisdictional Delineation (PJD) for the project in March 2014. In June 2015, USACE staff provided the project with a formal response, which included guidance regarding the suggested jurisdictional status of features within the BSA. Furthermore, USACE suggested that a PJD be submitted for the project, as opposed to the mixed AJD PJD approach that was used in March 2014. Based on this coordination, Caltrans will submit an updated PJD request to USACE.

The final determination of the limits of the jurisdictional areas within the BSA and whether mitigation will be required for such impacts is ultimately subject to the discretion of the agencies (i.e., CDFW, USACE, and RWQCB) during the federal and State regulatory permitting processes. As previously discussed in Sections 4.1.3 and 4.1.4, impacts to jurisdictional areas would occur during construction of the proposed project. Before construction for the proposed project begins, the following permits must be obtained or determined not applicable by Caltrans through additional coordination with the applicable federal and State resource agencies: Section 404 NWP 14 authorization from USACE (Linear Transportation Projects), Section 401 Water Quality Certification from RWQCB, and Section 1602 Streambed Alteration Agreement from CDFW. Measures to address unavoidable impacts will be negotiated with resource agencies and incorporated into the environmental commitments record for the project before construction begins.

5.5 Invasive Species

Invasive, exotic plant species exist within the BSA. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border the ornamental landscape. In the past, these areas within the BSA supported native plant communities. Consequently, some native plants are often found intermixed with exotic species within the BSA.

Twelve (12) exotic plants on Cal-IPC's California Invasive Plant Inventory were identified. Of these species, 2 have an overall high rating, 5 have a moderate rating, and 5 have a limited rating. Invasive species that have severe ecological impacts are given a high rating. Within the BSA, species with a high rating are hottentot fig (ice plant) and red brome. These observations should not be considered all-inclusive.

In compliance with EO 13112, and subsequent guidance from FHWA, the landscaping and erosion control included in the project will not include species listed on either the federal or State of California Noxious Weed List. In areas of particular sensitivity (i.e., near or adjacent to drainages) extra precautions would be taken if invasive species are found in or adjacent to these areas. This would include the inspection and cleaning of construction equipment and eradication strategies, as required by the Caltrans Biological Monitor, to be implemented by the contractor should an invasion occur. Any cleaning of equipment or site watering will be conducted in adherence to any applicable drought conditions and related regulations.

Although not listed on the federal or State of California Noxious Weed List, ice plant has a high rating from Cal-IPC in coastal areas, specifically beach dunes. This is a durable plant commonly used along freeways for erosion control. To minimize any potential for spread and establishment in sensitive areas adjacent to watercourses, any areas on landscaping plans that propose the use of ice plant must be approved by the Caltrans biologist in coordination with the District Landscape Architect.

As discussed in Chapter 3, no substantial populations of invasive wildlife have been documented in the BSA. House sparrows, rock pigeons, and European starlings, as well as Virginia opossums and feral dogs and cats, are known to occur and are common in urban areas throughout southern California. Eradication of these species within the BSA would have no effect on the local or regional populations. No measures for invasive wildlife are required for the proposed project.

5.6 Other

5.6.1 Migratory Bird Treaty Act

Native bird species and their nests are protected under the MBTA (16 United States Code [U.S.C.] 703- 712). The MBTA states that all migratory birds and their parts, including eggs, nests, and feathers, are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit.

EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs federal agencies "taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement a Memorandum of Understanding with the Fish and Wildlife Service that promotes the conservation of migratory bird populations." In accordance with EO 13186 and the provisions of the MBTA, the measures described in Section 4.3.8.3 would be applied for this project.

5.6.2 Wild and Scenic Rivers

There are no designated wild and scenic rivers within the BSA.

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Appendix A USFWS Species List

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United States Department of the Interior

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Consultation Code: 08ECAR00-2015-SLI-0128 Event Code: 08ECAR00-2015-E-00289 Project Name: Interstate 10 Corridor Project

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January 08, 2015

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project

Attachment

that you submit to our office.



United States Department of Interior Fish and Wildlife Service Project name: Interstate 10 Corridor Project

Official Species List

Provided by:

Carlsbad Fish and Wildlife Office 2177 SALK AVENUE - SUITE 250 CARLSBAD, CA 92008 (760) 431-9440_ http://www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2015-SLI-0128 Event Code: 08ECAR00-2015-E-00289

Project Type: Highway Safety and Maintenance

Project Name: Interstate 10 Corridor Project

Project Description: The California Department of Transportation, in cooperation with the San Bernardino Associated Governments, proposes to add lane(s) and provide additional improvements on Interstate 10 for an approximate 37-mile study corridor that spans both Los Angeles and San Bernardino Counties.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



Project Location Map:



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Project Coordinates: MULTIPOLYGON (((-117.7359454 34.1245624, -117.5767131 34.1113522, -117.5217472 34.1043877, -117.4916378 34.1021703, -117.1107596 34.0971376, - 117.1093177 34.0141946, -117.5279613 34.0315814, -117.7229226 34.0357907, -117.7359454 34.1245624)))

Project Counties: Los Angeles, CA | Riverside, CA | San Bernardino, CA



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Endangered Species Act Species List

There are a total of 13 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the Has Critical Habitat column may or may not lie within your project area. See the Critical habitats within your project area section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
arroyo toad (Anaxyrus californicus) Population: Entire	Endangered	Final designated	
Mountain Yellow-Legged frog (Rana muscosa) Population: southern California DPS	Endangered	Final designated	
Birds			
Coastal California gnatcatcher (Polioptila californica californica) Population: Entire	Threatened	Final designated	
Least Bell's vireo (Vi <i>reo bellii pusillus</i>) Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher (Empidonax traillii extimus) Population: Entire	Endangered	Final designated	
Fishes			
Santa Ana sucker (Catostomus santaanae)	Threatened	Final designated	



United States Department of Interior Fish and Wildlife Service

Project name: Interstate 10 Corridor Project

Population: 3 CA river basins			
Flowering Plants			
Gambel's watercress (Rorippa gambellii)	Endangered		
Nevin's barberry (Berberis nevinii)	Endangered	Final designated	
Santa Ana River woolly-star (Eriastnum denstfolium ssp. sanctorum)	Endangered		
Slender-Horned spineflower (Dodecahema leptoceras)	Endangered		
Insects			
Delhi Sands flower-loving fly (Rhaphiomidas terminatus abdominalis) Population: Entire	Endangered		
Mammals			
San Bernardino Merriam's kangaroo rat (Dipodomys merriami parvus) Population: Entire	Endangered	Final designated	
Stephens' kangaroo rat (Dipodomys stephensi) Population: Entire	Endangered		

http://ecos.fws.gov/ipac, 01/08/2015 02:32 PM 4



Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Birds	Critical Habitat Type	
Coastal California gnatcatcher (Polioptila californica californica) Population: Entire	Final designated	
Southwestern Willow flycatcher (Empidonax traillii extimus) Population: Entire	Final designated	
Fishes		
Santa Ana sucker (Catostomus santaanae) Population: 3 CA river basins	Final designated	
Mammals		
San Bernardino Merriam's kangaroo rat (Dipodomys merriami parvus) Population: Entire	Final designated	

