

**I-580/Corral Hollow Interchange Improvement
Natural Environment Study (Minimal Impacts)**

Interstate 580 & Corral Hollow Road
Tracy, San Joaquin County, California
District 10-10-1Q550

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STATE OF CALIFORNIA
Department of Transportation
City of Tracy Public Works Department

Prepared By:  Date: March 23, 2026

Robert Carroll, Senior Biologist
714-206-9473
FirstCarbon Solutions, Inc.
2999 Oak Road, Suite 250, Walnut Creek, CA 94597

Approved By: _____ Date: _____

Adam Egemo, District Biologist
209-693-3903
District 10

Approved By:  Date: March 23, 2026

Jeff Holt, Environmental Branch Chief
209-693-3588
District 10

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List of Acronyms and Abbreviations

°F	degrees Fahrenheit
AMBA	American badger
AWS	Alameda Whipsnake
BAEA	bald eagle
BSA	Biological Study Area
BUOW	burrowing owl
CACO	California condor
CBB	Crotch's bumble bee
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CEQA	California glossy snake
CHL	coast horned lizard
CNPS	California Native Plant Society
CNDDB	California Natural Diversity Database
CRLF	California red-legged frog
CTS	California tiger salamander
CWA	Clean Water Act
City	City of Tracy
DESM	delta smelt
EFH	Essential Fish Habitat
EPA	United States Environmental Protection Agency
EUL	eulachon
FC	Federal Candidate
FE	Federal Endangered
FCS	FirstCarbon Solutions
FP	Fully Protected
FT	Federal Threatened
FYLF	foothill yellow-legged frog
GOEA	golden eagle
GPS	Global Positioning System

GRSP	grasshopper sparrow
GRST	green sturgeon
I-580	Interstate 580
IPaC	Information for Planning and Consultation
LBV	least Bell's vireo
LOSH	loggerhead shrike
LOSM	longfin smelt
MBTA	Migratory Bird Treaty Act
MOBU	monarch butterfly
NCLL	Northern California legless lizard
NMFS	National Marine Fisheries Service
NOAA RCC	National Oceanic and Atmospheric Administration Regional Climate Center
NOHA	northern harrier
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPT	northwestern pond turtle
OHWM	ordinary high water mark
PABA	pallid bat
RBR	riparian brush rabbit
RWQCB	Reginal Water Quality Control Board
SE	State Endangered
SEO	short-eared owl
SJC	San Joaquin coachwhip
SJKF	San Joaquin kit fox
SJRR	San Joaquin valley riparian woodrat
SSC	Species of Special Concern
ST	State Threatened
State Water Board	California State Water Resources Control Board
STE	steelhead
SWHA	Swainson's hawk
TBEB	Townsend's big-eared bat
TCB	tricolored blackbird

USDA	United States Department of Agriculture
USGS	United States Geological Survey
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VELB	valley elderberry longhorn beetle
VPFS	vernal pool fairy shrimp
VPTS	vernal pool tadpole shrimp
WBB	western bumble bee
WESP	western spadefoot
WMB	western mastiff bat
WTK	white-tailed kite
WYBC	western yellow-billed cuckoo
YHB	yellow-headed blackbird

1. Introduction

FirstCarbon Solutions (FCS) conducted a background review and reconnaissance-level field survey for the Interstate 580 Corral Hollow Road Interchange Improvement Project in June 2025. Project history, project description, and other project-specific information is further described in Sections 1.1 and 1.2 below.

1.1 Project Effects on Sensitive Biotic Habitats

Seven biotic habitats and land cover types were identified within the 51.98-acre Biological Study Area (BSA). Developed land cover accounts for 17.32 acres; ruderal/disturbed land covers 20.28 acres; wild oat-annual brome grassland covers 12.82 acres; ornamental woodland covers 1.28 acres; beardless wild rye planted field covers 0.11 acre; saltgrass patch covers 0.04 acre; and Corral Hollow Creek composes 0.17 acre. As further described in Section 1.2 below, there are two different options contemplated to carry out the Interstate 580 Corral Hollow Road Interchange Improvement Project. These options include different levels of impact on the biotic habitats within the BSA. The 51.98-acre BSA is inclusive of both Option A and Option B. Option A includes a 50.10-acre BSA while Option B includes a BSA of 51.98-acre. Impacts resulting from Options A and B are discussed in further detail through this document.

1.2 Special-status Plant Species

1.2.1 Species Without Potential to Occur in the BSA

As presented in Table 2, there are many special-status plant species that occur within the greater region but are unlikely to occur within the BSA because they are associated with habitat types that do not occur within the BSA, occur at elevations outside of the range of elevations that occur within the BSA, or are present on specific soil substrates that are not present within the BSA. These include, but are not limited to, Sharsmith's onion (*Allium sharsmithiae*), large-flowered fiddleneck (*Amsinckia grandiflora*), alkali milk-vetch (*Astragalus tener* var. *tener*), heartscale (*Atriplex cordulata* var. *cordulata*), big tarplant (*Blepharizonia plumosa*), Lemmon's jewelflower (*Caulanthus lemmonii*), dwarf soaproot (*Chlorogalum pomeridianum* var. *minus*), slough thistle (*Cirsium crassicaule*), Mt. Hamilton thistle (*Cirsium fontinale* var. *campylon*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), recurved larkspur (*Delphinium recurvatum*), Tracy's eriastrum (*Eriastrum tracyi*), delta button-celery (*Eryngium racemosum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), San Joaquin spearscale (*Extriplex joaquinana*), talus fritillary (*Fritillaria falcata*), Mt. Diablo helianthella (*Helianthella castanea*), Brewer's western flax (*Hesperolinon breweri*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Loma Prieta hoita (*Hoita strobilina*), Mt. Hamilton coreopsis (*Leptosyne hamiltonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), showy golden madia (*Madia radiata*), Hall's bushmallow (*Malacothamnus hallii*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), Mt. Diablo phacelia (*Phacelia phacelioides*), California alkali grass (*Puccinellia simplex*), chaparral harebell (*Ravenella exigua*), chaparral ragwort (*Senecio aphanactis*), long-styled sand-spurrey (*Spergularia*

macrotheca var. *longistyla*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*). In addition, the majority of the BSA contains developed areas or areas previously disturbed from the highway that only support weedy vegetation.

1.2.2 Species with Potential to Occur in the BSA

The BSA is composed mostly of Interstate 580 (I-580), Corral Hollow Road, and the I-580/Corral Hollow Road Interchange. Based on a review of historic aerials, the section of I-580 within the BSA was constructed between 1963 and 1967 and the area has had a history of disturbance going back to at least 1949 (Nationwide Environmental Title Research 2025). The long history of disturbance within the BSA has resulted in the proliferation of non-native and invasive species, with only weedy native species observed within ruderal/disturbed and wild oat-annual brome grassland. For this reason, the BSA would likely not provide suitable habitat for any special-status plant species. Therefore, the proposed project is not expected to adversely affect any special-status plant species.

1.3 Special-status Wildlife Species

1.3.1 Species Without Potential to Occur in the BSA

As presented in Table 2, there are several special-status wildlife species that occur within the greater region but do not occur within the BSA because the BSA lacks suitable habitat and/or is outside the species' range. These include, but are not limited to, Crotch's bumble bee (CBB; *Bombus crotchii*), western bumble bee (WBB; *Bombus occidentalis*), vernal pool fairy shrimp (VPFS; *Branchinecta lynchi*), monarch butterfly (MOBU; *Danaus plexippus plexippus*), valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), vernal pool tadpole shrimp (VPTS; *Lepidurus packardii*), green sturgeon (GRST; *Acipenser medirostris*), delta smelt (DESM; *Hypomesus transpacificus*), steelhead (STE; *Oncorhynchus mykiss irideus*), longfin smelt (LOSM; *Spirinchus thaleichthys*), foothill yellow-legged frog (FYLF; *Rana boylei*), western spadefoot (WESP; *Spea hammondi*), tricolored blackbird (TCB; *Agelaius tricolor*), grasshopper sparrow (GRSP; *Ammodramus savannarum*), short-eared owl (SEO; *Asio flammeus*), northern harrier (NOHA; *Circus hudsonius*), western yellow-billed cuckoo (WYBC; *Coccyzus americanus occidentalis*), California condor (CACO; *Gymnogyps californianus*), least Bell's vireo (LBV; *Vireo bellii pusillus*), yellow-headed blackbird (YHB; *Xanthocephalus xanthocephalus*), northwestern pond turtle (NPT; *Actinemys marmorata*), Northern California legless lizard (NCLL; *Anniella pulchra*), California glossy snake (CGS; *Arizona elegans occidentalis*), San Joaquin coachwhip (SJC; *Masticophis flagellum ruddocki*), Alameda whipsnake (AWS; *Masticophis lateralis euryxanthus*), San Joaquin Valley riparian woodrat (SJRR; *Neotoma fuscipes riparia*), riparian brush rabbit (RBR; *Sylvilagus bachmani riparius*), and American badger (AMBA; *Taxidea taxus*). Because of the lack of suitable habitat, these species are not expected to occur in the BSA or be impacted by the proposed project.

1.3.2 Species with Potential to Occur in the BSA

The BSA contains Corral Hollow Creek, an intermittent tributary to the San Joaquin River, which may provide a dispersal corridor for local wildlife species. There is an I-580 overpass over Corral Hollow Creek that was observed to support cliff swallow (*Petrochelidon pyrrhonota*) nests during the June 2025 surveys. There are multiple isolated trees and an ornamental woodland located within the BSA and the area is surrounded by rolling foothill grasslands, which may provide suitable nesting or foraging habitat for raptors and other bird species protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The BSA provides potentially suitable habitat for migratory bird species and 12 special-status wildlife species: golden eagle (GOEA; *Aquila chrysaetos*), burrowing owl (BUOW; *Athene cunicularia*), Swainson's hawk (SWHA; *Buteo swainsoni*), white-tailed kite (WTK; *Elanus leucurus*), loggerhead shrike (LOSH; *Lanius ludovicianus*), California tiger salamander (; *Ambystoma californiense*), California red-legged frog (CRLF; *Rana draytonii*), coast horned lizard (CHL; *Phrynosoma blainvillii*), pallid bat (PABA; *Antrozous pallidus*), Townsend's big-eared bat (TBEB; *Corynorhinus townsendii*), western mastiff bat (WMB; *Eumops perotis californicus*), and San Joaquin kit fox (SJKF; *Vulpes macrotis mutica*). However, due to the intermittent nature of Corral Hollow Creek, its lack of dense contiguous riparian vegetation, the engineered nature of Corral Hollow Creek (e.g., cement armored banks), the ongoing disturbance in the BSA, and the proximity to a highly trafficked highway, it is unlikely that any of these species would be present within the BSA. However, out of an abundance of caution, avoidance and minimization measures would be carried out by the proposed project to ensure that no significant impact to GOEA, BUOW, SWHA, WTK, LOSH, CHL, PABA, TBEB, WMB or any other special-status wildlife species would occur.

1.4 Permits and Consultation

The proposed project will have no effect on the CTS, CRLF, SJKF, or any other federally listed species. Therefore, formal consultation is not needed. The California Department of Transportation (Caltrans), as the federal Lead Agency on the proposed project, coordinated with the United States Fish and Wildlife Service (USFWS) on March 13, 2026 (USFWS, personal communication). A separate, formal consultation process with the USFWS was conducted for the Tracy Hills Development Project and a subsequent Biological Opinion was issued by the USFWS on January 28, 2021, which included various conservation measures. Additionally, Incidental Take Permits were issued by the California Department of Fish and Wildlife (CDFW) for the south section of the BSA on February 1, 2021, and the north section of the BSA on August 27, 2021. The Biological Opinion and Incidental Take Permits issued in 2021 considered the proposed project (e.g., the proposed project was a covered action); however, Caltrans was not an active participant in the consultation process.

1.5 Project History

1.5.1 Project Purpose and Need

The purpose of the proposed project is to:

- Provide operational improvements to address anticipated traffic generated from ongoing development.
- Improve bicycle and pedestrian accessibility on both sides of the interchange.
- Enhance traffic circulation and mobility for vehicular traffic, bicycles, and pedestrians.
- Enhance connectivity for residents, businesses, and regional travelers while minimizing traffic delays and improving overall roadway functionality.

The project is needed because the current interchange is insufficient to handle future traffic demands and provide easy access. The project area also lacks multimodal access and connectivity. To improve this, sidewalks and bike lanes are needed through the interchange to link the existing facilities on both the north and south sides of the Corral Hollow Road.

1.6 Project Description

Caltrans, in cooperation with the City of Tracy proposes the I-580/Corral Hollow Road Interchange Bridge Improvement Project (project) to enhance local and regional traffic circulation and reduce existing and future congestion at the I-580/Corral Hollow Road interchange resulting from build out of the Tracy Hills Specific Plan.

The current I-580/Corral Hollow Road Interchange is a Type L-1 Tight Diamond configuration with single-lane on- and off-ramps. Two-way stops control the intersections of Corral Hollow Road and the ramp terminals.

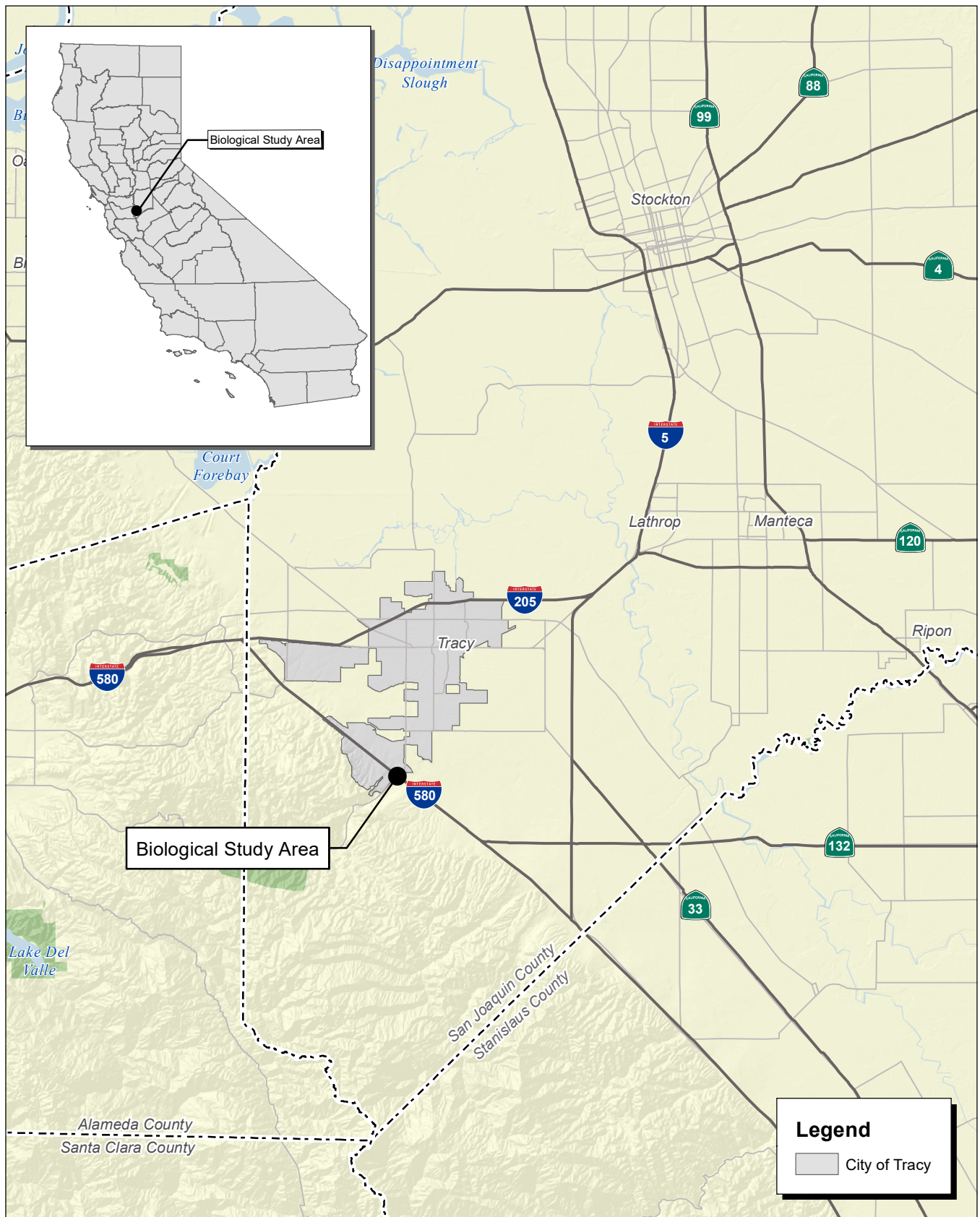
The project proposes reconfiguring the existing Tight Diamond with a Diverging Diamond interchange. The project includes the following improvements:

- Widen and upgrade the Corral Hollow Road Overpass structure (Bridge No. 29-0080) to match existing the existing 4-lane capacity along Corral Hollow Road on either side of the interchange and construct a new concrete barrier between the vehicle lanes and a new center-running multi-purpose bike/pedestrian path.
- Reconfigure the eastbound and westbound I-580 ramp termini intersections to a Diverging Diamond configuration and install a new two-phase signal.
- Install new traffic signals at the EB and WB ramp terminus intersections.
- Stripe crosswalks on the north leg of the westbound I-580 ramp terminus intersection and the south leg of the eastbound I-580 ramp terminus intersection.

The Eastbound on-ramp crosses Corral Hollow Creek. Two design options are being considered to address the crossing:

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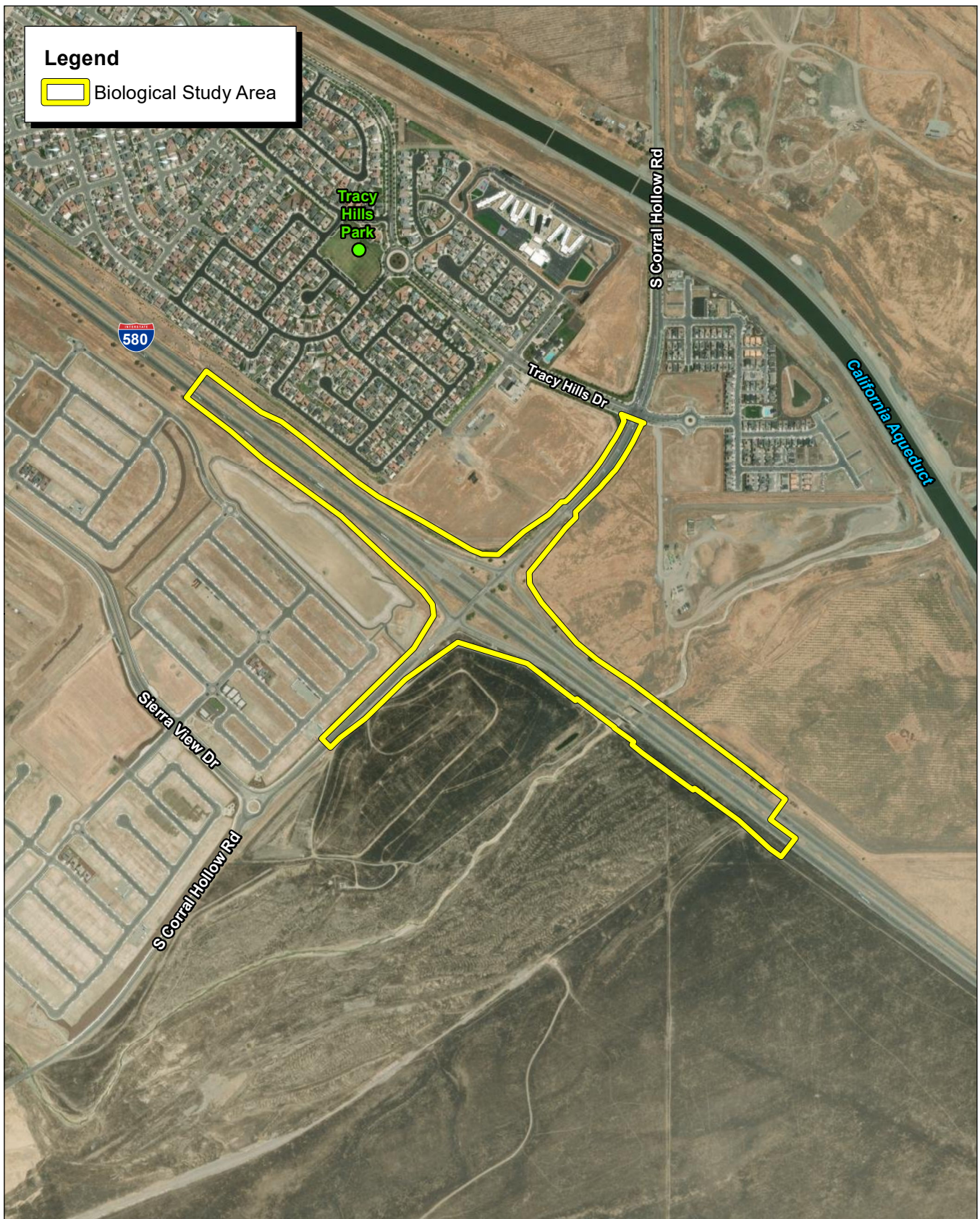
- Option A, which would involve widening the existing bridge over the Corral Hollow Creek (Bridge No. 29-0081L) to accommodate the eastbound on-ramp, including an additional lane and paved shoulder.
- Option B, which would involve complete replacement of the existing Corral Hollow Creek Bridge.



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).



Figure 1
Regional Location Map



Source: ESRI Aerial Imagery. Mark Thomas, 10/03/2024, updated 01/27/2025, Revised 05/16/2025.

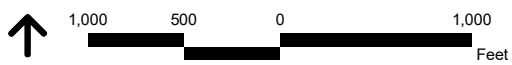


Figure 2
Local Vicinity Map

2. Study Methods

Prior to conducting the reconnaissance-level field survey, FCS Senior Biologist Robert Carroll (Appendix A, Biologist Qualifications) compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the BSA and vicinity based on a search of the USFWS Information for Planning and Consultation (IPaC) database (Appendix B, IPaC Database Query); the California Natural Diversity Database (CNDDB) database (Appendix C, CNDDB Database Query); and the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS Inventory) (Appendix D, CNPS Database Query) for the *Tracy, California* USGS 7.5-minute Topographic Quadrangle Map and the eight surrounding quadrangles. The CNDDB Biogeographic Information and Observation System (BIOS 6) was used to determine the distance between the known occurrences of special-status species and the BSA. The BSA is located outside of the National Marine Fisheries Service (NMFS) jurisdiction, and, therefore, an NMFS-specific species list is not included within this report.

The remaining eight USGS 7.5-minute topographic quadrangle maps included the following:

- Lathrop
- Solyo
- Vernalis
- Union Island
- Clifton Court Forebay
- Lone Tree Creek
- Cedar Mtn.
- Midway

2.1.1 Field Reviews

FCS conducted a reconnaissance-level field survey of the BSA on June 5 and June 10, 2025.

2.1.2 Survey Methods

FCS walked the BSA and noted the Global Positioning System (GPS) locations of potential biological resources using the ArcGIS Field Maps mobile application. The objective of the survey was not to extensively search for every species occurring within the BSA but to ascertain general site conditions and identify whether existing vegetation communities provide suitable habitat for special-status plant or wildlife species. Special-status and other biological resources identified during the literature review were ground-truthed during the field survey for mapping accuracy. Special attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

Photos of the BSA are included in Appendix E.

2.2 Personnel and Survey Dates

The reconnaissance-level field survey of the BSA occurred on June 5 and June 10, 2025. The surveys were conducted by FCS Senior Biologist Robert Carroll and FCS Biologist Juliet Simpson.

2.3 Regulatory Requirements

2.3.1 Federal Endangered Species Act

USFWS has jurisdiction over species listed as threatened or endangered under the federal Endangered Species Act of 1973. Section 9 of Endangered Species Act protects listed species from “take,” which is broadly defined as actions taken to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” The Endangered Species Act protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process.

Project Applicability: The federally listed plant species with recorded occurrences in the greater vicinity of the BSA is large-flowered fiddleneck. While the BSA contains small sections of annual grasslands, the high level of ongoing disturbance prevents these areas from providing suitable habitat for this species. Additionally, the Biological Opinion from the USFWS for the area including the BSA does not identify this species as having the potential to occur. All recorded observations of this species are located in undisturbed habitats in hills to the west of the BSA.

The federally listed wildlife species with recorded occurrences in the greater vicinity of the BSA are VPFS, VELB, VPTS, GRST, DESM, STE, LOSM, EUL, CTS, FYLF, CRLF, WYBC, CACO, LBV, AWS, SJVW, RBR, and SJKF. Of these, no federally listed species have the potential to be present in a dispersal capacity within the BSA during project construction (USFWS, personal communication). Therefore, the proposed project **will have no effect on any federally listed species.**

2.3.2 Clean Water Act and Porter-Cologne Water Quality Control Act

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States.

As of the preparation of this report in July 2025, the final “Revised Definition of Waters of the United States” rule was published in the Federal Register on January 18, 2023, and took effect on March 20, 2023. However, the final rule is not currently operative in certain states and for certain parties due to litigation. Moreover, the United States Environmental Protection Agency (EPA) and USACE (hereafter known as the agencies) are in receipt of the U.S. Supreme Court’s May 25, 2023, decision in the case of *Sackett v. Environmental*

Protection Agency. In light of this decision, the agencies will interpret the phrase “waters of the United States” consistent with the Supreme Court’s decision in *Sackett*. As a result of ongoing litigation, the agencies are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice.

Therefore, since the agencies are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice, our analysis follows 40 Code of Federal Regulations 230.3(s) in effect under the pre-2015 regulatory regime, which defines “waters of the United States” as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
 - a) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c) Which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under this definition.
5. Tributaries of waters identified in paragraphs(s) (1) through (4) of this section.
6. The territorial sea.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs(s) (1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 Code of Federal Regulations 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA and/or USACE.

“Wetland” refers to 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 for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

The Regional Water Quality Control Board (RWQCB) regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State” (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act and under Section 401 of the CWA. “waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the State” (Water Code § 130501). In 2019, the California State Water Resources Control Board published the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State to guide wetland waters of the State determinations and the permitting process.

As stated in Section 401 of the CWA, “any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.” Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB.

Additionally, the RWQCB administers the federal National Pollutant Discharge Elimination System (NPDES) program. Established through the CWA, the NPDES program controls and regulates pollutants entering water bodies from point and nonpoint discharges. The RWQCB issues NPDES permits for discharges to water bodies, including those related to construction activity (e.g., Construction General Permit).

Project Applicability: The BSA contains Corral Hollow Creek, an intermittent tributary of the San Joaquin River. Because of the intermittent nature of the creek located on the BSA and its downstream connection to the San Joaquin River, it would likely be considered a water of the United States and State. Additionally, the BSA contains two isolated ephemeral drainage features. One of these features originates with a cement lining and then turns into an erosional drainage feature as it moves south, while the other contains a compacted soil substrate and is the result of runoff scour between two culverts. The two ephemeral drainage features do not contain a hydrological connection to Corral Hollow Creek but would likely be considered waters of the State.

The proposed project would avoid the placement of fill within the bed and/or bank of Corral Creek and therefore would not require Section 404 or 401 Clean Water Act permitting. The proposed project would require the fill of the two isolated ephemeral drainages within the BSA. Impacts to these features would likely require a Report of Waste Discharge as

these features are likely regulated by the RWQCB as waters of the State. However, jurisdictional determinations related to extent of waters of the United States can only be made by the USACE and jurisdictional determinations related to the extent of waters of the State can only be made by the RWQCB.

2.3.3 Federal Migratory Bird Treaty Act

The MBTA implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping unless expressly authorized in the law and regulations or otherwise by permit. All migratory birds and their nests are protected from take and other impacts under the MBTA (16 United States Code [USC] § 703, *et seq.*).

Project Applicability: Almost all bird species potentially occurring within the BSA are covered under the MBTA. Species observed during the reconnaissance-level field survey that have the potential to nest within or within disturbance distance of the BSA include hawk (*Buteo sp.*), falcon (*Falco sp.*), northern mockingbird (*Mimus polyglottos*), rock pigeon (*Columba livia*), cliff swallow, and others. These avian species are protected by the MBTA.

2.3.4 Bald Eagle and Golden Eagle Protection Act

The golden eagle and bald eagle (BAEA; *Haliaeetus leucocephalus*) are afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq.*) and the Bald and Golden Eagle Protection Act (16 USC §§ 668–668d).

Project Applicability: As presented in Table 2 below, the BSA does not contain suitable habitat to support the bald eagle. However, the utility poles, trees, and grassland may provide potentially suitable habitat for the golden eagle. The nearest recorded occurrence of the golden eagle is approximately 4 miles west of the BSA associated with the Carnegie State Vehicular Recreation Area in 1996. There have been two additional recorded occurrences in this area approximately 6 miles west of BSA, recorded in 1998 and 2016. There have been no recorded occurrences of bald eagle within 15 miles of the BSA.

2.3.5 Executive Order 13751–Invasive Species

On February 3, 1999, Executive Order 13112 was signed requiring federal agencies to combat the introduction or spread of invasive species. This Executive Order was then amended to Executive Order 13751 as of December 2016. 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.”

Under the Executive Order, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

Project Applicability: The BSA currently supports a common mix of invasive plant species in the wild oat-annual brome grassland, ruderal/disturbed areas, and in Corral Hollow Creek, including oat (*Avena* sp.), false brome (*Brachypodium distachyon*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), Italian thistle (*Carduus pycnocephalus*), Maltese star thistle (*Centaurea melitensis*), yellow star thistle (*Centaurea solstitialis*), poison hemlock (*Conium maculatum*), redstem stork's bill (*Erodium cicutarium*), rattail sixweeks grass (*Festuca myuros*), sweet fennel (*Foeniculum vulgare*), short podded mustard (*Hirschfeldia incana*), broadleaved pepperweed (*Lepidium latifolium*), rabbitsfoot grass (*Polypogon monspeliensis*), cultivated radish (*Raphanus sativus*), curly dock (*Rumex crispus*), Russian thistle (*Salsola tragus*), Peruvian pepper tree (*Schinus molle*), milk thistle (*Silybum marianum*), smallflower tamarisk (*Tamarix parviflora*), and saltcedar (*Tamarix ramosissima*).

The proposed project is unlikely to result in a substantial increase of invasive species due to the ongoing disturbance and existing dominance of invasive species.

2.3.6 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA pertains to State-listed endangered and threatened species. CESA requires lead agencies to consult with the CDFW when preparing California Environmental Quality Act (CEQA) documents to ensure that the lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State’s prohibition against take of a listed species if the take is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

Project Applicability: The State-listed plant species with recorded occurrences in the greater vicinity of the BSA are large-flowered fiddleneck, Tracy’s eriastrum, delta button-celery, and Mason’s lilaeopsis; however, the BSA is outside of the species elevation range, local occurrence range, or does not contain suitable habitat to support these species. While the BSA does contain small sections of annual grassland, the high level of ongoing disturbance prevents these areas from providing suitable habitat for this species.

The State-listed wildlife species with recorded occurrences in the greater vicinity of the BSA are CBB, WBB, DESM, LOSM, CTS, FYLF, TCB, BUOW, SWHA, WYBC, LBV, AWS, RBR, and SJKF. Of these, BUOW and SWHA have the potential to be present within the BSA during project construction; however, the habitat quality is poor and highly disturbed from decades of ongoing highway use. Nevertheless, avoidance and minimization measures, such as seasonal work restrictions, a Worker Environmental Awareness Program, pre-construction survey, and installation of exclusion fencing

around the impact area prior to construction would avoid any potential take of the BUOW, or SWHA.

2.3.7 California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Fish and Game Code Sections 2050 through 2098 outline the protection provided to California's rare, endangered, and threatened species. Fish and Game Code Section 2080 prohibits the taking of plants and animals listed under the CESA. Fish and Game Code Section 2081 establishes an Incidental Take Permit program for State-listed species. The CDFW maintains a list of "candidate species" which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq.*) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from take prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the project.

In addition to formal listing under the Endangered Species Act and CESA, some species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a "Species of Special Concern." The CDFW maintains lists of Species of Special Concern that serve as species "watch lists." Species with this status may have limited distributions or limited populations and/or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and specific protection measures may be warranted. In addition to Species of Special Concern, the CDFW Special Animals List identifies animals that are tracked by the CNDDDB and may be potentially vulnerable but warrant no federal interest and no legal protection.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS List ranked 1 and 2 would typically require evaluation under CEQA.

Fish and Game Code Sections 3500 to 5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project Study Area and determine whether the project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” “River, stream, or lake” includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water. CDFW jurisdiction typically extends to the edge or “drip line” of the riparian habitat or top of bank.

Project Applicability: The BSA contains Corral Hollow Creek and two ephemeral drainages with a defined bed and bank, making them waterways regulated under Fish and Game Code Section 1602. The proposed project would result in either an additional bridge segment or an extended overpass deck over Corral Hollow Creek. Additionally, the proposed project would also require the fill of the two isolated ephemeral drainages within the BSA. Impacts to these features would likely require a Lake or Streambed Alteration Agreement from CDFW.

The unlisted plant species (with CNPS ranks of 1 or 2) in the greater vicinity of the BSA are Sharsmith's onion, alkali milk-vetch, heartscale, big tarplant, Lemmon's jewelflower, dwarf soaproot, slough thistle, Mt. Hamilton thistle, Hospital Canyon larkspur, recurved larkspur, delta button-celery, spiny-sepaled button-celery, diamond-petaled California poppy, San Joaquin spearscale, talus fritillary, Mt. Diablo helianthella, Brewer's western

flax, woolly rose-mallow, Loma Prieta hoita, Mt. Hamilton coreopsis, Mason's lilaeopsis, Delta mudwort, showy golden madia, Hall's bushmallow, shining navarretia, Mt. Diablo phacelia, California alkali grass, chaparral harebell, chaparral ragwort, long-styled sand-spurrey, Wright's trichocoronis, and caper-fruited tropidocarpum; however, for many of these taxa, the BSA is outside of the species elevation range or local occurrence range or does not contain suitable habitat to support these species. The proposed project is unlikely to affect any of the special-status plant species listed above.

The remaining sections of California Fish and Game Code outlined above affords protection for most native avian, mammal, and other wildlife species within or within disturbance distance of the BSA.

2.4 Agency Coordination and Professional Contacts

This section is not applicable to the proposed project.