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Appendix B Flora and Fauna Species Compendium

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Flora Compendium

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Scientific Name	Common Name	
ANGIOSPERMS (DICOTYLEDONS)		
ANACARDIACEAE	SUMAC OR CASHEW FAMILY	
Schinus terebinthfolius*	Brazilian pepper tree	
APIACEAE	CARROT FAMILY	
Apiastrum angustifolium	wild parsley	
ASTERACEAE	SUNFLOWER FAMILY	
Ambrosia artemisiifolia	annual ragweed	
Artemisia californica	coastal sagebrush	
Artemisia douglasiana	mugwort	
Artemisia dracunculus	tarragon	
Baccharis salicifolia	mule fat	
Carduus pychocephalus*	Italian thistle	
Centaurea melitensis*	tocalote	
Conyza canadensis	common horseweed	
Encelia californica	California brittlebush	
Encelia farinosa	brittlebush	
Erigeron sp.	buckwheat	
Gazania linearis*	gazania	
Hedypnois cretica*	Crete weed	
Helianthus annuus	common sunflower	
Heterotheca grandiflora	telegraph weed	
Lactuca serriola*	prickly lettuce	
Lepidospartum squamatum	scalebroom	
Logfia gallica* (=Filago g.)	narrowleaf cottonrose	
Pseudognaphalium canescens	fragrant everlasting	
Senecio vulgaris*	common groundsel	
Sonchus asper*	spiny sowthistle	
Verbesina encelioides*	golden crownbeard	
Xanthium strumarium	cocklebur	
BORAGINACEAE	BORAGE FAMILY	
Amsinckia menziesii var. intermedia	common fiddleneck	
<i>Cryptantha</i> sp.	cryptantha	
BRASSICACEAE	MUSTARD FAMILY	
Brassica nigra*	black mustard	
Cardamine oligosperma	bitter cress	
Lepidum didymum*	lesser swine cress	
Lepidium virginicum	Virginia pepperweed	
Raphanus sativus*	wild radish	
CACTACEAE	CACTUS FAMILY	
Cylindropuntia echinocarpa (=Opuntia e.)	golden cholla	

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<i>Opuntia basilaris</i> var. <i>basilaris</i>	beavertail cactus
CARYOPHYLLACEAE	PINK FAMILY
Spergularia bocconi*	Boccone's sand spurry
CHENOPODIACEAE	GOOSEFOOT FAMILY
Chenopodium californicum	California goosefoot
Salsola tragus*	tumbleweed
CONVOLVULACEAE	MORNING GLORY FAMILY
Calystegia macrostegia	island morning glory
CURCURBITACEAE	GOURD FAMILY
Marah macrocarpus	Cucamonga manroot
CUSCUTACEAE	DODDER FAMILY
<i>Cuscuta</i> sp.	dodder
EUPHORBIACEAE	SPURGE FAMILY
Chamaesyce albomarginata	rattlesnake weed
Croton californicus	croton
Croton setigerus (=Eremocarpus s.)	doveweed
Ricinus communis*	castor bean
FABACEAE	LEGUME FAMILY
Acmispon americanus (= Lotus purshianus)	Spanish lotus
Acmispon glaber (= Lotus s.)	common deerweed
Lupinus bicolor	miniature lupine
Medicago polymorpha*	burclover
Melilotus indicus*	annual yellow sweetclover
Parkinsonia aculeata*	Mexican palo verde
FAGACEAE	OAK FAMILY
Quercus agrifolia	California live oak
GERANIACEAE	GERANIUM FAMILY
Erodium botyrs*	long beak stork's bill
Erodium cicutarium*	red-stemmed filaree
JUGLANDACEAE	WALNUT FAMILY
Juglans californica (List 4.2)	Southern California walnut
LAMIACEAE	MINT FAMILY
Marrubium vulgare*	horehound
Rosmarinus officinalis*	rosemary
Salvia columbariae	chia
LYTHRACEAE	LOOSESTRIFE FAMILY
Lythrum hyssopifolia*	grass-poly
MALVACEAE	MALLOW FAMILY
Malva parviflora*	cheeseweed
MYRTACEAE	MYRTLE FAMILY
Eucalyptus globulus*	blue gum
ONAGRACEAE	EVENING PRIMROSE FAMILY
Camissoniopsis bisorta (= Camissonia)	California sun cup

Camissonia californica	California evening primrose
PAPAVERACEAE	POPPY FAMILY
Eschscholzia californica	California poppy
PLANTAGINACEAE	PLANTAIN FAMILY
Plantago lanceolata*	English plantain
PLATANACEAE	PLANE TREE FAMILY
Platanus racemosa	western sycamore
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum</i> sp.	annual buckwheat
Eriogonum fasciculatum	California buckwheat
Persicaria lapathifolia (= P. lapathofolium)	common knotweed
<i>Polygonum aviculare ssp. depressum</i> (= <i>P. arenastrum</i>)* <i>Rumex</i> sp.	prostrate knotweed dock
	PURSI ANF FAMTI Y
Portulaca oleracea*	common purslane
PRIMULACEAE	PRIMROSE FAMILY
Anagallis arvensis*	scarlet pimpernel
Populus fremontii	Fremont cottonwood
Salix exigua	narrowleaf willow
Salix gooddingii	Goodding's willow
Salix lasiolepis	arroyo willow
SCROPHULARIACEAE	FIGWORT FAMILY
Mimulus guttatus	common monkeyflower
Veronica anagallis-aquatica*	water speedwell
SIMAROUBACEAE	QUASSIA FAMILY
Ailanthus altissima*	tree of heaven
SOLANACEAE	NIGHTSHADE FAMILY
Datura wrightii	jimson weed
Nicotiana glauca*	tree tobacco
Solanum americanum	American black nightshade
TAMARICACEAE	TAMARISK FAMILY
Tamarix ramosissima*	saltcedar
Verbena bonariensis*	purple top vervain
Verbina pulchella*	South american mock vervain
VITACEAE	GRAPE FAMILY
Vitis vinifera*	cultivated grape
ZYGOPHYLLACEAE	CALTROP FAMILY
Tribulus terrestris*	puncture vine
ANGIOSPERMS (I	MONOCOTYLEDONS)
ARECACEAE	PALM FAMILY
Washingtonia robusta*	Washington fan palm
Phoenix canariensis	Canary Island date palm