2.5 Limitations That May Influence Results

The City of Tracy Pumping Plant (C.W. Bill Jones Pumping Plant), located approximately 11 miles northwest of the BSA, reports a mean annual precipitation of 12.03 inches (WRCC 2025). The Tracy 1.1 SSW Weather Station, located approximately 3.5 miles north of the BSA, reported 3.76 inches of rainfall as of June 5, 2025, which is approximately half of the average 7.47 inches typically seen for this period (NOAA RCC 2025; WRCC 2025). As of the date of this report, no additional rain has been recorded (NOAA RCC 2025). While the precipitation was low for the spring season, the methodology outlined in Section 2 is consistent with the standards for the preparation of an NES MI.

3. Results: Environmental Setting

3.1 Description of the Existing Physical and Biological Conditions

The BSA is located within the City of Tracy at the interchange of I-580 and Corral Hollow Road (Figure 1; Figure 2). The project vicinity generally includes residential uses and local roadways associated with the Tracy Hills Development and rural/vacant land. The areas within and immediately adjacent to the proposed project limits are predominantly developed or in the process of being developed and generally consist of residential land uses. The interchange currently carries residential, commercial, and regional vehicular traffic to and from the City and connects to one of the main collectors for the area, Corral Hollow Road.

The BSA consists of an interchange with two eastbound lanes and two westbound lanes on I-580. Additionally, Corral Hollow contains one northbound lane and one southbound lane. Corral Hollow is a major collector, with a design capacity ranging from 2,000 to 10,000 vehicles per day, a curb-to-curb width of 40 to 64 feet, and 2 to 4 lanes. Major collectors serve as connections between local streets and arterial roads, providing access to major truck routes from surrounding neighborhoods. Truck access in the City to I-580 is provided via a through truck route on Corral Hollow Road via the I-580 interchange.

A single-family residential development, including parks and a welcome center, is located just northwest of the project site (north of I-580 and west of Corral Hollow Road). A residential development is currently being constructed northeast of the project site and another residential neighborhood is planned adjacent to the southwestern portion of the project site. The Tracy Hills Development, described further below, would include approximately 7,265 homes at buildout. Therefore, there would be approximately 7,265 homes served by the proposed interchange and associated roadway improvements.

3.1.1 Study Area

The BSA is located within the *Tracy, California* USGS 7.5-minute Topographic Quadrangle Map (Figure 1; Figure 2). The 51.98-acre BSA includes all potential design options expected to be permanently or temporarily impacted by the proposed project, as well as some adjacent areas for potential equipment staging (Figure 3; Figure 4A; Figure 4B).

The BSA is generally located in the southwestern portion of San Joaquin County, south of I-205 and along I-580. The BSA is composed of I-580, Corral Hollow Road, the I-580/Corral Hollow Interchange, and adjacent roadside areas. There are multiple coast live oak and Peruvian pepper trees present in the roadside areas, as well as multiple culverts, Corral Hollow Creek, and two ephemeral roadside drainages (Appendix E, Site Photographs).



Figure 3
Vegetation Communities/Land Cover Map





Source: ESRI Aerial Imagery. Mark Thomas. 10/03/2024, updated 01/27/2025, revised 05/16/2025.



Figure 4b
Impact Map

3.1.2 Physical Conditions

The BSA is located on eastern side of the North Diablo Range along the edge of the San Joaquin Valley. The elevation within the BSA ranges from approximately 240 to 315 feet above mean sea level (Google Earth 2025). Soils within the BSA are composed of Carbona clay loam 2 to 8 percent slopes, Dumps, Pleito clay loam 2 to 8 percent slopes, Xerofluvents-Xerorthents complex 1 to 8 percent slopes (occasionally flooded), Zacharias gravelly clay loam 0 to 2 percent slopes, and Zacharias gravelly clay loam 2 to 8 percent slopes (United States Department of Agriculture [USDA] 2025).

Based on information from the City of Tracy Pumping Plant (C.W. Bill Jones Pumping Plant), approximately 11 miles northwest of the BSA, the local area has a mean annual precipitation of 12.03 inches (Western Regional Climate Center 2025). This station also shows that the local area has mean annual minimum and maximum temperatures of 49.9 and 74.3°F (degrees Fahrenheit), respectively (Western Regional Climate Center 2025).

3.1.3 Biological Conditions

FCS identified all biotic habitats within the BSA during the field survey and mapped the communities on a GPS unit (Figure 3). Seven biotic habitats were identified within the 51.98-acre BSA and included beardless wild rye planted field, Corral Hollow Creek, developed, ornamental woodland, ruderal/disturbed, saltgrass patch, and wild oat-annual brome disturbed grassland. Table 1, below, provides the approximate acreage of each biotic habitat within the BSA. For a comprehensive list of wildlife and plant species observed, see Appendix F, Species Compendium.

Table 1: Biotic Habitat Acreages in the BSA

Biotic Habitat/Land Use	Total Area (ac)
Beardless wild rye planted field	0.11
Corral Hollow Creek	0.17
Developed	17.32
Ornamental woodland	1.28
Ruderal/disturbed	20.28
Saltgrass patch	0.04
Wild oat-annual brome disturbed grassland	12.82
Total Area*	52.02
Notes: I-580 overlaps with Corral Hollow Creek and accounts for the difference between the total area of biotic habitats and the Biological Study Area.	

3.1.3.1 Beardless Wild Rye Planted Field

Vegetation: There is a patch of planted beardless wild rye (*Elymus triticoides*) surrounding the drainage in the center portion of the BSA west of I-580. This species is dominant in this vegetation community, with scattered non-native and invasive species including wild oat, Maltese star thistle, soft brome, ripgut brome, rattail sixweeks grass, and short podded mustard. This community corresponds to the 41.080.01 *Leymus triticoides* Association, which is listed as Sensitive on the CDFW California Natural Community List (CDFW 2025). During the June field survey it appeared as though this was planted as part of a former mitigation site due to the presence of an adjacent rock slope protection feature and the isolated nature of this vegetation community (Appendix E: Photograph 10). Since this community is likely the result of seeding, it would not be considered a natural community as it is not naturally occurring.

Wildlife: This small patch of planted grassland surrounding a fence and impacted ephemeral drainage provides minimal habitat for wildlife species.

3.1.3.2 Corral Hollow Creek

Vegetation: The bed of Corral Hollow Creek is mostly bare with scattered individual shrubs and forbs, none of which are dominant. Shrubs present in this area include a mix of native and invasive species including saltcedar, smallflower tamarisk, mule fat (*Baccharis salicifolia*), and coyote brush (*Baccharis pilularis*). There was also a single small Fremont cottonwood (*Populus fremontii*) growing in this area. Forbs present in this area include a variety of disturbance-friendly native species including Great Valley gumweed (*Grindelia camporum*), tarweed (*Holocarpha* sp.), tarweed (*Centromadia* sp.), common sunflower (*Helianthus annuus*), and western vervain (*Verbena lasiostachys*). The banks of the reach of Corral Hollow Creek within the BSA are armored with cement banks as part of the I-580 overpass construction.

Wildlife: Corral Hollow Creek within the BSA does not provide breeding habitat for aquatic or semi-aquatic species due to its intermittent hydrological regime, lack of deep pooling features, or cover from riparian vegetation. Therefore, this reach of Corral Hollow Creek would not likely provide suitable habitat for most aquatic or semi-aquatic wildlife species beyond a potential dispersal corridor. At the time of the field survey there were multiple cliff swallow nests present under the overpass. The overpass may also provide potentially suitable roosting habitat for bat species.

3.1.3.3 Developed

Vegetation: Much of the BSA consists of the developed I-580, Corral Hollow Road, and the I-580/Corral Hollow Interchange. Developed land is land that has been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. These roadways are subject to high vehicular usage and there was no vegetation present.

Wildlife: Developed areas provide little habitat value for most wildlife species; however, the I-580 overpass over Corral Hollow Creek supports multiple cliff swallow nests. The

Corral Hollow Creek overpass and the Corral Hollow Road overpass over I-580 may also provide potentially suitable roosting habitat for bat species.

3.1.3.4 Ornamental Woodland

Vegetation: There is a line of planted trees within the BSA, north of Corral Hollow Road and east of I-580 along the edge of a fence surrounding the adjacent undeveloped field. This area is highly maintained with no shrub or herbaceous species present.

Wildlife: Ornamental woodland may provide potentially suitable habitat for nesting bird species commonly found in urbanized environments. Additionally, utility poles present within this community provide potentially suitable habitat for bird nests. There was one nest observed on a utility pole during the field surveys (Appendix E: Photograph 4).

3.1.3.5 Ruderal/Disturbed

Vegetation: The areas immediately surrounding the paved areas of I-580, Corral Hollow Road, and the I-580/Corral Hollow Road Interchange are subject to high levels of disturbance from vehicular usage of the surrounding roadways. Vegetation in these areas ranges from nearly bare to small patches of disturbance-tolerant native and non-native forbs, none of which are dominant, including Great Valley gumweed, tarweed, fiddleneck, sacred datura (*Datura wrightii*), common sunflower, turkey-mullein (*Croton setiger*), vinegarweed (*Trichostema lanceolatum*), Maltese star thistle, redstem stork's bill, Russian thistle, short podded mustard, cultivated radish, wild radish (*Raphanus raphanistrum*), and prickly lettuce (*Lactuca serriola*). This area is also likely mowed on a regular basis to prevent traffic obstruction and to mitigate potential fire hazards.

Wildlife: The ruderal/disturbed areas do not provide suitable habitat for many wildlife species; however, there were multiple insect species present including cobalt milkweed beetle (*Chrysochus cobaltinus*) and Thisbe's tarantula-hawk wasp (*Pepsis thisbe*).

3.1.3.6 Saltgrass Patch

Vegetation: There is a small patch of saltgrass (*Distichlis spicata*) adjacent to the planted beardless wild rye patch in the center of the BSA west of I-580 (Appendix E: Photograph 11). Saltgrass is the dominant plant in this herbaceous community, with scattered soft brome and foxtail brome (*Bromus madritensis*). Forbs present in this community include vinegarweed, curly dock, turkey-mullein, Maltese star thistle, Russian thistle, and fiddleneck. This community corresponds to the 41.201.01 *Distichlis spicata* Interior Association, which is not listed as sensitive on the California Natural Community List (CDFW 2025).

Wildlife: This small patch of saltgrass provides little habitat value for most wildlife species; however, the native and non-native forbs can provide foraging habitat for various insects and pollinators.

3.1.3.7 Wild Oat-Annual Brome Disturbed Grassland

Vegetation: Wild oat-annual brome grassland is present in some sections along the roadway. The dominant plants in this community were grasses including wild oat, false brome, and ripgut brome. There were some individual coast live oak and Peruvian pepper trees present in this community at low cover. There were a few scattered forbs, including Great Valley gumweed, short podded mustard, fiddleneck, and tarweed. This community corresponds to the 42.027.00 *Avena spp.-Bromus spp.* Alliance, which is not ranked as sensitive on the CDFW California Natural Community List (CDFW 2025).

Wildlife: Periodically disturbed annual grassland provides little habitat value for most wildlife species; however, the native and non-native forbs can provide foraging habitat for various insects and pollinators. Bird species observed in or flying over this community include hawk, falcon, northern mockingbird, and rock pigeon. There are multiple trees present in this community that have marginal potential to provide nesting habitat for bird species, which is low due to the location adjacent to I-580.

3.1.4 Habitat Connectivity

The BSA itself provides minimal habitat connectivity for local wildlife, as the majority of the BSA consists of developed freeway and road. However, the intermittent Corral Hollow Creek runs through the southern portion of the BSA underneath I-580 that may provide a habitat corridor for local wildlife species. The west side of I-580 is mapped as Conservation Planning Linkages on the BIOS6 Terrestrial Connectivity Map (CDFW 2025) and the east side is mapped as having Limited Connectivity Opportunity. Additionally, Corral Hollow Creek is not mapped as a connectivity corridor on the BIOS6 Terrestrial Connectivity Map. Species may disperse from the east side of the BSA through or near the BSA in search of areas of higher habitat quality to the west; however, the BSA should not be considered a significant wildlife movement corridor for the reasons outlined above.

3.2 Regional Species and Habitats and Natural Communities of Concern

No special-status species were observed within the BSA during the field survey. The special-status species table (Table 2 below) lists 56 special-status plant species and 42 special-status wildlife species that have been recorded in the *Tracy, California* USGS 7.5-minute Topographic Quadrangle Map and the eight surrounding quadrangles by CNDDB, CNPS, and IPaC. Of the 56 special-status plants, two are either federally or State-listed threatened or endangered and two more are designated as rare by CDFW. Of the 42 special-status wildlife species, 20 are either federally or State-listed threatened or endangered, one is federally proposed threatened, five more are candidates for either federal or State listing, and two more are designated as fully protected. For a comprehensive list of special-status species and their potential to occur within the BSA, please see Table 2.

Habitats may be considered to be sensitive if they are limited in distribution, provide habitat for a sensitive species in the region, or are regulated by federal, State, or local

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law. Five California Sensitive Natural Communities were identified by the CNDDDB to occur in at least one of the nine USGS 7.5-minute quadrangles that contain or surround the BSA. The BSA contains a planted beardless wild rye field, which is listed as sensitive on the CDFW California Natural Communities List (CDFW 2025). This community is planted and therefore not naturally occurring.

There is no proposed or final critical habitat as defined by the USFWS for any special-status plant or wildlife species located within the BSA.

Table 2: Special-status Species Potentially Occurring or Known to Occur in the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
Plants						
Santa Clara thorn-mint	<i>Acanthomintha lanceolata</i>	4.2	Annual herb found in chaparral, cismontane woodland, and coastal scrub. Grows in often rocky, serpentine soils. Elevation: 80–1,200 meters Bloom period: March–June	A	N/A	BSA does not contain chaparral, cismontane woodland, or coastal scrub. BSA is outside species range on California. Three recent occurrences within 10 miles of BSA.
Sharsmith's onion	<i>Allium sharsmithiae</i>	1B.3	Perennial bulbiferous herb found in chaparral and cismontane woodland. Grows in rocky, serpentine soils. Elevation: 400–1,200 meters Bloom period: March–May	A	N/A	BSA does not contain chaparral or cismontane woodland. BSA is 310 meters below species elevation range and is outside species range on California. No occurrences recorded within 10 miles of BSA.
large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	FE, SE, 1B.1	Annual herb found in cismontane woodland and valley and foothill grassland. Elevation: 270–550 meters Bloom period: (March) April–May	A	No Effect	BSA contains slivers of disturbed invasive annual grassland that likely would not provide suitable habitat for this species. BSA is 180 meters below species elevation range. The USFWS Biological Opinion for the area that includes the BSA did not find that this species had the potential to

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						occur. Two recent occurrences within 5 miles of BSA. BSA does not overlap with final critical habitat designated for this species.
California androsace	<i>Androsace elongata</i> ssp. <i>acuta</i>	4.2	Annual herb found in chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland. Elevation: 150–1,305 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is 60 meters below species elevation range. Two recent occurrences within 10 miles of BSA.
Carlotta Hall's lace fern	<i>Aspidotis carlotta-halliae</i>	4.2	Perennial rhizomatous herb found in chaparral, and cismontane woodland. Grows in usually serpentine soils. Elevation: 100–1,400 meters Bloom period: January–December	A	N/A	BSA does not contain chaparral or cismontane woodland. BSA is 10 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	1B.2	Annual herb found in playas, valley and foothill grassland, and vernal pools. Grows in adobe, alkaline, clay soils. Elevation: 0–170 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools or playas. BSA is outside species range on Calflora.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.
heartscale	<i>Atriplex cordulata</i> var. <i>cordulata</i>	1B.2	Annual herb found in chenopod scrub, meadows and seeps, and valley and foothill grassland. Grows in sometimes alkaline, sometimes saline, sandy soils. Elevation: 0–560 meters Bloom period: April–October	A	N/A	BSA contains slivers of disturbed invasive annual grassland that likely would not provide suitable habitat for this species. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
crownscale	<i>Atriplex coronata</i> var. <i>coronata</i>	4.2	Annual herb found in chenopod scrub, valley and foothill grassland, and vernal pools. Grows in alkaline, often clay soils. Elevation: 1–590 meters Bloom period: March–October	A	N/A	BSA contains slivers of disturbed invasive annual grassland that likely would not provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
big tarplant	<i>Blepharizonia plumosa</i>	1B.1	Annual herb found in valley and foothill grassland. Grows in usually clay soils. Elevation: 30–505 meters Bloom period: July–October	A	N/A	BSA contains slivers of disturbed invasive annual grassland, however this species has frequently been recorded along roadsides. Two recent occurrences within 10 miles of BSA.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
Lemmon's jewelflower	<i>Caulanthus lemmonii</i>	1B.2	Annual herb found in pinyon and juniper woodland and valley and foothill grassland. Elevation: 75–1,585 meters Bloom period: February–May	A	N/A	BSA contains slivers of disturbed invasive annual grassland, however this species has frequently been recorded along roadsides. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. Three historical occurrences within 5 miles of BSA along Corral Hollow Road.
dwarf soaproot	<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	1B.2	Perennial bulbiferous herb found in chaparral. Grows in serpentine soils. Elevation: 120–1,220 meters Bloom period: May–August	A	N/A	BSA does not contain chaparral. BSA is 30 meters below species elevation range and is outside species range on Calflora. One recent occurrence within 10 miles of project site.
slough thistle	<i>Cirsium crassicaule</i>	1B.1	Annual or perennial herb found in chenopod scrub, marshes and swamps, and riparian scrub. Typically found on sloughs. Elevation: 3–100 meters Bloom period: May–August	A	N/A	BSA does not contain chenopod scrub, marshes, swamps, or riparian scrub. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
Mt. Hamilton thistle	<i>Cirsium fontinale</i> var. <i>campylon</i>	1B.2	Perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland. Typically found near seeps. Grows in serpentine soils. Elevation: 75–890 meters Bloom period: (February) April–October	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain seeps. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
Brewer's clarkia	<i>Clarkia breweri</i>	4.2	Annual herb found in chaparral, cismontane woodland, and coastal scrub. Grows in often serpentine soils. Elevation: 215–1,115 meters Bloom period: April–June	A	N/A	BSA does not contain chaparral, cismontane woodland, or coastal scrub. BSA is 125 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of project site.
Santa Clara red ribbons	<i>Clarkia concinna</i> ssp. <i>automixa</i>	4.3	Annual herb found in chaparral and cismontane woodland. Elevation: 90–1,500 meters Bloom period: (April) May–June (July)	A	N/A	BSA does not contain chaparral or cismontane woodland. BSA is mostly below species elevation range. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
small-flowered morning-glory	<i>Convolvulus simulans</i>	4.2	Annual herb found in chaparral, coastal scrub, and valley and foothill grassland. Typically found in	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			openings and seeps. Grows in clay, serpentine soils. Elevation: 30–740 meters Bloom period: March–July			provide suitable habitat for this species. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
Hospital Canyon larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	1B.2	Perennial herb found in chaparral, cismontane woodland, and coastal scrub. Typically found in openings. Grows in mesic soils. Elevation: 195–1,095 meters Bloom period: April–June	A	N/A	BSA does not contain chaparral, cismontane woodland, or coastal scrub. BSA is 105 meters below species elevation range and is outside species range on Calflora. Two recent occurrences within 10 miles of BSA.
recurved larkspur	<i>Delphinium recurvatum</i>	1B.2	Perennial herb found in chenopod scrub, cismontane woodland, and valley and foothill grassland. Grows in alkaline soils. Elevation: 3–790 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.
Tracy's eriastrum	<i>Eriastrum tracyi</i>	CR, 3.2	Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 315–2,400 meters Bloom period: May–July	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is 225 meters below species

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
bay buckwheat	<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i>	4.2	Perennial herb found in cismontane woodland and lower montane coniferous forest. Grows in rocky, often serpentine soils. Elevation: 700–2,200 meters Bloom period: July–September	A	N/A	BSA does not contain cismontane woodland or coniferous forest. BSA is 610 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
slender cottongrass	<i>Eriophorum gracile</i>	4.3	Emergent perennial rhizomatous herb found in bogs and fens, meadows and seeps, and upper montane coniferous forest. Grows in acidic waters and soils. Elevation: 1,280–2,900 meters Bloom period: May–September	A	N/A	BSA does not contain bogs, fens, meadows, seeps, or coniferous forest. BSA is 1,190 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
Jepson's woolly sunflower	<i>Eriophyllum jepsonii</i>	4.3	Perennial herb found in chaparral, cismontane woodland, and coastal scrub. Grows in sometimes serpentine soils. Elevation: 200–1,025 meters Bloom period: April–June	A	N/A	BSA does not contain chaparral, cismontane woodland, or coastal scrub. BSA is 110 meters below species elevation range and is outside species range on Calflora. One recent

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
						occurrence within 10 miles of BSA.
delta button-celery	<i>Eryngium racemosum</i>	SE, 1B.1	Annual or perennial herb found in riparian scrub. Typically found in depressions. Grows in clay, vernal mesic soils. Elevation: 1–335 meters Bloom period: (May) June–October	A	N/A	BSA does not contain riparian scrub. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.
spiny-sepaed button-celery	<i>Eryngium spinosepalum</i>	1B.2	Annual or perennial herb found in valley and foothill grassland and vernal pools. Elevation: 15–1,270 meters Bloom period: April–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
San Benito poppy	<i>Eschscholzia hypocoides</i>	4.3	Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Grows in clay, serpentine soils. Elevation: 200–1,500 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is 110 meters below species elevation range and is outside species range on Calflora. No occurrences

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
						recorded within 10 miles of BSA.
diamond-petaled California poppy	<i>Eschscholzia rhombipetala</i>	1B.1	Annual herb found in valley and foothill grassland. Grows in alkaline, clay soils. Elevation: 0–975 meters Bloom period: March–April	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. One recent occurrence within 10 miles of BSA.
San Joaquin spearscale	<i>Extriplex joaquinana</i>	1B.2	Annual herb found in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland. Grows in alkaline soils. Elevation: 0–835 meters Blooming Period: April–October	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain meadows, seeps, playas, or chenopod scrub. BSA is outside species range on Calflora. Two recent occurrences within 10 miles of BSA.
stinkbells	<i>Fritillaria agrestis</i>	4.2	Perennial bulbiferous herb found in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland. Grows in clay, sometimes serpentine soils. Elevation: 10–1,555 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. Three recent occurrences within 10 miles of BSA.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
talus fritillary	<i>Fritillaria falcata</i>	1B.2	Perennial bulbiferous herb found in chaparral, cismontane woodland, and lower montane coniferous forest. Grows in serpentine, often talus soils. Elevation: 300–1,525 meters Bloom period: March–May	A	N/A	BSA does not contain chaparral, cismontane woodland, or coniferous forest. BSA is 210 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
phlox-leaf serpentine bedstraw	<i>Galium andrewsii</i> ssp. <i>gatense</i>	4.2	Perennial herb found in chaparral, cismontane woodland, and lower montane coniferous forest. Grows in rocky, serpentine soils. Elevation: 150–1,450 meters Bloom period: April–July	A	N/A	BSA does not contain chaparral, cismontane woodland, or coniferous forest. BSA is 60 meters below species elevation range. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
Mt. Diablo helianthella	<i>Helianthella castanea</i>	1B.2	Perennial herb found in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Often found in partial shade. Grows in azonal, usually rocky soils. Elevation: 45–1,300 meters Blooming Period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
hogwallow starfish	<i>Hesperervax caulescens</i>	4.2	Annual herb found in valley and foothill grassland and shallow	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			vernal pools. Grows in sometimes alkaline, clay, mesic soils. Elevation: 0–505 meters Blooming Period: March–June			provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. Two recent occurrences within 10 miles of BSA.
Brewer's western flax	<i>Hesperolinon breweri</i>	1B.2	Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Grows in usually serpentine soils. Elevation: 30–945 meters Bloom period: May–July	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
woolly rose-mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	1B.2	Emergent perennial rhizomatous herb found in freshwater marshes and swamps. Often found in riprap on sides of levees. Elevation: 0–155 meters Bloom period: June–September	A	N/A	BSA does not contain marshes or swamps. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
Loma Prieta hoita	<i>Hoita strobilina</i>	1B.1	Perennial herb found in chaparral, cismontane woodland, and riparian woodland. Grows in mesic, usually serpentine soils. Elevation: 30–975 meters Blooming Period: May–July (August–October)	A	N/A	BSA does not contain chaparral, cismontane woodland, or riparian woodland. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
Ferris' goldfields	<i>Lasthenia ferrisiae</i>	4.2	Annual herb found in vernal pools. Grows in alkaline, clay soils. Elevation: 20–700 meters Bloom period: February–May	A	N/A	BSA does not contain vernal pools. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
serpentine leptosiphon	<i>Leptosiphon ambiguus</i>	4.2	Annual herb found in cismontane woodland, coastal scrub, and valley and foothill grassland. Grows in usually serpentine soils. Elevation: 120–1,130 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora and is 30 meters below species elevation range. No occurrences recorded within 10 miles of BSA.
Mt. Hamilton coreopsis	<i>Leptosyne hamiltonii</i>	1B.2	Annual herb found in cismontane woodland. Grows in rocky soils. Elevation: 535–1,300 meters Bloom period: March–May	A	N/A	BSA does not contain cismontane woodland. BSA is 445 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
spring lessingia	<i>Lessingia tenuis</i>	4.3	Annual herb found in chaparral, cismontane woodland, and lower montane coniferous forest. Typically found in openings. Elevation: 300–2,150 meters Bloom period: May–July	A	N/A	BSA does not contain chaparral, cismontane woodland, or coniferous forest. BSA is 210 meters below species elevation range and is outside species range on Calflora. No

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						occurrences recorded within 10 miles of BSA.
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	CR, 1B.1	Perennial rhizomatous herb found in brackish and freshwater marshes and swamps and riparian scrub. Elevation: 0–10 meters Blooming Period: April–November	A	N/A	BSA does not contain marshes, swamps, or riparian scrub. BSA is 60 meters above species elevation range and is outside species range on Calflora. No recent occurrences within 10 miles of BSA. Two historical occurrences within 10 miles of BSA.
delta mudwort	<i>Limosella australis</i>	2B.1	Perennial stoloniferous herb found in brackish and freshwater marshes and swamps and riparian scrub. Usually found on mud banks or streambanks. Elevation: 0–5 meters Bloom period: May–August	A	N/A	BSA does not contain marshes, swamps, or riparian scrub. BSA is 65 meters below species elevation range and is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
showy golden madia	<i>Madia radiata</i>	1B.1	Annual herb found in cismontane woodland and valley and foothill grassland. Elevation: 25–1,220 meters Bloom period: March–May	A	N/A	BSA contains slivers of disturbed invasive annual grassland, however this species has frequently been recorded along roadsides. One recent occurrence 2 miles southwest of BSA along Corral Hollow Road.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
Hall's bushmallow	<i>Malacothamnus hallii</i>	1B.2	Perennial deciduous shrub found in chaparral and coastal scrub. Elevation: 10–760 meters Bloom period: (April) May–September (October)	A	N/A	BSA does not contain chaparral or coastal scrub. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
Mt. Diablo cottonweed	<i>Micropus amphibolus</i>	3.2	Annual herb found in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland. Grows in rocky soils. Elevation: 45–825 meters Bloom period: March–May	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
sylvan microseris	<i>Microseris sylvatica</i>	4.2	Perennial herb found in chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, and valley and foothill grassland. Grows in rarely serpentine soils. Elevation: 45–1,500 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
little mousetail	<i>Myosurus minimus</i> ssp. <i>apus</i>	3.1	Annual herb found in valley and foothill grassland and vernal pools. Grows in alkaline soils. Elevation: 20–640 meters Bloom period: March–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. No occurrences

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						recorded within 10 miles of BSA.
adobe navarretia	<i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	4.2	Annual herb found in valley and foothill grassland and vernal pools. Grows in vernal mesic, clay, sometimes serpentine soils. Elevation: 100–1,000 m. Bloom period: April–June	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. One recent checklist occurrences within 10 miles of BSA.
shining navarretia	<i>Navarretia nigelliformis</i> ssp. <i>radians</i>	1B.2	Annual herb found in cismontane woodland, valley and foothill grassland, and vernal pools. Grows in sometimes clay soils. Elevation: 65–1,000 meters Bloom period: (March) April–July	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools. BSA is outside species range on Calflora. No recent occurrences within 10 miles of BSA. One historical occurrence within 10 miles of BSA.
Mt. Diablo phacelia	<i>Phacelia phacelioides</i>	1B.2	Annual herb found in chaparral and cismontane woodland. Grows in rocky soils. Elevation: 500–1,370 meters Bloom period: April–May	A	N/A	BSA does not contain chaparral or cismontane woodland. BSA is 410 meters below species elevation range and is outside species range on

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						Calflora. No occurrences recorded within 10 miles of BSA.
Michael's rein orchid	<i>Piperia michaelii</i>	4.2	Perennial herb found in chaparral, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal scrub, and lower montane coniferous forest. Elevation: 3–915 meters Bloom period: April–August	A	N/A	BSA does not contain chaparral, cismontane woodland, coniferous forest, or coastal scrub. BSA is outside species range on Calflora. One recent occurrence within 10 miles of BSA.
California alkali grass	<i>Puccinellia simplex</i>	1B.2	Annual herb found in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Typically found on flats, lake margins, and sinks. Grows in alkaline, vernal mesic soils. Elevation: 1–930 meters Bloom period: March–May	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. BSA does not contain vernal pools, lake margins, flats, or sinks. BSA is outside species range on Calflora. No occurrences recorded within 10 miles of BSA.
chaparral harebell	<i>Ravenella exigua</i>	1B.2	Annual herb found in chaparral. Grows in rocky, usually serpentine soils. Elevation: 90–1,375 meters Bloom period: May–June	A	N/A	BSA does not contain chaparral. BSA is mostly below species elevation range and is outside species range on Calflora. One recent occurrence within 10 miles of BSA.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
chaparral ragwort	<i>Senecio aphanactis</i>	1B.2	Annual herb found in chaparral, cismontane woodland, and coastal scrub. Grows in sometimes alkaline soils. Elevation: 15–1,020 meters Blooming Period: January–April (May)	A	N/A	BSA does not contain chaparral, cismontane woodland, or coastal scrub. BSA is outside species range on California. One recent occurrence within 10 miles of BSA.
long-styled sand-spurrey	<i>Spergularia macrotheca</i> var. <i>longistyla</i>	1B.2	Perennial herb found in marshes and swamps and meadows and seeps. Grows in alkaline soils. Elevation: 0–225 meters Blooming Period: February–May	A	N/A	BSA does not contain marshes, swamps, meadows, or seeps. BSA is outside species range on California. No occurrences recorded within 10 miles of BSA.
Wright's trichocoronis	<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	2B.1	Annual herb found in marshes and swamps, meadows and seeps, riparian forest, and vernal pools. Grows in alkaline soils. Elevation: 5–435 meters Bloom period: May–September	A	N/A	BSA does not contain marshes, swamps, meadows, seeps, riparian forest, or vernal pools. BSA is outside species range on California. No occurrences recorded within 10 miles of BSA.
caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	1B.1	Annual herb found in valley and foothill grassland. Typically found on hills. Grows in alkaline soils. Elevation: 0–455 meters Bloom period: March–April	A	N/A	BSA contains slivers of disturbed invasive annual grassland that would not provide suitable habitat for this species. One recent occurrence within 10 miles of BSA. Two historical

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						occurrences within 5 miles of BSA.
Invertebrates						
Crotch's bumble bee	<i>Bombus crotchii</i>	SC	Found in coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	A	N/A	BSA does not contain food plant genera or coastal habitat. One occurrence recorded in Tracy in 2023, ~5.5 miles north of BSA. One occurrence recorded in Corral Hollow Canyon in 2023, ~7 miles west of BSA.
western bumble bee	<i>Bombus occidentalis</i>	SC	Nesting sites found in rodent burrows in a variety of habitats including forest, woodland, meadow, grassland, and shrubland communities. Overwintering sites found most often in shaded areas near trees, in banks without dense vegetation, in clearings, or in bare patches within short grass.	A	N/A	BSA contains disturbed grassland with isolated burrows in significantly disturbed areas that would not provide suitable habitat for this species. One occurrence recorded in Corral Hollow Canyon in 1951, ~8 miles west of BSA. One occurrence recorded west of Manteca in 1962, ~11.5 miles northeast of BSA. No recent occurrences recorded within 10 miles of BSA.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast	A	No Effect	BSA does not contain depression pools. Five occurrences recorded in the

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.			Byron Ranch Conservation Bank area between 2006–2017, 11.5-14 miles northwest of BSA. BSA does not overlap with final critical habitat for this species.
monarch butterfly	<i>Danaus plexippus</i>	FPT	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	A	No Effect	BSA does not contain eucalyptus, Monterey pine, or cypress. No roosting sites recorded within 10 miles of BSA. BSA does not overlap with proposed critical habitat for this species.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	A	No Effect	BSA does not contain blue elderberry. Two occurrences recorded in the Lawrence Laboratory area in 2002, 3–3.5 miles southwest of BSA. One occurrence recorded along Middle River/Wing Levee Road in 1984, ~12 miles north of BSA. BSA does not overlap with final critical habitat for this species.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands.	A	No Effect	BSA does not contain vernal pools or swales. No occurrences recorded within 15 miles of BSA. BSA does