COMMELINACEAE	SPIDERWORT FAMILY
Commelina benghalensis*	dayflower
CYPERACEAE	SEDGE FAMILY
Cyperus involucratus*	umbrella plant
LILIACEAE	LILY FAMILY
Chlogalum pomeridianum	soap plant
POACEAE	GRASS FAMILY
Agrostis viridis*	bentgrass
Avena barbata*	slender oat
Avena fatua*	wild oat
Bromus diandrus*	ripgut brome
Bromus hordeaceus*	soft brome
Bromus madritensis ssp. rubens*	red brome
Bromus rubens*	red brome
Bromus tectorum*	cheatgrass
Cortaderia spp. *	pampas grass
Cynodon dactylon*	bermuda grass
Echinocchloa crus-galli*	barnyard grass
Festuca myuros*(= Vulpia myuros)	rattail sixweeks grass
Hordeum murinum*	mouse barley
Lamarckia aurea*	goldentop grass
Lolium perenne*	perennial ryegrass
Nassella pulchra	purple needlegrass
Phalaris minor*	Mediterranean canary grass
Piptatherum miliaceum*	smilo grass
Poa annua	annual bluegrass
Polypogon monspeliensis*	rabbitsfoot grass
Schismus barbatus*	mediterranean schismus
Setaria parviflora (= S. gracilis)	marsh bristlegrass
Vulpia microstachys	small fescue
* non-native species	

Fauna Compendium

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Scientific Name	Common Name
Amph	ibians
Pipidae	Tongueless Frogs
Xenopus laevis	African clawed frog
Rep	tiles
Phrynosomatidae	Spiny Lizards
Sceloporus occidentalis	western fence lizard
Uta stansburiana	common side-blotched lizard
Bi	rds
Anatidae	Ducks, Geese, and Swans
Anas platyrhynchos	mallard
Ardeidae	Herons, Bitterns, Allies
Ardea Herodias	great blue heron
Accipitridae	Hawks, Kites, Eagles, Allies
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
Accipiter cooperii	Cooper's hawk
Charadriidae	Lapwings, Plovers
Charadrius vociferous	killdeer
Columbidae	Pigeons, Doves
Columba livia	rock pigeon
Zenaida macroura	mourning dove
Apodidae	Swifts
Aeronautes saxatalis	white-throated swift
Trochilidae	Hummingbirds
Archilochus alexandri	black-chinned hummingbird
Selasphorus sasin	Allen's hummingbird
Calypte anna	Anna's hummingbird
Falconidae	Falcons
Falco sparverius	American kestrel
Picidae	Woodpeckers
Picoides pubescens	downy woodpecker
Picoides nuttallii	Nuttall's woodpecker
Tyrannidae	Tyrant Flycatchers
lyrannus verticalis	western kingbird
Sayornis phoebe	black phoebe
Empidonax traillii	willow flycatcher
Contopus sordidulus	western wood-pewee
Vireonidae	Vireos
Vireo bellii pusilius	least Bell's vireo
Corvidae	Crows, Jays
Corvus corax	common raven
Hirundinidae	Swallows
Petrochellaon pyrrhonota	
Steigiaopteryx serripennis	nortnern rougn-winged swallow
Aegitnalidae	Long-tailed tits, Bushtits
Psaitriparus minimus	busnut
I rogiodytidae	wrens
Inryomanes bewickii	Bewick's wren

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Polioptilidae	Gnatcatchers	
Polioptila caerulea	blue-gray gnatcatcher	
Turdidae	Thrushes	
Sialia mexicana	western bluebird	
Mimidae	Mockingbirds, Thrashers	
Toxostoma redivivum	California thrasher	
Sturnidae	Starlings	
Sturnus vulgaris*	European starling*	
Parulidae	Wood Warblers	
Geothlypis trichas	common yellowthroat	
Setophaga petechia**	yellow warbler**	
Emberizidae	Emberizids	
Pipilo crissalis	California towhee	
Melospiza melodia	song sparrow	
Cardinalidae	Cardinals, Saltators, Allies	
Passerina caerulea	blue grosbeak	
Icteridae	Blackbirds	
Molothrus ater	brown-headed cowbird	
Icterus cucullatus	hooded oriole	
Fringillidae	Fringilline and Cardueline Finches, Allies	
Carpodacus mexicanus	house finch	
Carduelis psaltria	lesser goldfinch	
Carduelis tristis	American goldfinch	
Passeridae	Old World Sparrows	
Passer domesticus	house sparrow	
Mammals		
Canidae	Dogs, Foxes, Allies	
Canis familiaris	domestic dog	
Felidae	Cats	
Felis catus	domestic cat	
Leporidae	Pika, Rabbits, and Hares	
Sylvilagus audubonii	desert cottontail	
Sciuridae	Squirrels	
Spermophilus beecheyi	California ground squirrel	

Appendix CSouthwestern WillowFlycatcher Survey Report

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I-10 Corridor Project 2013 Southwestern Willow Flycatcher Report



Submitted to:

San Bernardino County Department of Public Works 825 E. Third Street

San Bernardino, CA 92415

Submitted by:

ECORP Consulting, Inc.

1801 Park Court Place, B-103 Santa Ana, CA 92701

August 2013

I-10 Corridor Project 2013 Southwestern Willow Flycatcher Report

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I-10 Corridor Project August 2013

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I-10 Corridor Project 2013 Southwestern Willow Flycatcher Report

1.0 INTRODUCTION

1.1 Survey Purpose

The San Bernardino Association of Governments and the California Department of Transportation are proposing the I-10 Corridor Project (Project), which will add a highoccupancy vehicle lane to the existing Interstate 10 Freeway (I-10) in San Bernardino County between Haven Avenue in Ontario and Ford Street in Redlands. The Project area will include the existing freeway as well as easements and staging areas along the freeway. The Project area crosses the Santa Ana River in Colton through an area included in the U.S. Fish and Wildlife Service's 2013 revision to critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*), a bird that is both federally and state-listed as endangered (FR 2013). Surveys were conducted within the area where the Project crosses the Santa Ana River to determine the presence or absence of the southwestern willow flycatcher in order to minimize potential Project impacts to the species.

1.2 Survey Area Location

The survey area is located in the USGS 7.5-minute San Bernardino South quadrangle within the San Bernardino Land Grant. The survey area encompasses the Santa Ana River channel on the east side of the City of Colton and the south side of the City of San Bernardino, immediately north of the intersection of I-10 and Interstate 215 (I-215) Freeways (Figures 1 and 2). The survey area is roughly 30 acres with approximately six acres of potentially suitable breeding habitat for the southwestern willow flycatcher (six acres surveyed per biologist per day). The Santa Ana River flows year round and the width of the riparian zone ranges from a minimum of approximately 20 feet in the western end of the survey area to a maximum of approximately 500 feet at the eastern end. Elevations within the survey area range from approximately 300 feet above mean sea level at the eastern end to approximately 290 feet at the western end.