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
			Some pools are mud-bottomed and highly turbid.			not overlap with final critical habitat for this species.
Fish						
green sturgeon–southern DPS	<i>Acipenser medirostris</i> pop. 1	FT, SSC	Spawning occurs primarily in cool (11–15°C [degrees Celsius]) sections of mainstem rivers in deep pools (8–9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain mainstream rivers or deep pools. This species was recorded in Old River and San Joaquin River in 2020, ~7.5 miles north of BSA.
Delta smelt	<i>Hypomesus transpacificus</i>	FT, SE	Found in Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 parts per thousand (ppt). Most often at salinities < 2 ppt.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain saline rivers or streams. This species was recorded in the Coney Island area in 2007, ~14 miles north of BSA.
Steelhead–Central Valley DPS	<i>Oncorhynchus mykiss irideus</i> pop. 11	FT, SSC	Found in the Sacramento and San Joaquin rivers and their tributaries.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain perennial rivers or streams. This species was recorded in San Joaquin River in 2013, ~9 miles east of BSA. This species was recorded in the Coney Island area in 2013, ~11 miles north of BSA.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
longfin smelt– San Francisco Bay-Delta DPS	<i>Spirinchus thaleichthys</i> pop. 2	FE, ST	Spawns in lower freshwater reaches of Sacramento and San Joaquin rivers. First year in Suisun Bay; later San Francisco Bay or Gulf of the Farallones. Occurs in salinities ranging from pure freshwater to pure saltwater; typically salinities ranging from 14–28 ppt. Generally occupies water temperatures from 61–68°F (degrees Fahrenheit), with spawning occurring in water temperatures from 41–58°F.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain perennial rivers or streams. This species was recorded in the Coney Island area in 2012, ~14 miles north of BSA. This species was recorded in a section of the San Joaquin River in 2012, ~11 miles north of BSA.
eulachon	<i>Thaleichthys pacificus</i>	FT, SSC	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain perennial rivers or streams. This species was recorded in the Coney Island area in 2012, ~13 miles north of BSA.
Amphibians						
California tiger salamander – central DPS	<i>Ambystoma californiense</i> pop. 1	FT, ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	HP	No Effect	BSA contains disturbed grassland. The BSA also does not contain breeding habitat in the form of vernal pools or seasonal ponds. Many occurrences recorded in the hills west of BSA, most recently in 2023 ~9 miles

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						northwest of the BSA. These recent occurrences were observed in stock ponds and surrounding annual grasslands in an area used for cattle grazing and a wind energy facility. One occurrence recorded 0.5 mile southwest of BSA in 1992, however it is now a developed area. One occurrence recorded 3 miles southwest of BSA in 1997. BSA does not overlap with final critical habitat for this species. After discussions with Caltrans regarding the BSA and construction locations in March 2026, the USFWS indicated they would support a No Effect determination for this species.
foothill yellow-legged frog—central coast DPS	<i>Rana boylei</i> pop. 4	FT, SE	Found in partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain perennial rivers or streams that would provide suitable habitat for this species. Two occurrences recorded in the hills southwest of BSA. Both occurrences of these species

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						have been considered to be extirpated. No critical habitat has been designated for this species.
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	Found in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11–20 weeks of permanent water for larval development. Must have access to estivation habitat.	HP	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain perennial water with dense emergent riparian vegetation. Many occurrences recorded in the hills west of BSA, most recently in 2023. One occurrence recorded 1 mile southwest of BSA in 2002, along Corral Hollow Road. BSA does not overlap with final critical habitat for this species. After discussions with Caltrans regarding the BSA and construction locations in March 2026, the USFWS indicated they would support a No Effect determination for this species.
western spadefoot	<i>Spea hammondi</i>	FC, SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	A	No Effect	BSA contains disturbed grassland but does not contain vernal pools or suitable breeding habitat. Many occurrences recorded

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						along Corral Hollow Road. One occurrence recorded 2.75 miles southwest of BSA in 2020 where two juveniles were observed. There is no documented breeding habitat within dispersal distance of the BSA. No critical habitat has been designated for this species.
Birds						
tricolored blackbird	<i>Agelaius tricolor</i>	ST, SSC MBTA	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	A	N/A	BSA does not perennial open water with a protected nesting substrate. Three occurrences recorded in the hills 3.5 miles west of BSA in 1992 and 2015. One occurrence recorded 8 miles southeast of BSA in 2014.
grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC MBTA	Found in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. A loosely colonial species when nesting.	A	N/A	BSA contains slivers of disturbed invasive annual grassland but does not contain dense open or native grassland. One occurrence recorded in hills 8 miles southwest of BSA in 2014.
golden eagle	<i>Aquila chrysaetos</i>	FP, SSC MBTA	Found in rolling foothills, mountain areas, sage-juniper flats, and	HP	N/A	BSA contains slivers of disturbed invasive annual

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.			grassland and trees and is adjacent to foothill grasslands. Three occurrences recorded in Carnegie State Vehicular Recreation Area 4–8 miles west of BSA, the most recent in 2014.
short-eared owl	<i>Asio flammeus</i>	SSC MBTA	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	A	N/A	BSA does not contain swamp, marsh, meadows, or irrigated fields. One occurrence recorded in hills 8 miles west of BSA in 1995.
burrowing owl	<i>Athene cunicularia</i>	SC, SSC MBTA	Found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	HP	N/A	BSA contains slivers of disturbed invasive annual grassland but does not contain suitable burrows or open areas. The BSA does contain culverts that this species may utilize for cover or nesting. Many occurrences recorded northwest of project site. Three occurrences recorded ~3 miles north of BSA, however these areas are now developed. One occurrence recorded 3.5 miles west of BSA in 1994.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
Swainson's hawk	<i>Buteo swainsoni</i>	ST MBTA	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannas, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	HP	N/A	BSA contains an ornamental woodland and isolated trees with adjacent off-site open space. Many occurrences recorded north and east of Tracy. One occurrence recorded 3.5 miles north of BSA in 2016.
northern harrier	<i>Circus hudsonius</i>	SSC MBTA	Found in coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	A	N/A	BSA does not contain marshland. One occurrence recorded 6 miles north of BSA in 2001, along a marshland.
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, SE MBTA	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	A	No Effect	BSA does not contain riparian woodland or forest. One occurrence recorded along San Joaquin River 12 miles east of BSA in 1973, in however it is marked as likely extirpated.
white-tailed kite	<i>Elanus leucurus</i>	FP MBTA	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Uses open grasslands, meadows, or marshes for foraging close to isolated,	HP	N/A	BSA contains slivers of disturbed invasive annual grassland and trees and is adjacent to rolling foothills. One occurrence recorded in hills 6 miles west of BSA in 1996.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			dense-topped trees for nesting and perching.			
California condor	<i>Gymnogyps californianus</i>	FE, SE MBTA	Require vast expanses of open savanna, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	A	No Effect	BSA contains slivers of disturbed invasive annual grassland but is not located within a mountain range. No occurrences recorded in the vicinity of the BSA. BSA does not overlap with final critical habitat for this species.
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC MBTA	Found in broken woodlands, savanna, 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.	HP	N/A	BSA contains an ornamental woodland with adjacent off-site open space. Eight occurrences recorded in the Carnegie Vehicle Recreation Area 4–6 miles west of BSA, the most recent in 2016.
song sparrow ("Modesto" population)	<i>Melospiza melodia</i> pop. 1	SSC MBTA	Found in freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and valley oak restoration sites. Cover consists of willow and nettle thickets, growths of tules and cattails, and riparian oak forests with sufficient understory of blackberry. Found in central lower basin of Great Valley, from Colusa County south to Stanislaus County	A	N/A	BSA does not contain marshes, wetlands, or riparian thickets. One occurrence recorded 7.5 miles northeast of BSA in 1896, however that area is now developed. One occurrence recorded 7.5 miles northeast of BSA in 1896, however that area is now developed. Multiple

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent ¹	Effect Determination	Rationale
			and east of Suisun Marshes. Breeds chiefly below 200 feet elevation.			recent occurrences recorded in the Coney Island area 10–14 miles north of BSA, the most recent in 2009.
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE MBTA	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	A	No Effect	BSA contains seasonally intermittent Corral Hollow Creek but does not contain suitable riparian woodland or riparian scrubland that would support this species. One occurrence recorded 1.5 miles southwest of BSA in 1932, along Corral Hollow Road.
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC MBTA	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	A	N/A	BSA does not contain wetlands, lakes, or ponds. One occurrence recorded 14 miles northeast of BSA in 1894 in the general area of Winthrop.
Reptiles						
northwestern pond turtle	<i>Actinemys marmorata</i>	FC, SSC	Nests in ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Requires upland habitat for basking.	A	N/A	BSA contains seasonally intermittent Corral Hollow Creek but does not contain aquatic vegetation that would provide cover for this species. Many occurrences

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						recorded west of BSA. One occurrence recorded 1.8 miles southwest of BSA in 1993, along Corral Hollow Road. One occurrence recorded 5 miles southwest of BSA in 2014, along Corral Hollow Road. No critical habitat has been designated for this species.
Northern California legless lizard	<i>Anniella pulchra</i>	SSC	Found in sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	A	N/A	BSA contains seasonally intermittent Corral Hollow Creek but does not contain moist soils. Two occurrences recorded ~5.5 miles west of BSA in 2003 and 2004, in Carnegie Vehicle State Recreation Area.
California glossy snake	<i>Arizona elegans occidentalis</i>	SSC	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the coast, Transverse, and Peninsular ranges, south to Baja California.	A	N/A	BSA does not contain sandy or loose soils. Many occurrences recorded along Corral Hollow Road, the most recent ~5 miles southwest of BSA in 2006.
San Joaquin coachwhip	<i>Masticophis flagellum ruddocki</i>	SSC	Found in open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley.	A	N/A	BSA contains slivers of disturbed invasive annual grassland but does not contain saltbush scrub or

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
			Needs mammal burrows for refuge and oviposition sites.			burrows. Two occurrences recorded along Corral Hollow Road. One occurrence recorded 1 mile southwest of BSA in 1991. One occurrence recorded 2.5 miles southwest of BSA in 2004.
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>	FT, ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna, and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices, or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	A	No Effect	BSA contains disturbed invasive annual grassland but does not contain chaparral, scrub, rock outcrops, deep crevices, or burrows. Many occurrences recorded in the Carnegie State Vehicular Recreation Area. One occurrence recorded 5 miles west of BSA in 1998. One occurrence recorded 6 miles southwest of BSA in 2003.
coast horned lizard	<i>Phrynosoma blainvillii</i>	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	HP	N/A	BSA contains seasonally intermittent Corral Hollow Creek with a sandy bed and nearby shrubs but is highly disturbed. One occurrence recorded 2.5 miles west of BSA in 1990. One occurrence recorded 3 miles southwest of BSA in 2003.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
Mammals						
pallid bat	<i>Antrozous pallidus</i>	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in diverse locations such as rock crevices, tree hollows, mines, caves, and various human-made structures like bridges and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	HP	N/A	BSA does not contain rocky areas that would provide suitable roosting habitat for this species. One occurrence recorded 3 miles southwest of BSA in 1941. One occurrence recorded 5 miles southwest of BSA in 1991.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SSC	Found throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	HP	N/A	BSA contains a highway overpass over seasonally intermittent Corral Hollow Creek. One occurrence recorded 4 miles southwest of BSA in 1956, along Corral Hollow Road. One occurrence recorded 5 miles southeast of BSA in 1991.
western mastiff bat	<i>Eumops perotis californicus</i>	SSC	Found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	HP	N/A	BSA contains a highway overpass over seasonally intermittent Corral Hollow Creek. One occurrence recorded 3 miles southwest of BSA in 1991, along Corral Hollow Road.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
riparian (=San Joaquin Valley) woodrat	<i>Neotoma fuscipes riparia</i>	FE, SSC	Found in riparian areas along the San Joaquin, Stanislaus and Tuolumne rivers. Need areas with mix of brush and trees. Need suitable nesting sites in trees, snags or logs.	A	No Effect	BSA does not contain riparian scrubland with trees. Two occurrences recorded within the San Joaquin National Wildlife Refuge 11 miles east of BSA in 1932 and 1935. While these occurrences are marked as extirpated on CNDDDB, the Endangered Species Recovery Program detected this species in the refuge in June 2025.
riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	FE, SE	Found in riparian areas on the San Joaquin River in northern Stanislaus County. Prefers dense thickets of wild rose, willows, and blackberries.	A	No Effect	BSA does not contain thickets of rose, willow, or blackberry. Many occurrences recorded in the San Joaquin River area 10-14 miles east of BSA, but none on the west side of Interstate 205 (I-205) or I-5.
American badger	<i>Taxidea taxus</i>	SSC	Found in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	A	N/A	BSA does not contain open undeveloped areas with friable soils that would provide suitable habitat for this species. Many occurrences in hills west of BSA. One occurrence recorded 0.75 miles southwest of BSA in 1991, along Corral Hollow Road in

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
						an area that is now developed. All other occurrences are over 3.5 miles from the BSA.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, ST	Found in annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	HP	No Effect	BSA does not contain dry open areas with shrubby vegetation or friable soils that would provide suitable habitat for this species. One occurrence recorded along Corral Hollow Creek adjacent to the BSA in 1991. Multiple additional occurrences recorded within 1 mile of BSA in 1991. One occurrence recorded 6 miles west of BSA in 2002. No critical habitat has been designated for this species. After discussions with Caltrans regarding the BSA and construction locations in March 2026, the USFWS indicated they would support a No Effect determination for this species.

Natural Environment Study (Minimal Impacts)

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent ¹	Effect Determination	Rationale
Status: Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Species of Special Concern (SSC). CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere CRPR Rank 2: Plants rare, threatened, or endangered in California but more common elsewhere CRPR Rank 3: Plants about which information is needed- a review list CRPR Rank 4: Plants of limited distribution- a watch list ¹ = seriously endangered in California ² = fairly endangered in California ³ = not very endangered in California Presence/absence: ¹Absent [A]—no habitat present or site is outside the species range. Habitat Present/Species Absent [HP/SA]—site conditions consistent with suitable habitat but for other reasons (e.g., habitat quality), the species is not expected to occur. Habitat Present [HP] – habitat is, or may be, present. Critical Habitat [CH]—project footprint is located within a designated critical habitat unit. Effects determinations are provided only for federally listed species (N/A = Not Applicable).						

4. Results: Biological Resources, Discussion of Impacts, and Mitigation

4.1 Habitats and Natural Communities of Special Concern

A query of Sensitive Natural Communities in RareFind 5 (CNDDDB 2025) was performed for the *Tracy, California* USGS 7.5-minute Topographic Quadrangle Map and all eight surrounding quadrangles. CNDDDB identified the following five sensitive habitats as occurring in the general project region: alkali meadow, Great Valley cottonwood riparian forest, Great Valley valley oak riparian forest, northern claypan vernal pool, and valley sink scrub. The BSA does not have suitable soil substrates or microclimatic regimes for any of these sensitive habitats. Additionally, the BSA does not contain any sensitive natural communities as identified by the CDFW California Natural Communities List. No sensitive natural communities are expected to be impacted during project construction.

As outlined in Section 3.2, no critical habitat as defined by the USFWS is located within the BSA.

A summary of project-related impacts is included in Figures 4a and 4b and within Table 3 and Table 4 to account for the two different design options. The proposed avoidance and minimization measures outlined below are inclusive of both design options.

Table 3: Impact Table—Option A

Biotic Habitat/Land Use	Total Area (acres)	Permanent Impacts	Temporary Impacts
Beardless wild rye planted field	0.14	0.05	0.08
Corral Hollow Creek	0.17	0.02	0.15
Developed	16.87	6.51	10.37
Ornamental woodland	1.28	0.99	0.29
Ruderal/disturbed	19.68	8.25	11.43
Saltgrass patch	0.04	0.04	0.00
Wild oat-annual brome grassland	11.96	5.41	6.55
Total Area*	50.10	21.26	28.84
*I-580 overlaps with Corral Hollow Creek, which accounts for the difference between the total area of biotic habitats and the Biological Study Area (BSA).			

Table 4: Impact Table–Option B

Biotic Habitat/Land Use	Total Area (acres)	Permanent Impacts	Temporary Impacts
Beardless wild rye planted field	0.11	0.09	0.03
Corral Hollow Creek	0.17	0.03	0.14
Developed	17.32	6.71	10.60
Ornamental woodland	1.28	0.99	0.29
Ruderal/disturbed	20.28	8.56	11.71
Saltgrass patch	0.04	0.04	0.00
Wild oat-annual brome grassland	12.82	5.88	6.95
Total Area*	52.02	22.29	29.69
*I-580 overlaps with Corral Hollow Creek which accounts for the difference between the total area of biotic habitats and the Biological Study Area (BSA).			

4.2 Special-status Plant Species

Plants are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on the BSA.

4.2.1.1 Survey Results

No special-status plants were found during the reconnaissance-level survey conducted in early June 2025 on the BSA. This survey aligns with the blooming period of many of the special-status species with recorded occurrences nearby to the BSA and that occur in habitat types similar to those found in the BSA, as described in Table 2 above. The annual grassland and ornamental woodland are highly maintained and disturbed and therefore likely would not provide suitable habitat for any special-status plant species, as described in Table 2 above. As such, this resource category is not addressed further in this document.

4.3 Special-status Animal Species

Animals are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on-site. No special-status animal species were found within the project impact area or the greater BSA. However, golden eagle, burrowing owl, Swainson's hawk, white-tailed kite, loggerhead shrike, coast horned lizard, pallid bat, Townsend's big-eared bat, and western mastiff bat have been previously recorded within

the vicinity of the BSA and in habitats similar to those present on the BSA. While these species are unlikely to utilize the BSA for the reasons outlined in Table 2, these species require additional discussion and are therefore analyzed in further detail in Sections 4.3.1 through 4.3.8 below.

4.3.1 Discussion of Burrowing Owl

BUOW is a candidate for listing under CESA, a California Species of Special Concern, and is additionally covered under the MBTA. This species is found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. This species is a subterranean nester and uses a variety of animal-made and anthropogenic shelters, including California ground squirrel burrows and culverts.

4.3.1.1 Survey Results

BUOW was not observed during the reconnaissance-level field survey. The BSA contains disturbed grasslands and some scrub within Corral Hollow Creek. There are small burrows scattered throughout the BSA, but these were small and isolated (under 4 inches wide) and would not likely provide suitable nesting habitat for this species. However, the BSA contains numerous culverts that this species is known to nest in when suitable burrows are scarce. There have been multiple occurrences recorded in the hills northwest of the BSA. There were three occurrences recorded 3 miles north of the BSA; however, that area is now developed. There was one additional occurrence recorded 3.5 miles west of the BSA in 1994.

4.3.1.2 Project Impacts

The BSA contains annual grassland and culverts, however the adjacency to I-580 makes it unlikely to provide suitable burrowing habitat for this species. However, due to the nearby occurrences of BUOW, there is a low potential for BUOW to utilize the areas in and around the BSA for dispersal. Implementation of the measures described below would ensure that impacts to BUOW are avoided.

4.3.1.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of the following mitigation measures would ensure avoidance of impacts on BUOW:

MM BIO-1 Worker Environmental Awareness Program: Prior to the start of work, a qualified Biologist(s) shall conduct Worker Environmental Awareness Program (WEAP) for all construction personnel, including contractors, subcontractors, and contractor's representatives, covering sensitive habitats (including non-wetland waters); the status of all listed species; how to identify these species and their habitats (including burrowing owl, Swainson's hawk, and coast horned lizard,); how to avoid impacts on the species; what to do if these species are encountered during construction activities; and the laws that protect them. In addition, the training would review the required permits and associated permit conditions that the

contractor should be aware of during construction. New construction personnel who are added to the project after the training is first conducted would also be required to take the training. Documentation of the training, including sign-in sheets, would be kept on file.

MM BIO-2 Exclusion Fencing: Barrier fencing shall be installed around the worksite, including sensitive habitats (non-wetland waters) to prevent sensitive species (including burrowing owl, Swainson's hawk, and coast horned lizard) from entering the work area. A qualified Biologist shall be present during the installation of exclusion fencing. Barrier fencing shall be removed within 72 hours of completion of work.

MM BIO-3 Pre-construction Survey for burrowing owl: A qualified Biologist shall survey the BSA no more than 14 days before the onset of work activities and within 24 hours of the start of ground-disturbing activities within suitable habitat. If any life stage of the burrowing owl is detected, construction activities shall not be allowed to commence until consultation with CDFW has occurred.

4.3.2 Discussion of Swainson's Hawk

SWHA is listed as threatened under CESA and is covered under the MBTA. This species breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannas, and agricultural or ranch lands with groves or lines of trees. SWHA also requires adjacent suitable foraging areas, such as grasslands or alfalfa or grain fields supporting rodent populations.

4.3.2.1 Survey Results

SWHA was not observed during the reconnaissance-level field survey. The BSA contains large native and non-native trees, ornamental woodland, and utility poles adjacent to open space and rolling foothill grasslands, which may provide nesting or perching habitat for this species. There was one nest recorded approximately 3.5 miles north of the BSA in 2016, in the top of a pine tree. Many of the nearby recorded occurrences are within the San Joaquin River Delta, north and east of the City of Tracy.

4.3.2.2 Project Impacts

The BSA contains large native and non-native trees, ornamental woodland, and utility poles adjacent to open space and rolling foothill grasslands; however, due to the high levels of ongoing disturbance from I-580, it is unlikely to provide suitable nesting habitat for this species. Because of the nearby occurrences of SWHA along roadsides, there is a low potential for this project to impact SWHA. Implementation of the measures described below would ensure that impacts to SWHA are avoided.

4.3.2.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of the following mitigation measures would ensure avoidance of impacts on SWHA:

MM BIO-1 Worker Environmental Awareness Program: Prior to the start of work, a qualified Biologist(s) shall conduct Worker Environmental Awareness Program (WEAP) for all construction personnel, including contractors, subcontractors, and contractor's representatives, covering sensitive habitats (including non-wetland waters); the status of all listed species; how to identify these species and their habitats (including burrowing owl, Swainson's hawk, and coast horned lizard,); how to avoid impacts on the species; what to do if these species are encountered during construction activities; and the laws that protect them. In addition, the training would review the required permits and associated permit conditions that the contractor should be aware of during construction. New construction personnel who are added to the project after the training is first conducted would also be required to take the training. Documentation of the training, including sign-in sheets, would be kept on file.

MM BIO-4 Pre-construction Surveys for Swainson's hawk, including avoidance buffers: Prior to ground disturbance that occurs during the nesting season for Swainson's hawk (generally March 20 to July 20), a qualified Biologist shall conduct Swainson's hawk nesting surveys within a 0.5-mile radius of the project site to determine whether nests are occupied. Pre-construction surveys shall be completed for at least the two survey periods immediately prior to the proposed project's initiation, with the latest survey no more than 10 days prior to the start of subject ground-disturbing activities. Occupancy shall be determined through observation of all accessible areas, including from public roads or other publicly accessible observation areas of Swainson's hawk activity (e.g., foraging) on and near the project site. The qualified Biologist shall follow the survey protocol outlined in CDFW's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, which recommends surveys according to the following survey periods:

- January–March 20: Conduct one survey total.
- March 20–April 5: Conduct three surveys total. Surveys shall be conducted between sunrise to 10:00 a.m. and/or 4:00 p.m. to sunset.
- April 5–April 20: Conduct three surveys total. Surveys shall be conducted between sunrise to 12:00 p.m. and/or 4:30 p.m. to sunset.
- April 21–June 10: Initiating surveys are not recommended. Monitoring of known nest sites only.

- June 10–July 30: (post-fledging) Conduct three surveys total. Surveys shall be conducted between sunrise to 12:00 p.m. and/or 4:00 p.m. to sunset.
- **Avoidance and Minimization:** If nests are located and determined to be occupied, minimization measures must be implemented and construction monitoring conducted as follows:
 1. Construction activities shall be prohibited within 0.25 mile of an active and occupied Swainson's hawk nest or within 0.25 mile of nests under construction, to prevent nest abandonment.
 2. Notwithstanding the foregoing, if site-specific conditions or the nature of the construction activity (e.g., other nearby development, limited activities) indicate that a smaller buffer, or no buffer at all, could be used, the project applicant may seek approval from the qualified Biologist, who in coordination with the California Department of Fish and Wildlife (CDFW) shall determine the appropriate buffer size which, once approved, shall govern.
 3. No tree containing an active Swainson's hawk nest shall be removed.

4.3.3 Discussion of Coast Horned Lizard

CHL is designated a California SSC by CDFW. This species is found in a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. This species requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants and other insects.

4.3.3.1 Survey Results

CHL was not observed during the reconnaissance-level field survey. The BSA contains Corral Hollow Creek, which has a sandy bed and scattered scrubby vegetation, and disturbed grassland. There nearest recorded occurrence (#576) is located 1.7 miles southwest of the BSA in 1991. All other occurrences are over 2.5 miles from the BSA.

4.3.3.2 Project Impacts

The BSA contains Corral Hollow Creek, which has a sandy bed and scattered scrubby vegetation, and disturbed grassland, however due to the high levels of disturbance from I-580, it is unlikely that these areas would provide suitable habitat for this species. Given the nearby recorded occurrences of CHL, there is a potential for CHL to utilize the areas in and around the BSA for dispersal habitat. However, implementation of the measures described below would ensure that impacts to CHL are avoided.

4.3.3.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of the following mitigation measures would ensure avoidance of impacts on CHL:

- MM BIO-1 Worker Environmental Awareness Program:** Prior to the start of work, a qualified Biologist(s) shall conduct Worker Environmental Awareness Program (WEAP) for all construction personnel, including contractors, subcontractors, and contractor's representatives, covering sensitive habitats (including non-wetland waters); the status of all listed species; how to identify these species and their habitats (including burrowing owl, Swainson's hawk, and coast horned lizard,); how to avoid impacts on the species; what to do if these species are encountered during construction activities; and the laws that protect them. In addition, the training would review the required permits and associated permit conditions that the contractor should be aware of during construction. New construction personnel who are added to the project after the training is first conducted would also be required to take the training. Documentation of the training, including sign-in sheets, would be kept on file.
- MM BIO-2 Exclusion Fencing:** Barrier fencing shall be installed around the worksite, including sensitive habitats (non-wetland waters) to prevent sensitive species (including burrowing owl, Swainson's hawk, and coast horned lizard) from entering the work area. A qualified Biologist shall be present during the installation of exclusion fencing. Barrier fencing shall be removed within 72 hours of completion of work.
- MM BIO-5 Pre-construction Surveys for coast horned lizard:** A qualified Biologist shall survey the BSA no more than 3 days before the onset of work activities. If any life stage of the coast horned lizard is detected, construction activities shall not be allowed to commence until consultation with CDFW has occurred.

4.3.4 Discussion of Migratory Birds (Including All Special-status Species)

As described in Section 2.1.3 and 2.1.6 above, the MBTA and the California Fish and Game Code protect migratory birds, including their eggs, nests, and young. There are multiple special-status bird species with a low potential to nest within the BSA, including GOEA, WTK, and LOSH. The project would implement measures to avoid and minimize effects on active nests of migratory birds to comply with the MBTA and California Fish and Game Code.

4.3.4.1 Survey Results

Several avian species covered under the MBTA and California Fish and Game Code have the potential to nest within or adjacent to the BSA. Avian species observed during the reconnaissance-level field survey include northern mockingbird, cliff swallow, hawk, falcon, rock pigeon, and house sparrow. One nest was observed during the

reconnaissance-level field survey; however, a definitive determination could not be reached on if the nest was active.

4.3.4.2 Project Impacts

There is suitable nesting habitat within the BSA, specifically in the form of trees. Trees would be removed and temporary impacts due to construction noise and vibration disturbance would occur as part of project initiation. While there is potential for birds to nest within the BSA during the nesting season, implementation of the measures described below would ensure that impacts would be less than significant.

4.3.4.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of the following mitigation measures would ensure avoidance of impacts on migratory birds:

MM BIO-6 Avoidance of Nesting Season: To the extent practicable, vegetation and/or tree removal shall be scheduled to avoid the avian nesting season. The nesting season typically runs from February 1 through August 31.

MM BIO-7 Pre-construction surveys for active nests, including buffer zones for active nests: If the proposed project requires vegetation and/or tree removal to be removed during the nesting season (February 1 to August 31), pre-construction nesting bird surveys shall be conducted no more than 5 days prior to the start of ground or vegetation disturbance (including tree removal). These surveys shall include all suitable habitat with a 500-foot buffer of the BSA, where accessible.

If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. ([CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist shall delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently, as confirmed by a qualified Biologist. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s). In consultation with CDFW, the qualified Biologist shall monitor the active nest during the subject construction activities and modify the protection zone accordingly to prevent project-related nest disturbance until the young have fledged.

4.3.5 Discussion of Roosting Bats (Including All Special-status Species)

There are three special-status bat species that occur in the general vicinity of the BSA in habitat types that occur on the BSA: PABA, TBEB, and WMB. There are two overpasses and various trees present in the BSA that could provide potential roosting habitat.

Therefore, the project would implement measures to avoid and minimize effects on PABA, TBEB, and WMB.

4.3.5.1 Survey Results

The BSA contains the Corral Hollow Road overpass over I-580, the I-580 overpass over Corral Hollow Creek, and numerous trees. These overpasses and trees have low potential to support special-status bat species or active roosts. No bat species or active roosts were observed during the reconnaissance-level field survey.

4.3.5.2 Project Impacts

There is potentially suitable nesting habitat within the BSA, specifically in the form of the two overpasses and trees. While there is potential for bats to roost within the BSA during the roosting season, implementation of the measures described below would ensure that impacts to these species would be less than significant.

4.3.5.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of the following mitigation measures would ensure avoidance of impacts on roosting bats:

Trees

MM BIO-8 Avoidance of Roosting Season: To the extent practicable and to avoid and minimize impacts on maternity roosts and hibernating bat species, trees shall be removed or pruned between September 1 and October 30.

MM BIO-9 Pre-construction survey for active roosts within trees: A qualified Biologist (i.e., a Biologist with experience with tree roosting habitats and life histories of local bats) shall examine trees for suitable bat roosting habitat (e.g., large tree cavities, loose or peeling bark, basal hollows, large snags) 7 to 14 days before tree removal or pruning. Trees shall also be evaluated to determine whether they provide suitable habitat for foliage roosting bats. If the Biologist determines that trees to be removed or pruned provide suitable bat roosting habitat, the Biologist shall monitor tree removal and pruning. The Biologist shall make recommendations to implement measures to avoid and minimize disturbance or mortality of bats, such as conducting pruning and removal in the late afternoon or evening, close to the time that bats would normally arouse; removing the tree in pieces rather than felling an entire tree; and gently shaking each tree with construction equipment and waiting several minutes before felling trees or removing limbs to allow bats time to arouse and leave the tree. The Biologist shall search downed vegetation for dead and injured bats. The presence of dead or injured bats that are Species of Special Concern shall be reported to the California Department of Fish and Wildlife (CDFW). The Biologist shall prepare a biological monitoring report, which shall be provided to the project lead and CDFW.

Overpasses

MM BIO-10 Pre-construction survey for active roosts within overpasses: Pre-construction roost surveys for bats shall be conducted by a qualified Biologist 14 days prior to structure modification. The type of pre-construction survey (i.e., emergence survey, acoustic survey etc.) shall be determined by the qualified Biologist in discussion with Caltrans. If bat roosts are observed, structure disturbance shall be postponed until bats have relocated or exited the structure.

If roost habitat needs to be physically altered, then bat exclusion shall be considered. If possible, roost entrances shall be fitted with one-way doors or other exclusionary devices that allow bats to exit but not enter, to encourage bats to relocate.

If a maternity roost is determined, the structure with the maternity roost shall be avoided and bat relocation efforts shall be postponed until young have fledged.

If roost avoidance is not feasible, depending on the species of bat present, size of the bat roost, and timing of construction activities, additional protective measures may be necessary. Appropriate measures shall be determined in coordination with CDFW.

5. Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

Multiple federally listed species have been recorded within the vicinity of the BSA; however, Caltrans discussed the project with the USFWS on March 13, 2026, regarding the status of their Section 7 LOC request. After this discussion, the USFWS determined it would support a **No Effect** for the three federally listed species with the potential to be present onsite (CTS, CRLF, and SJKF) based on the current understanding of each species and the location of the proposed work. Therefore, the project would have no effect on any federally listed species

5.2 California Endangered Species Act Summary

Multiple State-listed species have been recorded within the vicinity of the BSA, but none are expected to occur within the BSA due to the lack of suitable habitat and nearby occurrences. The project **will have no effect on** State listed species such as the CTS or SJKF, and formal consultation for these species should not be necessary.

5.3 Essential Fish Habitat Consultation Summary

No Essential Fish Habitat (EFH) exists within the BSA, because no fish species subject to any fisheries management plans are present. Therefore, consultation with NMFS concerning EFH is not warranted.

5.4 Wetlands and Other Waters Coordination Summary

The BSA contains Corral Hollow Creek, a tributary to the San Joaquin River, and two isolated ephemeral drainages. Of the two ephemeral drainages one contains a compacted soil substrate and the other begins as a cement-lined segment and turns into an erosional feature as it meanders south through the BSA. There was no evidence of wetlands present during the reconnaissance-level survey of the BSA. Corral Hollow Creek would likely be considered a jurisdictional waters of the United States. Corral Hollow Creek and the two ephemeral drainages would likely be considered waters of the State. Additionally, proposed impacts to the ephemeral drainage channels and the proposed overpass over Corral Hollow Creek are expected to be regulated by the CDFW pursuant to the Streambed Alteration Program, California Fish and Game Code Section 1602, *et seq.* The two ephemeral drainages that will be filled will likely additionally require a Report of Waste Discharge from the RWQCB. Implementation of the following mitigation measures would ensure impacts to non-wetland waters would be mitigated to a less than significant level.

MM BIO-2 Exclusion Fencing: Barrier fencing shall be installed around the worksite, including sensitive habitats (non-wetland waters) to prevent sensitive species (including burrowing owl, Swainson's hawk, and coast horned lizard) from entering the work area. A qualified Biologist shall be present

during the installation of exclusion fencing. Barrier fencing shall be removed within 72 hours of completion of work.

MM BIO-11 Coordination with regulatory agencies and compensation for permanent loss of waters of the State: The project applicant shall coordinate to the extent required with the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW) to obtain the applicable regulatory permits for the loss of non-wetland waters of the State.

To compensate for the permanent loss of 1,134 square feet/1,134 linear feet (0.02-acre) and the temporary loss 130 square feet/130 linear feet (0.002-acre) under both Design Option A and B of non-wetland waters of the State associated with proposed project activities, the applicant would purchase credits at an approved mitigation bank or contribute to an agency-approved in lieu fee program to ensure no net loss of aquatic resource functions and values. The compensation ratio would be a minimum of 1:1 (1 acre of aquatic resource habitat credit for every 1 acre of impact) to ensure no net loss of habitat functions and values.

5.5 Invasive Species

Many regionally common invasive plant species were observed within the BSA (Appendix F). The majority of the work will be conducted in disturbed roadside grassland, which currently contains a mix of non-native, invasive, and disturbance-tolerant native species. For this reason, the proposed project should not result in a substantial increase in invasive vegetation within the BSA.

5.6 Migratory Bird Treaty Act Summary

The proposed project has the potential to impact the nests of birds protected under the MBTA. Measures to avoid, minimize, and compensate for impacts to nests protected under the MBTA are outlined in Section 4.3.5.3 above.