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Map Date: 8/6/2013 Service Layer Credits: Sources: USGS, ESRI, TANA, AND



Figure 1: Regional Map 2013-011 I-10 Corridor Southwestern Willow Hycatcher





Figure 2: Vicinity Map 2013-011 I-10 Corridor Southwestern Willow Hycatcher

I-10 Corridor Project 2013 Southwestern Willow Flycatcher Report

2.0 VEGETATION AND HABITAT

Vegetation communities within the survey area are classified according to *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evans 2009). Vegetation within the survey area consists of riparian communities including Fremont cottonwood forest (*Populus fremontii* Alliance), black willow thickets (*Salix gooddingii* Alliance), and mulefat thickets (*Baccharis salicifolia* Alliance), as well as upland communities including California sagebrush – California buckwheat scrub (*Artemisia californica – Eriogonum fasciculatum* Alliance). Much of the survey area, especially the western portion, consists of sandy riverbed that is either bare or vegetated with ruderal annuals.

2.1 Fremont Cottonwood Forest (*Populus fremontii* Alliance)

Fremont cottonwood forest within the survey area consists of habitat dominated by mature Fremont cottonwoods but with additional overstory species such as black willows and red willows (*Salix laevigata*). Understory vegetation includes mulefat, wild grape (*Vitis* sp.), and mugwort (*Artemisia douglasiana*). Fremont cottonwood forest occurs at the eastern end of the survey area on both the north and south sides of the river (Appendix C, Photograph 1).

2.2 Black Willow Thickets (*Salix gooddingii* Alliance)

Black willow thickets within the survey area consist of stands of black willows but also include red willows and small amounts of mulefat, tamarisk (*Tamarix ramosissima*), and castor bean (*Ricinus communis*). Black willow thickets occur within the eastern end of the survey area and in a linear strip on the south side of the river channel at the western end (Appendix C, Photographs 2–5).

2.3 Mulefat Thickets (*Baccharis salicifolia* Alliance)

Mulefat thickets within the survey area consist of dense, nearly monotypic stands of mulefat. Patches of mulefat thickets are found near the center of the survey area on either side of the I-215 overpass, as well as along the south side of the river along the western end (Appendix C, Photographs 4–8).

2.4 California Sagebrush – California Buckwheat Scrub (*Artemisia* californica – Eriogonum fasciculatum Alliance)

California sagebrush – California buckwheat scrub consists of habitat dominated by these two species with smaller amounts of scalebroom (*Lepidospartum squamatum*), annual bursage (*Ambrosia acanthicarpa*), jimsonweed (*Datura wrighti*), deerweed (*Acmispon glaber*), and non-native annual grasses. California sagebrush – California buckwheat scrub occurs on the north side of the survey area west of I-215 and on the south side at the eastern end, where riparian habitat transitions to upland habitat (Appendix C, Photograph 1).

ECORP Consulting. Inc. 2013-011

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I-10 Corridor Project August 2013
2.5 Southwestern Willow Flycatcher Breeding Habitat

The southwestern willow flycatcher typically breeds within dense stands of trees or shrubby riparian vegetation that is equal to or greater than 10 feet tall (Allison et al. 2003). Suitable southwestern willow flycatcher breeding habitat occurs in Fremont cottonwood forest and black willow thickets at the eastern end of the survey area. Marginally suitable breeding habitat consisting of a linear strip of black willow thickets is located on the western side of the survey area on the south side of the river.

2.6 Disturbances

Disturbances observed within the survey area include two overpasses, one for I-215 and one for East South Street, evidence of gang activity in the form of excessive graffiti and empty spray paint cans (Appendix C, Photographs 9–10), and a small homeless encampment on the western end of the survey area.

Additionally, low numbers of brown-headed cowbirds (*Molothrus ater*) were observed, although it should be noted that San Bernardino Flood Control was actively trapping brown-headed cowbirds at the southeastern end of the survey area.

3.0 METHODS

3.1 Survey Dates, Personnel, and Conditions

All surveys were performed by ECORP Consulting, Inc. biologist Ben Smith (Federal Recovery Permit TE-67390A-0, California Department of Fish and Wildlife (CDFW) Scientific Collecting Permit SCP-10933). Table 1 lists the dates, times, survey area, weather conditions, and additional personnel assisting with the surveys.

Date	te Surveyors		Time		Temperature (°F)		Cloud Cover (%)		Wind Speed (mph)	
		start	end	start	end	start	end	start	end	
5/31/13	Ben Smith	0825	1040	72	79	100	0	0-2	0–2	
105 22775	Sonya Steckler									
6/05/13	Ben Smith	0715	1030	60	75	100	50	0	0	
6/12/13	Ben Smith	0710	1025	65	75	60	40	0-2	1-3	
6/25/13	Ben Smith	0700	1005	68	80	0	0	0	0-3	
28431	Carley Lancaster						8			
7/4/13	Ben Smith	0645	1005	72	82	25	25	0	0-2	

Table	1.	Survey	Dates.	Personnel.	and	Conditions
	_					

3.2 Southwestern Willow Flycatcher

Surveys for the southwestern willow flycatcher followed the protocol outlined by Sogge et al. (2010). The 2010 protocol recommends five surveys during three survey periods, with two

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surveys occurring within each of the last two survey periods. These three survey periods are Period 1: May 15 to 31; Period 2: June 1 to 24; and Period 3: June 25 to July 17.

Each survey was completed in one day. Surveys were conducted within all areas of suitable habitat along east-west transects spaced approximately 100 feet apart. Southwestern willow flycatcher vocalizations were played at approximately 100-foot intervals along each transect using a portable MP3 player and speaker system. Vocalizations were played following an initial one-minute listening period. The period of listening followed by audio playback was repeated with another listening period before moving to the next 100-foot interval. Locations of willow flycatcher detections were recorded using a handheld GPS unit capable of 3- to 10-foot accuracy. Survey data were recorded in a field notebook and copied onto Willow Flycatcher Survey and Detection Forms. Completed survey forms are included in Appendix A.

4.0 RESULTS

Two willow flycatcher detections were made in Period 1 during the first survey on May 31 (Table 2, Figure 3). Two willow flycatchers were detected in Period 2 during the third survey on June 12. Willow flycatchers were not detected within the survey area during Period 3.

The two willow flycatcher detections on May 31 both occurred on the south side of the Santa Ana River at the eastern end of the survey area. The first and easternmost willow flycatcher was observed foraging from a branch in Fremont cottonwood forest. The bird was visually identifiable as a willow flycatcher; however, it was non-vocal and did not respond to audio playback. The second detection occurred ten minutes later approximately 280 feet to the west. A willow flycatcher gave a weak "fitz-bew" response to audio playback and may have been a second detection of the previously observed individual.

The two willow flycatchers observed on June 12 were both found on the north side of the Santa Ana River at the eastern end of the survey area. The first and westernmost willow flycatcher was detected in Fremont cottonwood forest when it responded to audio playback with the characteristic "fitz-bew" song. The second willow flycatcher was detected in black willow thickets approximately 300 feet northeast of the first and also responded to audio playback with the characteristic "fitz-bew" song.