6. References

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7. Appendix

- Appendix A: Biologist Qualifications
- Appendix B: IPaC Database Query
- Appendix C: CNDDDB Database Query
- Appendix D: CNPS Database Query
- Appendix E: Site Photographs
- Appendix F: Species Compendium

Appendix A - Biologist Qualifications

ROBERT CARROLL—BIOLOGIST II

OVERVIEW

- More than 10 years of experience

Education

- Bachelor of Science, Fisheries Science, Concentration in Water Resources, Cum Laude, Oregon State University, Corvallis, OR, 2016
- Bachelor of Arts, Marketing, College of Business Administration, Marquette University, Milwaukee, WI, 2007

Licenses and Certifications

- Fairy Shrimp Identification Certification, 2017
- Wetland Delineation Certification, 2018

Awards

- Milt Guymon Endowment Scholar, 2015
- Gerald L. Fisher Aquaculture and Hatchery Management Scholarship, 2015

Professional Affiliations and Volunteer Work

- Orange County Coastkeeper Beach Cleanup Team, 2013
- Member, Marquette University Diversity Club, 2003–2005

Robert Carroll has more than 10 years of experience in environmental analysis, biological resources, and regulatory permitting. While working at the Oregon Department of Fish and Wildlife (ODFW), Mr. Carroll conducted spawning surveys of adult salmonids in numerous streams throughout the Willamette Valley. His experience at the ODFW also included spawning and rearing techniques at various ODFW run fish hatcheries for the dispersal of steelhead in lakes and rivers throughout the Corvallis watershed. Mr. Carroll also contributed to ODFW's preliminary study to document fish diversity throughout the Little Muddy Creek. As a Biologist and Regulatory Specialist, Mr. Carroll's expertise includes multi-agency regulatory permitting and compliance (NEPA, CEQA, and California and federal Endangered Species Acts), natural resource assessments, special-status flora and fauna species surveys, construction compliance monitoring, and wildlife habitat assessments. Mr. Carroll has extensive experience managing wetland delineation projects and performing regulatory permitting pursuant to the jurisdiction of the California Department of Fish and Wildlife (CDFW), the Regional Water Quality Control Board (RWQCB), the US Army Corps of Engineers (USACE), and other local and regional agencies and organizations. He is well versed in the Clean Water Act (CWA) Sections 404 and 401 permitting and the CDFW Code 1602 permitting.

RELATED EXPERIENCE AND CLIENT SUMMARY

Dogtown Road Bridges Replacement Projects (San Domingo Creek, French Gulch, and Indian Creek) Caltrans NEPA/CEQA Documentation and Permitting, Calaveras County, CA

FCS assisted Calaveras County with Caltrans NEPA/CEQA documentation and the completion of regulatory permit applications for the replacement of three structurally deficient bridges and associated improvements to Dogtown Road. FCS coordinated the required air, noise, hazardous materials, biological, cultural, water quality, floodplain, land use, and traffic studies for local agency compliance with Federal Highway Administration (FHWA) funding administered through the California Department of Transportation (Caltrans) District 10. FCS also prepared an IS/MND pursuant to CEQA and a NEPA Categorical Exclusion, as well as coordinated the permitting through the USACE, Central Valley RWQCB, and CDFW. As a Staff Biologist for the project, Mr. Carroll assisted in preparing the required regulatory permit application packages for the three bridge replacements. These packages included a CWA Section 404 Nationwide Permit (NWP), CWA Section 401 Water Quality Certification, and a Section 1602 Streambed Alteration Agreement (SAA).

Turlock Project Warehouse Consistency Checklist and Technical Studies, City of Turlock, CA

FCS prepared a Consistency Checklist and Technical Studies for an e-commerce facility in the City of Turlock, California. Seefried Industrial Properties (project applicant) proposed to develop the Project Hornet e-commerce facility and related improvements on approximately 72.90 acres located within the 2,611-acre Westside Industrial Specific Plan (WISP) area. The WISP EIR was certified on November 14, 2006. General Plan EIR and General Plan were subsequently adopted on September 25, 2012. FCS prepared the Consistency Checklist to evaluate whether the previous environmental analysis in the certified WISP EIR and General Plan EIR adequately addressed the potential environmental effects of the proposed project or if supplemental or subsequent environmental review is warranted pursuant to the requirements of CEQA. In support of the Consistency Checklist, FCS prepared analysis for air quality/GHG emissions, energy, biological resources, cultural resources, and noise. The Consistency Checklist was approved on July 13, 2020, and the project was completed constructed in 2021. Mr. Carroll conducted Swainson's hawk (*Buteo swainsoni*) protocol-level surveys, nesting detection surveys, and active bird nest status determination surveys, for a total of more than 100 survey hours. Over the course of the project, 16 active bird nests were detected and monitored. Mr. Carroll assisted in the determination of protection buffers and coordination with the project team regarding compliance with bird nests protection measures.

CenterPoint Properties Logistics Warehouse Project EIR, Contra Costa County, CA

FCS prepared an EIR for the CenterPoint Properties Project located at 560 Brookside Drive in unincorporated Contra Costa County, near the Richmond city limits. The applicant (CenterPoint) is proposing to develop three warehouse buildings totaling 555,000 square feet on the 31.48-acre project site. Historically, the site was used as cut flower nurseries and farmland to grow row crops since the late 1920s. The Contra Costa County General Plan designates the site as Light Industry (LI) and Heavy Industry (HI) and the site is located within the Planned Unit District (P-1) Zoning District. Areas of concern included air quality and GHG emissions, biological resources, cultural resources, noise, and traffic. As the Staff Biologist, Mr. Carroll conducted the field survey, peer reviewed the applicant's supporting studies, and wrote the Biological Resources section of the EIR.

ROBERT CARROLL—BIOLOGIST II

Scannell Properties Logistics Warehouse Project EIR, Contra Costa County, CA

FCS prepared the EIR for the Scannell Properties Project in unincorporated Contra Costa County, in the North Richmond area. The applicant (Scannell Properties) proposes to build two warehouse fulfillment buildings totaling approximately 325,000 square feet on the 29.4-acre project site. The Contra Costa County General Plan designates the site as Heavy Industry (HI) and the site is located within the North Richmond P-1 Zoning District. The North Richmond community is disproportionately impacted by air pollution. As a result, the project included construction best management practices, vehicle electrification and a transition to zero-emission fleet, and a Transportation Demand Management Plan to reduce emissions and improve air quality. Other areas of concern included GHG emissions, biological resources, cultural resources, and transportation. The Final EIR was unanimously approved by the County Planning Commission in September 2021. As the Staff Biologist, Mr. Carroll conducted the field survey, peer reviewed the applicant's supporting studies, and wrote the Biological Resources section of the EIR.

Oak Road Townhouse Condominiums Project EIR and Peer Review of Technical Studies, Contra Costa County, CA

FCS prepared an EIR and peer reviewed technical studies for a proposed subdivision. The applicant (SummerHill Homes) is constructing 125 townhouse condominium units located in nineteen 3-story buildings and associated improvements on a 5.94-acre site in unincorporated Contra Costa County, adjacent to the City of Walnut Creek. The eight existing parcels are currently zoned Low- and Medium-density Single-family Residential (R-15), Medium- and High-density Multiple-family Residential (M-17), and High-density Multiple-family Residential (M-29). The project includes rezoning all eight parcels to Planned Unit District (P-1), a vesting tentative map to subdivide the parcels into 125 residential lots, and approval of a preliminary and final development plan. The Board of Supervisors approved the project on March 1, 2022. Mr. Carroll peer reviewed the applicant's BRA, provided comments to make the assessment CEQA-compliant, and used the applicant's analysis to author the Biological Resources section of the EIR.

John Muir Parkway Extension Project IS/MND and Permitting for NEPA Clearance, City of Brentwood, CA

FCS prepared an IS/MND in 2007 to clear the relocation of Concord Avenue as John Muir Parkway extension. In 2010, FCS assisted the City of Brentwood by facilitating Contra Costa Transportation Authority's recognition of federal funding that was earmarked in the 2007 Omnibus Transportation Act for the relocation. Once funding was programmed in the regional Transportation Improvement Program, FCS prepared a Preliminary Environmental Study (PES) package through the Caltrans Office of Local Assistance to access the federal funding for the project. A second PES package was prepared and submitted in 2014, including a Natural Environment Study, Wetland Delineation, Cultural Resources Area of Potential Effect Map, Historical Property Survey Report, Archaeological Survey Report, Hazardous Materials Memorandum, and Categorical Exclusion Checklist and Form. Mr. Carroll assisted the City in obtaining necessary updates to biological permits, including CWA Sections 404 and 401 permits and an SAA. Mr. Carroll also provided construction monitoring and Workers Environmental Awareness Training and helped obtain all necessary biological permits.

ROBERT CARROLL—BIOLOGIST II

Silvergate Apartment Development Project Biological Pre-construction Survey, City of Brentwood, CA

Mr. Carroll assisted in the preparation of the Planning Survey Report (PSR) Application in relation to compliance with the East Contra Costa County Habitat Conservation Plan (HCP).

Cypress Self-storage Project Biological Assessment, City of Oakley, CA

FCS prepared a biological assessment for the Cypress Self-storage Project, which proposes to construct a Self-storage Facility and leasing office with related sales and rental facilities. The storage facility would consist of two 3-story buildings totaling up to 139,408 square feet plus a 1,024-square-foot office building with five parking stalls. FCS's biologists conducted pre-construction surveys for Swainson's hawk, golden eagle (*Aquila chrysaetos*), western BUOW, and Townsend's big-eared bat (*Corynorhinus townsendii*), as well as species protected by the Migratory Bird Treaty Act (MBTA) (16 USC 707) and the California Fish and Game Code (FGC) (Section 3503). Mr. Carroll prepared the East Contra Costa County HCP and Natural Conservation Community Plan Application Form Planning Survey Report.

Blue Wave Car Wash Project IS/MND, City of Pittsburg, CA

Mr. Carroll prepared the biological resources section of the IS/MND completed the PSR Application in relation to compliance with the East Contra Costa County HCP.

Liberty Subdivision II Project Substantial Conformance Memorandum Services, City of Pittsburg, CA

Mr. Carroll prepared the PSR Application in relation to compliance with the East Contra Costa County HCP. Additionally, Mr. Carroll contributed the Conformance Evaluation required under CEQA.

Oak Park Properties Specific Plan EIR and Permitting, City of Pleasant Hill, CA

FCS prepared an EIR for a 15-acre plan area which includes a new public library, housing, and athletic fields. The plan area is located entirely within the City of Pleasant Hill on land owned by Contra Costa County and the Mount Diablo Unified School District. The project also included necessary infrastructure improvements such as roadway widening, lane configuration improvements, and signal upgrades; new curb and gutter, sidewalks, and ADA facilities; and drainage, utilities (including a possible sewer line removal), lighting, and landscape improvements throughout the plan area. FCS worked with the property sponsors and stakeholders to clearly define the project. FCS also identified mitigation and prepared all regulatory permit applications, including a 404 permit from the USACE, Streambed Alteration Agreement with the CDFW, and 401 water quality certification from the RWQCB. Mr. Carroll prepared the Biological Impact Analysis for the EIR, jurisdictional delineation, and California red-legged frog (CRLF) (*Rana draytonii*) habitat assessment, with appropriate levels of analysis for the both programmatic- and project-level components. Additionally, Mr. Carroll prepared the required regulatory permits from the USACE, RWQCB, and CDFW.

CarMax Project Biological Construction Monitoring and Memorandum, City of Pleasant Hill, CA

Mr. Carroll confirmed the presence of one active red-shouldered hawk (*Buteo lineatus*) nest on the project site during construction activities. Subsequently, Mr. Carroll assisted in the determination of protection buffers and coordination with the project team regarding compliance with bird nests protection measures.

ROBERT CARROLL—BIOLOGIST II

Powerplant Agricultural Development Project Focused EIR and MND, City of Richmond, CA

FCS prepared an IS/MND for the 11-acre project in the City of Richmond. The applicant proposed to develop 180,900 square feet of agricultural development in several phases for the purposes of marijuana cultivation. The project would include 40 greenhouses and common buildings that would stand up to 35 feet above finished grade. Vehicular access would be taken from driveways on Freethy Boulevard and a guard house would be located at the driveway on the north side of Freethy Boulevard. FCS prepared an Air Quality/GHG Emissions Analysis and Noise Impact Analysis for inclusion in the IS/MND. In addition, there would also be a Traffic Impact Study and peer review of applicant-provided technical studies. As the Staff Biologist, Mr. Carroll prepared the Biological Impact Analysis for the IS/MND, with appropriate levels of analysis for project-level components.

Marina Way Residential Project Wetland Delineation, City of Richmond, CA

FCS prepared a Wetland Delineation for the Marina Way Residential Project. The property is located south of the intersection of Marina Way South and Hall Avenue, near the southern terminus of Marina Way in the City of Richmond. FCS delineated potential jurisdictional wetlands on the project site in accordance with methodologies within the USACE Wetland Delineation Manual and Arid West Regional Supplement. Mr. Carroll prepared the Wetland Delineation.

Silva Dairy Site Industrial Project BUOW Pre-construction Survey, City of Tracy, CA

Mr. Carroll conducted pre-construction surveys for BUOW and other nesting birds for this project. The surveys were conducted for compliance with the San Joaquin County Multiple Species HCP.

Highway 1/North Main Street—Spindrift Way IS/MND and Technical Studies, City of Half Moon Bay, CA

The segment of Highway 1 between North Main Street and Spindrift Way carries approximately 30,000 vehicles per day (based on Caltrans 2015 traffic counts) and is the most traveled portion of the Cabrillo Highway between Pacifica and Santa Cruz. Between North Main Street and Grand Boulevard, the roadway is a four-lane divided highway. Between Grand Boulevard and Spindrift Way, Highway 1 consists of a two-lane undivided roadway. A Class I bicycle/pedestrian trail exists along the west shoulder. In 2009, the City of Half Moon Bay adopted the Highway 1 Traffic Safety and Congestion Mitigation Plan to improve roadway and intersection operations along the Highway 1 corridor within Half Moon Bay. The improvements contemplated by the plan would be funded by the County's Measure A program. FCS prepared an IS/MND to evaluate the proposed safety improvements and visual enhancements along the Highway 1 corridor between North Main Street and Spindrift Way. Mr. Carroll assisted in the preparation of the BRA and Jurisdictional Delineation for the project.

Fire Station 77 Replacement IS/MND, Menlo Park Fire Protection District, City of Menlo Park, CA

FCS prepared an IS/MND for a project that proposed to replace Fire Station 77 in the City of Menlo Park with a new 14,000-square-foot, 2-story fire station. To provide maximum planning flexibility to the Menlo Park Fire Protection District, the IS/MND evaluated three parking lot options along Terminal Avenue and an array of residential property acquisition options. FCS also prepared the Hazardous Material section, including recommendations for mitigation for the project. Preparation of this section of the IS/MND involved the review of various environmental databases for any current and/or historic

ROBERT CARROLL—BIOLOGIST II

records of releases to the environment. As the Project Biologist, Mr. Carroll conducted field work and assisted in a bat habitat assessment, which outlined methodology, findings, and necessary measures to avoid or otherwise minimize impacts to sensitive bat species.

Mariner's Cove Wetland Fill Project Biologist and Biological Monitoring Services, City of Vallejo, CA

FCS provided biological monitoring services to the City of Vallejo's Public Works Department for the Mariner's Cove Wetland Fill Project. The goal was to fill former tidal marsh areas that are now cut off from natural tidal influence. However, the area supports pickleweed (*Salicornia pacifica*) habitat, which is potentially suitable for the federal and State endangered salt marsh harvest mouse (SMHM) (*Reithrodontomys raviventris*). For the vegetation removal process, FCS provided biological monitoring services, including review of permit documents, coordination with the contractor, coordination with CDFW, monitoring on-site during vegetation removal, and reporting according to permit conditions. This project required biological monitors to be approved in advance by the CDFW for this specific species and habitat. FCS acquired CDFW approval within one day and was able to provide a pool of five approved biological monitors. Mr. Carroll was a CDFW-approved Monitor for the project. Mr. Carroll prepared and conducted a Workers Environmental Awareness Program (WEAP) for construction personnel prior to the start of vegetation removal. He also distributed an SMHM factsheet handout to all personnel as required per the City's SAA. Additionally, Mr. Carroll surveyed and monitored for protected species for all work done within 300 feet of tidal or pickleweed habitats.

Cotati Reverb Hotel and Amphitheater Project IS/MND and Technical Studies, City of Cotati, CA

FCS prepared an IS/MND and associated technical studies for the Cotati Reverb Hotel and Amphitheater Project, which proposed to demolish an existing park-and-ride surface parking area and paved surfaces and construct a hotel and amphitheater near the US 101/SR 116 interchange in the City of Cotati, California. FCS also delineated potential jurisdictional wetlands on the project site in accordance with methodologies within the USACE Wetland Delineation Manual and Arid West Regional Supplement. Mr. Carroll prepared the Wetland Delineation and the IS/MND. Additionally, Mr. Carroll obtained regulatory permits from the USACE and RWQCB.