Survey Period	Date	11N UTM	Status	Detection/Habitat Notes
Period 1	5/31/13	473011mE 3769717mN	assumed migrant	non-vocal, non-responsive WIFL perched in <i>Populus fremontii</i> Alliance
		472964mE 3769650mN	assumed migrant	"fitz-bew" response to recording from within <i>Populus fremontii</i> Alliance
Period 2	6/12/13	472944mE 3769761mN	assumed migrant	"fitz-bew" response to recording from within <i>Populus fremontii</i> Alliance
		473015mE 3769815mN	assumed migrant	"fitz-bew" response to recording from within <i>Salix gooddingii</i> Alliance

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 Table 2. Willow Flycatcher Survey Results

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4.1 Incidental Special Status Species

Several wildlife species included on the CDFW special animals list (CDFG 2011) were observed within the survey area. Adult and juvenile yellow warblers (*Setophaga petechia*), CDFW Species of Special Concern (SSC), were found throughout the survey area, but were most abundant in the eastern portion of the survey area. Adult and juvenile least Bell's vireos (*Vireo bellii pusillus*), which are state and federally-listed as endangered, were also observed in the eastern portion of the survey area. A least Bell's vireo survey report is being submitted under a separate cover. Finally, one individual Santa Ana River woolystar (*Eriastrum densifolium* ssp. *sanctorum*), a plant that is federally and state-listed as endangered, was observed in the eastern portion of the survey area approximately 2,600 feet northeast of I-10 and outside of the proposed disturbance limits for the Project (Appendix C, Photographs 11–12). A list of wildlife species observed during the surveys is included as Appendix B. Special status species observations are summarized in Table 3.

Species	Date	Location
yellow warbler	all	Throughout survey area. Adults and
(Setophaga petechia)		fledglings observed
least Bell's vireo	5/31	11N, 473141mE, 3769820mN
(<i>Vireo bellii pusillus</i>)	25	Singing territorial male
	6/5	11N, 473141mE, 3769820mN
		Singing territorial male
	6/12	11N 473272mE, 3769862mN
		Singing territorial male
	6/25	11N 473062mE, 3769765mN
	N.	Singing territorial male
	7/4	11N 473129mE, 3769770mN
		Adult male with at least two dependent
		fledglings
		11N 473001mE, 3769713mN
		Non-vocal individual with fresh plumage
Santa Ana River woolystar	6/25	11N 473062mE, 3769765mN
(<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>)		One individual

Table 3. Incidental Special Status Species Locations

5.0 CONCLUSIONS

Breeding status of the southwestern willow flycatcher was not confirmed within the survey area. Presence of the southwestern willow flycatcher, according to survey protocol, is determined by observation of breeding willow flycatchers or by willow flycatcher detection during the third survey period (June 25–July 17), at which point migrant willow flycatchers should no longer be present in the Southwest (Sogge et al. 2010). The four willow flycatchers observed during survey periods 1 and 2 are assumed to be individuals passing through the area on migration.

5.1 Recommendations

Although the southwestern willow flycatcher was not found breeding within the survey area, marginally suitable breeding habitat begins approximately 500 feet northeast of where I-10 crosses the Santa Ana River and higher quality potential breeding habitat begins approximately 2,500 feet northeast of this area. The project should avoid activities that might adversely affect the vegetation in these areas in order to maintain suitable breeding habitat for southwestern willow flycatchers that could occupy the site in the future.

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6.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or the applicant's representative and that I have no financial interest in the project.

DATE: 8/02/2013

Ber frutte SIGNED:

Benjamin Smith

ECORP Consulting, Inc. 2013-011 I-10 Corridor Project August 2013

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Appendix A

Completed Willow Flycatcher Survey and Detection Forms

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Appendix 1. Willow Flycatcher Survey and Detection Form

Always check the U.S. Fish and Wildlife Service Arizona Ecological Services Field Office web site (http://www.fws.gov/ southwest/es/arizona/) for the most up-to-date version.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010) State CA County San Site Name Son A Acro Liver P-10 Emprovement State CN1 County State State CN2 County State Bernardino Elevation 290-300 (meters) No YesX Survey Coordinates: Start: E 437070 N_ 3769881 UTM Datum NAD See instructions) Stop: E 472-311 N 3769480 UTM Zone 11 N If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page. ** Fill in additional site information on back of this page ** Comments (e.g., bird behavior; evidence of pairs or breeding; potential threats [livestock, GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if vest(s) Found Y or N Survey # Estimat Numbe Estimated Date (m/d/y) d cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL of Adul Observer(s) Number of Numbe Survey time WIFLS Territorie necessary. If Yes, numbe (Full Name) of Pairs of nests coordinator 1 WIFL in Marian Survey # 1 # Birds UTM E UTM N Sex Date 5/31 Observer(s) 473011 3769717 2 Benjemin Smith Φ N Start0995 ф SAGO, SAEX, 472764 3769650 ARDO. IWIFL Stop 1040 BASA, SAEX Total hrs 2.25 Survey # 2 UTM E UTM N # Birds Sez Date 6/5 Observer(s) Start 0715 Benjami -N 0 đ ¢ Smith Stop (030 Total hrs 3-2 Survey # 3 responsive # Birds Sex UTM E UTM N Date6/12 Observer(s) 14 POFR, SAUO BASA, ARTCAL 472944 3769761 1 Benjamin Smith Start 0710 473015 3769815 Э d d N Stop 10% 1 respondive to 5AGO, POFR, BASA along Firer Total hrs 3. 2. Survey # 4 # Birds Ser UTM E UTM N Date 6/25 Observer(s) Bengember Smith / Start 0700 ¢ N 0 đ Stop (005 carley Lancaster Total hrs 3 Survey # 5 # Birds Sex UTM E UTM N Date 7/4 Observer(s) Start 0645 Benjamin Gmith Stop 1005 Total brs 3.95 Overall Site Summary Tota Total Total Total Nests Totals do not equal the sum of Adult each column. Include only resident adults. Do not include Pairs l'erritorie Residen Were any Willow Flycatchers color-banded? Yes___ No X_ migrants, nestlings, and fledglings, do If yes, report color combination(s) in the comments Be careful not to double count section on back of form and report to USFWS. ð \$ Ø Ø individuals 15 Total Survey Hrs____ Reporting Individual <u>Berjamin</u> <u>Grift</u> US Fish and Wildlife Service Permit #<u>TE-67</u>390-A Date Report Completed \$/\$/13 State Wildlife Agency Permit # 10 10933

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

32 A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher

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

Reporting Individual Benicumic K Smith Phone # $7/4-65/-3col$ Affiliation Ecolor Ecolor E-mail E-mai
Management Authority for Survey Area: Federal Municipal/County & State Tribal Private Name of Management Entity or Owner (e.g., Tonto National Forest) <u>San Bermer Sino County</u>
Length of area surveyed: 0.9 (km)
Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:
\times Native broadleaf plants (entirely or almost entirely, > 90% native)
Mixed native and exotic plants (mostly native, 50 - 90% native)
Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)
Exotic/introduced plants (entirely or almost entirely, > 90% exotic)
Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific names. Salix gooddingii, logulus frems of i, Baccharis salicidolia
Average height of canopy (Do not include a range):
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. Intabitat near the project impact area is very limited. In tele the project by limited in the project area to be determine if post-breeding is located northeast of the project area to determine if post-breeding is person bind swife would potentially be affected.
Territory Summary Table. Provide the following information for each verified territory at your site.

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

Attach additional sheets if necessary

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Appendix B

Wildlife Compendium

Scientific Name	Common Name						
	Amphibians						
Pipidae	Tongueless Frogs						
Xenopus laevis*	African clawed frog*						
Reptiles							
Phrynosomatidae	Spiny Lizards						
Sceloporus occidentalis	western fence lizard						
Uta stansburiana	common side-blotched lizard						
	Birds						
Anatidae	Ducks, Geese, and Swans						
Anas platyrhynchos	mallard						
Ardeidae	Herons, Bitterns, Allies						
Ardea herodias	great blue heron						
Accipitridae	Hawks, Kites, Eagles, Allies						
Buteo lineatus	red-shouldered hawk						
Buteo jamaicensis	red-tailed hawk						
Accipiter cooperii	Cooper's hawk						
Charadriidae	Lapwings, Ployers						
Charadrius vociferus	killdeer						
Columbidae	Pigeons, Doves						
Columba livia*	rock pigeon*						
Zenaida macroura	mourning dove						
Apodidae	Swifts						
Aeronautes saxatalis	white-throated swift						
Trochilidae	Hummingbirds						
Archilochus alexandri	black-chinned hummingbird						
Selasphorus sasin	Allen's hummingbird						
Calypte anna	Anna's hummingbird						
Falconidae	Falcons						
Falco sparverius	American kestrel						
Picidae	Woodpeckers						
Picoides pubescens	downy woodpecker						
Picoides nuttallii	Nuttall's woodpecker						
Tyrannidae	Tyrant Flycatchers						
Tyrannus verticalis	western kingbird						
Sayornis nigricans	black phoebe						
Empidonax traillii	willow flycatcher						
Contopus sordidulus	western wood-pewee						
Vireonidae	Vireos						
Vireo bellii pusillus**	least Bell's vireo**						
Corvidae	Crows, Jays						
Corvus corax	common raven						
Hirundinidae	Swallows						
Petrochelidon pyrrhonota	cliff swallow						
Stelgidopteryx serripennis	northern rough-winged swallow						
Aeaithalidae	Long-tailed tits, Bushtits						

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Psaltriparus minimus	bushtit
Troglodytidae	Wrens
Thryomanes bewickii	Bewick's wren
Polioptilidae	Gnatcatchers
Polioptila caerulea	blue-gray gnatcatcher
Turdidae	Thrushes
Sialia mexicana	western bluebird
Mimidae	Mockingbirds, Thrashers
Toxostoma redivivum	California thrasher
Sturnidae	Starlings
Sturnus vulgaris*	European starling*
Parulidae	Wood Warblers
Geothlypis trichas	common yellowthroat
Setophaga petechia**	yellow warbler**
Emberizidae	Emberizids
Melozone crissalis	California towhee
Melospiza melodia	song sparrow
Cardinalidae	Cardinals, Saltators, Allies
Passerina caerulea	blue grosbeak
Icteridae	Blackbirds
Molothrus ater	brown-headed cowbird
Icterus cucullatus	hooded oriole
Fringillidae	Fringilline and Cardueline Finches, Allies
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
Passeridae	Old World Sparrows
Passer domesticus*	house sparrow*
	Mammals
Canidae	Dogs, Foxes, Allies
Canis familiaris*	domestic dog*
Felidae	Cats
Felis catus*	domestic cat*
Leporidae	Pika, Rabbits, and Hares
Sylvilagus audubonii	desert cottontail
Sciuridae	Squirrels
Spermophilus beecheyi	California ground squirrel

*nonnative species **special status species

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Appendix C

Survey Photographs



Photograph 1. Fremont cottonwood forest (*Populus fremontii* Alliance) transitioning into California sagebrush – California buckwheat scrub (*Artemisia californica – Eriogonum fasciculatum* Alliance) in the southwestern portion of the survey area.



Photograph 2. Black willow thickets (*Salix gooddingii* Alliance) along the south side of the river in the western portion of the survey area.

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Photograph 3. Black willow thickets in the central portion of the survey area.



Photograph 4. Black willow thickets and mulefat thickets (*Baccharis salicifolia* Alliance) along the south side of the river in the western portion of the survey area.

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Photograph 5. Black willow thickets and mulefat thickets along the south side of the river in the western portion of the survey area.



Photograph 6. Mulefat thickets along the south side of the river in the western portion of the survey area.

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Photograph 7. Mulefat thickets in the central portion of the survey area.



Photograph 8. Mulefat thickets in the central portion of the survey area.

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Photograph 9. Graffiti in the central portion of the survey area.



Photograph 10. Graffiti in the central portion of the survey area.

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Photograph 11. Santa Ana River woolystar (*Eriastrum densifolium* ssp. *sanctorum*) in the central portion of the survey area.



Photograph 12. Santa Ana River woolystar in the central portion of the survey area.

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Appendix DCoastal CaliforniaGnatcatcher Survey Report

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July 10, 2013 (2013-011)

Carlsbad Fish & Wildlife Office 2177 Salk Avenue, Suite 250 Carlsbad, CA 92008 Attn: Susie Tharratt, Recovery Permit Coordinator

RE: 45-day Results Summary of 2012 Coastal California Gnatcatcher (*Polioptila californica californica*) Surveys for the Interstate 10 Freeway Corridor Project in the City of Redlands, San Bernardino County.

Dear Ms. Tharratt:

ECORP Consulting, Inc. (ECORP) is providing the results for the 2013 breeding season protocol surveys for coastal California gnatcatcher (CAGN; *Polioptila californica californica*). Focused surveys to identify CAGN territories and nest locations were conducted at along portions of the Interstate 10 Freeway (I-10) within suitable habitat near proposed construction sites for the east and westbound High Occupancy Vehicle (HOV) lanes (Project) on I-10. The portion of the I-10 surveyed is located in the City of Redlands in San Bernardino County.

A United States Fish and Wildlife Service permitted biologist conducted weekly surveys to locate CAGN on site. Surveys were conducted within the Project areas (Project), within a 300-foot buffer around the Project. A notification letter was sent via email on April 2, 2013 to notify the United States Fish and Wildlife Service (Service) of the start of weekly protocol surveys at the Project site.

Methods

Focused, protocol-level gnatcatcher surveys were conducted by federal 10(a)(1)(A) permitted ECORP biologist Shannan Shaffer (TE67555A-0) in 2013. Focused gnatcatcher surveys were conducted in accordance with 1997 Coastal California Gnatcatcher Presence/Absence Survey Guidelines published by the U.S. Fish and Wildlife Service (USFWS). Six surveys were conducted at least on week apart between April 17 and June 20 to determine the distribution and abundance of gnatcatchers within the project site. Weather conditions met USFWS survey protocol requirements designed to optimize gnatcatcher detections.

Weather conditions that were too cold (less than 45 degrees Fahrenheit), too hot (greater than 95 degrees Fahrenheit), or too windy (greater than 15 miles per hour) were avoided. Surveys were conducted by slowly walking through all appropriate habitats while listening and watching for gnatcatcher activity. Recordings of gnatcatcher vocalizations were played as an attempt to elicit responses from any gnatcatchers present. Various routes were utilized in order to conduct an unbiased presence/absence survey of the project site, and recorded vocalizations of CAGN were played for 5-15 second intervals every 40-80 feet. Less than 100 acres of suitable habitat was systematically surveyed per day for gnatcatcher presence. For each focused survey, the general weather conditions, date, start and end times, and all wildlife species observed during the surveys were documented on data sheets.

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Results

A total of 6 CAGN surveys were conducted between April 17 and June 20, 2013. Table 1 summarizes the survey conditions during each of the surveys at the project site.

			Time		Temperature (°F)		% Cloud Cover		Wind Speed (mph)	
Survey #	2013 Date	Surveyor*	Start	End	Start	End	Start	End	Start	End
1	April 17	SLS	0845	1130	48	63	0	0	0-2	4-7
2	April 26	SLS	0855	1135	58	68	50	15	3-5	3-5
3	May 3	SLS	0855	1135	74	78	0	0	1-3	3-5
4	May 17	SLS	0855	1135	55	58	100	100	3-7	3-7
5	May 29	SLS	0835	1050	67	76	70	0	2-4	3-5
6	June 20	SLS	0900	1150	72	86	0	0	0-2	0-2

Table 1: Summary of CAGN Surveys and Weather Conditions

*SLS: Shannan Shaffer

No California gnatcatchers were identified within the proposed project area during the 2013 focused surveys. Additionally, Critical Habitat for species is not present within the project area. Proposed project-related activities are not expected to impact CAGN or designated Critical Habitat for CAGN. Based on these survey results, no recommendations for the recovery of the species are recommended at this time.

Please contact Shannan Shaffer at (714) 648-0630 should you have any questions concerning these survey results.

Regards,

X

Shannan Shaffer Wildlife Biologist

Surveyor's Certification Statement

"I certify that the information in this survey report and attached exhibits fully and accurately represents my work."

Signatu

Shannan Shaffer, TE- 67555A-0) Date July 10, 2013

Attachments: Figure 1: Protocol CAGN Survey Area Survey Data Sheets



PROTOCOL SURVEY DATA SHEET

for Coastal California Gnatcatcher

(Polioptila californica californica)

PROJECT N	AME:	I-10 Corrido	r	PROJECT #:	2013-010	
	GEN	ERAL DAT	4	WEATHE	R DATA	
Date: 4	17 13	Survey #:		Air temp. (F at 6" above	surface in th	e shade)
Surveyor(s):	Shannan S	Shaffer		Start: 48	End: 6	3
				Daily High:	Daily Low:	
			ж	Cloud cover (%):	0	
Time Start:	084	S End:	1130	Precipitation [] yes	₩ no	
Total Length	of Survey:			Est. wind speed (mph):	0-7	
Measuremer	nt of survey	area:		Est. wind direction:		
		Coast	al California Gnatca	tcher Observations		an a
Bird ID should b	e identified on	accompanyin	g map. GPS points shou	ld be taken in UTM, Zone 11 S,	NAD83, Meters	3
Time	ID	Sex	Activity		Northing	Easting
		<u> </u>				
			NO CAG	N petected		
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Other forms needed for this site

[] photo log

[] CNDDB form

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PROJECT NAME	E & SITE #	I-10 Corrido	or CAGN	Date: 4	17	13	Page No. 2		
	VEGETATION COMMUNITIES								
Species	Dominance*	Community	Species		Domin	ance*	Community		
						-			
					1831				
		Kasak - sk		- 11					
•			-						
						1.1.1.1.1			
				- 11					
	10								
				an ann daoin dhùthai a th					
						10 N			

FIELD DATA SHEET CONTINUATION

* 1 = individual, 2 = rare, 3 = frequent, 4 = common, 5 = abundant

WILDLIFE COMMUNITIES						
Species	Sign*	Species	Sign*			
LORA	0					
		(* <u>* * * * * * * * * * * * * * * * * *</u>				
			L			

* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

PROTOCOL SURVEY DATA SHEET

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for Coastal California Gnatcatcher

(Polioptila californica californica)

GENERAL DATA WEATHER DATA Date: 4 2 13 Survey #: 2 Air temp. (F at 6" above surface in the shade) Surveyor(s): Shannan Shaffer Start: 5 End: 6 3 Surveyor(s): Shannan Shaffer Start: 5 End: 6 3 Time Start: 0 % SS End: 1/3 5 1/3 Time Start: 0 % SS End: 1/3 7 1/3 Measurement of Survey: Est. wind speed (mph): 3 - S 5 Measurement of survey area: Est. wind direction: 2 2 1/3 Nothing Easting Bid ID should be identified on accompanying mep. GPS points should be taken in UTM. Zone 11 S, NADB3, Meters 1 </th <th>PROJECT N/</th> <th>AME:</th> <th>I-10 Corrido</th> <th>r</th> <th>PROJECT #:</th> <th>2013-01</th> <th></th>	PROJECT N/	AME:	I-10 Corrido	r	PROJECT #:	2013-01					
Date: Y 2.6 13 Survey #: 2. Air temp. (F at 6" above surface in the shade) Surveyor(s): Shannan Shaffer Start: 5.8 End: 6.8 Daily High: Daily Low: Cloud cover (%): 5.0 1.5 Time Start: 0.8 S.S End: 1.4 S.P Precipitation [] yes No Total Length of Survey: Est. wind speed (mph): 3 - S. Measurement of survey area: Est. wind direction: Coastal California Gnatcatcher Observations Bird ID should be identified on accompanying map. GPS points should be taken in UTM. Zone 11 S, NAD83, Meters Time ID Sex Activity Northing Easting Via CA GN Detecteck International Gradies on accompanying map. GPS points should be taken in UTM. Zone 11 S, NAD83, Meters Time ID Sex Activity International Gradies on accompanying map. GPS points should be taken in UTM. Zone 11 S, NAD83, Meters IIIne ID Sex Activity International Gradies on accompanying map. GPS points should be taken in UTM. Zone 11 S, NAD83, Meters International Gradies on accompanying map. GPS points should be taken in UTM. Zone 11 S, NAD83, Meters IIIne Internati		GEN	ERAL DAT	Ą	WEATHE	R DATA					
Surveyor(s): Shannan Shaffer Start: 5 @ End: 6 @ Daily High: Daily Low: Cloud cover (%): 50 15 Time Start: 0 % \$5 End: 1/35 Precipitation [] yes Mo Total Length of Survey: Est. wind speed (mph): 3 - \$ Measurement of survey area: Est. wind direction: Coastal California Gnacatcher Observations Time ID Sex Activity Northing Easting Image: I	Date: Ц	26/13	Survey #:	2	Air temp. (F at 6" above	surface in th	e shade)				
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FIELD DATA SHEET CONTINUATION

* 1 = individual, 2 = rare, 3 = frequent, 4 = common, 5 = abundant

	WILDLIFE	COMMUNITIES	
Species	Sign*	Species	Sign*
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AMCR			
BLPH			
ROPI			10000000000000000000000000000000000000
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* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

PROTOCOL SURVEY DATA SHEET

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for Coastal California Gnatcatcher

(Polioptila californica californica)

PROJECT N	AME:	I-10 Corrido	or	PROJECT #:	2013-01						
6	GEN	IERAL DAT	A	WEATHE	R DATA						
Date: 5	3 13	Survey #:	3	Air temp. (F at 6" above	surface in th	e shade)					
Surveyor(s):	Shannan S	Shaffer		Start: 74	End: 7	8					
2 2 2 2				Daily High: Daily Low:							
				Cloud cover (%):	5	2 9324 965644					
Time Start:	085	S End:	11 35	Precipitation [] yes	Thno						
Total Length	of Survey	:		Est. wind speed (mph):	1-5						
Measuremer	nt of survey	y area:		Est. wind direction:		4					
		Coast	al California Gnatca	tcher Observations							
Bird ID should b	e identified or	n accompanyin	g map. GPS points shou	lld be taken in UTM, Zone 11 S	NAD83, Meters	3					
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PROJECT NAME & SITE #			Date:	5	13	113	Page No. 2			
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FIELD DATA SHEET CONTINUATION

* 1 = individual, 2 = rare, 3 = frequent, 4 = common, 5 = abundant

2	WILDLIFE	COMMUNITIES	
Species	Sign*	Species	Sign*
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HOFI			
MODU			
NOMO			
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* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

PROTOCOL SURVEY DATA SHEET for Coastal California Gnatcatcher

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(Polioptila californica californica)

PROJECT N	AME:	I-10 Corrido	pr	PROJECT #:	2013-01								
T ****	GEN	NERAL DAT	A	WEATHE	RDATA								
Date: 5	17 13	Survey #:	L	Air temp. (F at 6" above	surface in th	e shade)							
Surveyor(s):	Shannan S	Shaffer		Start: 55	R								
				Daily High:	Daily Low:	:wc							
				Cloud cover (%):									
Time Start:	0855	End:	1135	Precipitation [] yes	[Xno								
Total Length	of Survey	:		Est. wind speed (mph):	3-7								
Measurement of survey area:				Est. wind direction:		0. 100000000000000000000000000000000000							
-		Coast	al California Gnatca	atcher Observations									
Bird ID should be	e identified or	n accompanyin	ig map. GPS points sho	uld be taken in UTM, Zone 11 S,	NAD83, Meters	3							
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Other forms needed for this site

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PROJECT NAME	E & SITE #	I-10 Corrido	or CAGN	Date:	5	171	3 Page No. 2		
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FIELD DATA SHEET CONTINUATION

* 1 = individual, 2 = rare, 3 = frequent, 4 = common, 5 = abundant

	WILDLIFE	COMMUNITIES	
Species	Sign*	Species	Sign*
NOMO			
CALT	٥V		
BLPH	0		
AMCR	-		

* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

PROTOCOL SURVEY DATA SHEET

for Coastal California Gnatcatcher

(Polioptila californica californica)

PROJECT NAM	/E:	I-10 Corrido	r	PROJECT #:	2013-010						
	GEN	ERAL DATA	٩	WEATHE	R DATA						
Date: 52	9/13	Survey #:	5	Air temp. (F at 6" above	surface in th	e shade)					
Surveyor(s): S	Shannan S	haffer		Start: 67	End: 76						
				Daily High:	Daily Low:						
				Cloud cover (%):	0 0						
Time Start: (1835	End:	1050	[Ano							
Total Length o	f Survey:			Est. wind speed (mph): 2-S							
Measurement	of survey	area:		Est. wind direction:							
		Coast	al California Gnatca	atcher Observations							
Bird ID should be i	dentified on	accompanyin	g map. GPS points sho	uld be taken in UTM, Zone 11 S,	NAD83, Meter	S					
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* 1 = individual, 2 = rare, 3 = fr	equent. 4 = comr	non, 5 = abund	 ant			<u> </u>

FIELD DATA SHEET CONTINUATION

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WILDLIFE COMMUNITIES Species Sign* Species Sign* ANHU 0 OV CORA AMCR OV ROPI 0 V OMO 0 0

* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

PROTOCOL SURVEY DATA SHEET f

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(Polioptila californica californica)

PROJECT NAME:	I-10 Corrido	or	PROJECT #:	2013-01	
GE	NERAL DAT	A	WEATHER DATA		
Date: (20 (13 Survey #: 6			Air temp. (F at 6" above surface in the shade)		
Surveyor(s): Shannan Shaffer			Start: 72	End: 86	
			Daily High:	Daily Low:	-
			Cloud cover (%):		
Time Start: 090	O End:	1150	Precipitation [] yes the no		
Total Length of Survey:			Est. wind speed (mph): 0-2		
Measurement of survey area:			Est. wind direction: 6		
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Bird ID should be identified on accompanying map. GPS points should be taken in UTM, Zone 11 S, NAD83, Meters					
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PROJECT NAME &	& SITE #	I-10 Corrido	or CAGN	Date:	(e120).13	Page No. 2	
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FIELD DATA SHEET CONTINUATION

* 1 = individual, 2 = rare, 3 = frequent, 4 = common, 5 = abundant

WILDLIFE COMMUNITIES						
Species	Sign*	Species	Sign*			
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HOSP	ΟV					
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BLPH	U U					

* B = burrow, C = carcass, Fe = feathers, Fu = fur, N = nest, O = observed, S = scat, T = tracks, V = vocalization

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Appendix E Jurisdictional Delineation Report

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Appendix F Jurisdictional Waters Impact Mapping for Alternative 2

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Appendix G Jurisdictional Waters Impact Mapping for Alternative 3

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