110 Dry Creek Regulatory Permitting Project, City of Healdsburg, CA

FCS provided environmental planning, biological resources, and regulatory permitting services in support of the Healdsburg Suites Multi-use Project. FCS initially completed CEQA compliance work and prepared associated technical studies, including a BRA and jurisdictional delineation. CEQA compliance was achieved with the City of Healdsburg, and the entitlement process was successfully completed. Mr. Carroll was a Staff Biologist for the project and helped author the BRA and IS/MND and obtain a Section 1602 SAA from CDFW. Additionally, Mr. Carroll was the Lead Monitor during construction for span bridge over Foss Creek.

Conservation Center for Wildlife Care Project Environmental and Regulatory Permitting Services, Lawrence Ellison Foundation, Santa Clara County, CA

FCS provided technical studies (cultural resources, biological resources, air quality, and noise) in support of the Lawrence Ellison Foundation (LEF) original application submittal in 2013, and reviewed provided comments on the County's 2014 EIR on behalf of LEF. Following the unanimous approval of the project, FCS provided biological, regulatory, project management, and entitlement processing services to

ROBERT CARROLL—BIOLOGIST II

support the proposed Conservation Center for Wildlife Care Project in Santa Clara County. LEF proposes to construct five buildings (Public Wildlife Intake Building/Pond Ecology Station, Wildlife Medical Facility and Education Building, Imperiled Species Breeding Facility, and two cottages) in the western portion of the project site and 50 wildlife enclosures scattered throughout the site. Mr. Carroll assisted in the compilation and submission of regulatory permits, provided a Worker's Environmental Awareness Training, and conducted multiple pre-construction surveys for nesting birds and roosting bats to ensure all biological mitigation measures were satisfied for CEQA compliance.

Other Relevant FCS Experience

- Project Lefty Biological Clearance Survey Report, City of Bakersfield, CA
- 1509 El Camino Real Project Regulatory Permitting and Engineering Design, City of Burlingame, CA
- 384 Fairgrounds Drive Self-storage Project Wetlands Assessment, City of Vallejo, CA
- 124 and 128 Brown Street Biological Resources Due Diligence Memorandum, Solano County, CA
- Cherry Creek Village Apartments Technical Studies, City of Cloverdale, CA
- Walnut Avenue Residential Project Indirect Source Review and Biological Surveys, City of Patterson, CA
- 2755 El Camino Real Apartment Project Nesting Bird Survey and Avoidance, City of Palo Alto, CA
- Mill Creek Project Biological Resources Regulatory Permitting, Town of Windsor, CA
- Washington Street Sewer Trunk Line Biological Services, City of Calistoga, CA
- Foundry Foodhall Technical Studies, City of Walnut Creek, CA
- Volpone-Silver Gate Condominium Community Project BUOW and Nesting Birds Pre-construction Survey, City of Brentwood, CA
- Jackson Family Winery The Inn Project Wetland Assessment, City of Napa, CA
- Lassen Road Residential Development Project IS/MND, City of Livermore, CA
- Devlin Road Construction and Demolition Debris Facility Initial Study/Addendum and Technical Studies, Napa County, CA
- General Plan Redesignation and Zoning Ordinance EIR Amendment, City of Napa, CA
- Mission and Mattox Project Addendum, City of Hayward, CA
- Richmond Country Club Residential Project IS/MND, Technical Studies, and Bay Trail Connection, City of Richmond, CA
- Quarry Residential Project Nesting Bird Survey, City of Richmond, CA
- Napa Vault Storage Biological and Regulatory Permitting Services, City of Napa, CA

Appendix B - IPaC Database Query



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

07/17/2025 17:19:26 UTC

Project Code: 2025-0123134

Project Name: 1726.0018 I-580/Corral Hollow Road Interchange Improvement

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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 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 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:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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 Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

PROJECT SUMMARY

Project Code: 2025-0123134

Project Name: 1726.0018 I-580/Corral Hollow Road Interchange Improvement

Project Type: Road/Hwy - Maintenance/Modification

Project Description: Caltrans proposes to improve the interchanges at I-580 and Corral Hollow Road in the City of Tracy, California to reduce congestion resulting from ongoing and planned development of the Tracy Hills Specific Plan and other nearby developments and to improve local circulation and the functionality of the I-580 interchange at Corral Hollow Road.

The City proposes to widen the bridge overcrossing, upgrade on- and off-ramps, and develop new diverging diamond features at the existing interchange of Corral Hollow and Interstate 580 in the City of Tracy, San Joaquin County, California (Figures 1 and 2). Additionally, the proposed project would facilitate the planned widening of Corral Hollow Road to four lanes north of I-580, as called for in the City's Transportation Master Plan (TMP). The proposed project would also include reconfiguration of the eastbound (EB) and westbound (WB) ramp termini intersections into a Diverging Diamond configuration and the installation of a two-phase traffic signal; the installation of additional new traffic signals on both ramp termini intersections; and crosswalk striping on the north leg of the westbound ramp terminus intersection and the south leg of the eastbound ramp terminus intersection.

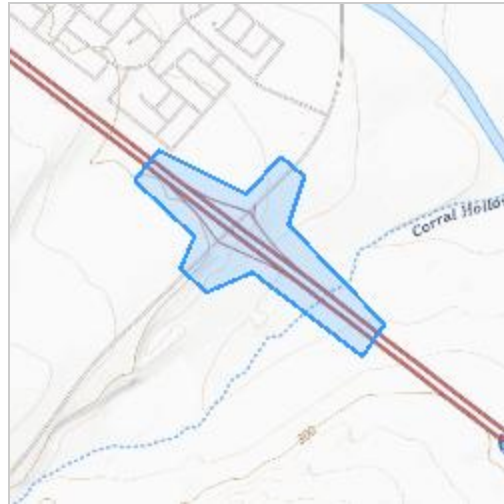
There would be two options for the eastbound I-580 onramp. Option A would consist of widening the existing bridge over Corral Hollow Creek, including earthquake safety improvements and cast-in-place piles, and would mitigate Right-of-way (ROW) impacts associated with the proposed bridge retrofitting. Option B would construct a new two-lane onramp south of the existing onramp that would include a new bridge over Corral Hollow Creek. The same cast-in-place concrete supports would be constructed for this bridge and no encroachment would occur into the creek bed itself. Option A and Option B All other components of the proposed project would be the same for both options.

The proposed project would require ROW to be acquired along the I-580 and Corral Hollow Road to accommodate the planned upgrades.

Project construction is expected to occur over 24 months and is estimated to begin in March 2028. Earthwork (grading, etc.) would occur between March and July 2028 and work on the interchange structure would commence after completion of the earthwork, spanning a period of approximately 13 months. Final finishing work would occur over the next 5 months, with estimated completion of construction in March 2030.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.6714092,-121.45645230765572,14z>



Counties: San Joaquin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

BIRDS

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

REPTILES

NAME	STATUS
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog <i>Rana boylei</i> Population: Central Coast Distinct Population Segment (Central Coast DPS) There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5133	Threatened
Western Spadefoot <i>Spea hammondi</i> Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Large-flowered Fiddleneck <i>Amsinckia grandiflora</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Juliet Simpson
Address: 2999 Oak Road
Address Line 2: Suite 250
City: Walnut Creek
State: CA
Zip: 94597
Email: jsimpson@fcs-intl.com
Phone: 8888265814

Appendix C - CNDDDB Database Query



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Tracy (3712164) OR Lathrop (3712173) OR Solyo (3712153) OR Vernalis (3712163) OR Union Island (3712174) OR Clifton Court Forebay (3712175) OR Lone Tree Creek (3712154) OR Cedar Mtn. (3712155) OR Midway (3712165))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
<i>Actinemys marmorata</i> northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
<i>Alkali Meadow</i> Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
<i>Allium sharsmithiae</i> Sharsmith's onion	PMLIL02310	None	None	G2	S2	1B.3
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G3T3	S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
<i>Anthicus sacramento</i> Sacramento anthicid beetle	IICOL49010	None	None	G4	S4	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S2	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
<i>Atriplex cordulata var. cordulata</i> heartscale	PDCHE040B0	None	None	GNRT2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Bombus crotchii</i> Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesoallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
<i>Chlorogalum pomeridianum var. minus</i> dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium crassicaule</i> slough thistle	PDAST2E0U0	None	None	G1	S1	1B.1
<i>Cirsium fontinale var. campylon</i> Mt. Hamilton thistle	PDAST2E163	None	None	G2T2	S2	1B.2
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Delphinium californicum ssp. interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Delphinium recurvatum</i> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2	1B.2
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eriastrum tracyi</i> Tracy's eriastrum	PDPLM030C0	None	Rare	G3Q	S3	3.2
<i>Eryngium racemosum</i> Delta button-celery	PDAP10Z0S0	None	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Eryngium spinosepalum</i> spiny-sepaled button-celery	PDAP10Z0Y0	None	None	G2	S2	1B.2
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<i>Fritillaria falcata</i> talus fritillary	PMLIL0V070	None	None	G2	S2	1B.2
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S2	
<i>Great Valley Cottonwood Riparian Forest</i> Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
<i>Great Valley Valley Oak Riparian Forest</i> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Hygrotus curvipes</i> curved-foot hygrotus diving beetle	IICOL38030	None	None	G2	S2	
<i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Leptosyne hamiltonii</i> Mt. Hamilton coreopsis	PDAST2L0C0	None	None	G2	S2	1B.2
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAP119030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G5	S2	2B.1
<i>Lindieriella occidentalis</i> California lindieriella	ICBRA06010	None	None	G2G3	S2S3	
<i>Madia radiata</i> showy golden madia	PDAST650E0	None	None	G3	S3	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Malacothamnus hallii</i> Hall's bushmallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S3	SSC
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia pop. 1</i> song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
<i>Navarretia nigelliformis ssp. radians</i> shining navarretia	PDPLM0C0J2	None	None	G4T2T3	S2S3	1B.2
<i>Neotoma fuscipes riparia</i> riparian (=San Joaquin Valley) woodrat	AMAFF08081	Endangered	None	G5T1	S1	SSC
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G3	S2S3	
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2G3	S2S3	1B.2
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G4	S4	SSC
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
<i>Rana boylei pop. 4</i> foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Ravenella exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	1B.2
<i>Spea hammondi</i> western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Spirinchus thaleichthys pop. 2</i> longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
<i>Sylvilagus bachmani riparius</i> riparian brush rabbit	AMAEB01021	Endangered	Endangered	GNRT2	S2	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Thaleichthys pacificus</i> eulachon	AFCHB04010	Threatened	None	G4	S1	SSC
<i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	PDAST9F031	None	None	G4T3	S1	2B.1
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Valley Sink Scrub Valley Sink Scrub	CTT36210CA	None	None	G1	S1.1	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 88

Appendix D - CNPS Database Query



CNPS Rare Plant Inventory

Search Results

56 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [1A:1B:2A:2B:3:4] , 9-Quad include
[3712173:3712153:3712163:3712174:3712175:3712154:3712155:3712164:3712165]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
<i>Acanthomintha lanceolata</i>	Santa Clara thorn-mint	Lamiaceae	None	None	G4	S4	4.2
<i>Allium sharsmithiae</i>	Sharsmith's onion	Alliaceae	None	None	G2	S2	1B.3
<i>Amsinckia grandiflora</i>	large-flowered fiddleneck	Boraginaceae	FE	CE	G1	S1	1B.1
<i>Androsace elongata</i> ssp. <i>acuta</i>	California androsace	Primulaceae	None	None	G5? T3T4	S3S4	4.2
<i>Aspidotis carlotta-halliae</i>	Carlotta Hall's lace fern	Pteridaceae	None	None	G3	S3	4.2
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	Fabaceae	None	None	G2T1	S1	1B.2
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heartscale	Chenopodiaceae	None	None	GNRT2	S2	1B.2
<i>Atriplex coronata</i> var. <i>coronata</i>	crownscale	Chenopodiaceae	None	None	G4T3	S3	4.2

<i>Blepharizonia plumosa</i>	big tarplant	Asteraceae	None	None	G1G2	S1S2	1B.1
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	Brassicaceae	None	None	G3	S3	1B.2
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	dwarf soaproot	Agavaceae	None	None	G5T3	S3	1B.2
<i>Cirsium crassicaule</i>	slough thistle	Asteraceae	None	None	G1	S1	1B.1
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton thistle	Asteraceae	None	None	G2T2	S2	1B.2
<i>Clarkia breweri</i>	Brewer's clarkia	Onagraceae	None	None	G4	S4	4.2
<i>Clarkia concinna</i> ssp. <i>automixa</i>	Santa Clara red ribbons	Onagraceae	None	None	G5?T3	S3	4.3
<i>Convolvulus simulans</i>	small-flowered morning-glory	Convolvulaceae	None	None	G4	S4	4.2
<i>Delphinium californicum</i> ssp. <i>interius</i>	Hospital Canyon larkspur	Ranunculaceae	None	None	G3T3	S3	1B.2
<i>Delphinium recurvatum</i>	recurved larkspur	Ranunculaceae	None	None	G2?	S2	1B.2
<i>Eriastrum tracyi</i>	Tracy's eriastrum	Polemoniaceae	None	CR	G3Q	S3	3.2
<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i>	bay buckwheat	Polygonaceae	None	None	G5T3	S3	4.2
<i>Eriophorum gracile</i>	slender cottongrass	Cyperaceae	None	None	G5	S4	4.3
<i>Eriophyllum jepsonii</i>	Jepson's woolly sunflower	Asteraceae	None	None	G3	S3	4.3
<i>Eryngium racemosum</i>	Delta button-celery	Apiaceae	None	CE	G1	S1	1B.1

<i>Eryngium spinosepalum</i>	spiny-sepaled button-celery	Apiaceae	None	None	G2	S2	1B.2
<i>Eschscholzia hypocoides</i>	San Benito poppy	Papaveraceae	None	None	G4	S4	4.3
<i>Eschscholzia rhombipetala</i>	diamond-petaled California poppy	Papaveraceae	None	None	G1	S1	1B.1
<i>Extriplex joaquinana</i>	San Joaquin spearscale	Chenopodiaceae	None	None	G2	S2	1B.2
<i>Fritillaria agrestis</i>	stinkbells	Liliaceae	None	None	G3	S3	4.2
<i>Fritillaria falcata</i>	talus fritillary	Liliaceae	None	None	G2	S2	1B.2
<i>Galium andrewsii</i> ssp. <i>gatense</i>	phlox-leaf serpentine bedstraw	Rubiaceae	None	None	G5T3	S3	4.2
<i>Helianthella castanea</i>	Diablo helianthella	Asteraceae	None	None	G2	S2	1B.2
<i>Hesperervax caulescens</i>	hogwallow starfish	Asteraceae	None	None	G3	S3	4.2
<i>Hesperolinon breweri</i>	Brewer's western flax	Linaceae	None	None	G2	S2	1B.2
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose- mallow	Malvaceae	None	None	G5T3	S3	1B.2
<i>Hoita strobilina</i>	Loma Prieta hoita	Fabaceae	None	None	G2?	S2?	1B.1
<i>Lasthenia ferrisiae</i>	Ferris' goldfields	Asteraceae	None	None	G3	S3	4.2
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	Polemoniaceae	None	None	G4	S4	4.2
<i>Leptosyne hamiltonii</i>	Mt. Hamilton coreopsis	Asteraceae	None	None	G2	S2	1B.2
<i>Lessingia tenuis</i>	spring lessingia	Asteraceae	None	None	G4	S4	4.3
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	Apiaceae	None	CR	G2	S2	1B.1
<i>Limosella australis</i>	Delta mudwort	Scrophulariaceae	None	None	G5	S2	2B.1

<i>Madia radiata</i>	showy golden madia	Asteraceae	None	None	G3	S3	1B.1
<i>Malacothamnus hallii</i>	Hall's bushmallow	Malvaceae	None	None	G2	S2	1B.2
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	Asteraceae	None	None	G3G4	S3S4	3.2
<i>Microseris sylvatica</i>	sylvan microseris	Asteraceae	None	None	G4	S4	4.2
<i>Myosurus minimus ssp. apus</i>	little mousetail	Ranunculaceae	None	None	G5T2Q	S2	3.1
<i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	adobe navarretia	Polemoniaceae	None	None	G4T3	S3	4.2
<i>Navarretia nigelliformis</i> ssp. <i>radians</i>	shining navarretia	Polemoniaceae	None	None	G4T2T3	S2S3	1B.2
<i>Phacelia phacelioides</i>	Mt. Diablo phacelia	Hydrophyllaceae	None	None	G2G3	S2S3	1B.2
<i>Piperia michaelii</i>	Michael's rein orchid	Orchidaceae	None	None	G3	S3	4.2
<i>Puccinellia simplex</i>	California alkali grass	Poaceae	None	None	G2	S2	1B.2
<i>Ravenella exigua</i>	chaparral harebell	Campanulaceae	None	None	G2	S2	1B.2
<i>Senecio aphanactis</i>	chaparral ragwort	Asteraceae	None	None	G3	S2	1B.2
<i>Spergularia macrotheca</i> var. <i>longistyla</i>	long-styled sand- spurrey	Caryophyllaceae	None	None	G5T2	S2	1B.2
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	Asteraceae	None	None	G4T3	S1	2B.1
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	Brassicaceae	None	None	G1	S1	1B.1

Showing 1 to 56 of 56 entries

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Appendix E - Site Photographs



Photograph 1: Northwest corner of BSA facing south, showing Interstate 580, wild oat-annual brome grassland, and adjacent open space.



Photograph 2: West corner of Interstate 580/Corral Hollow Road interchange facing west, showing west Corral Hollow Road, ruderal/disturbed areas, wild oat-annual brome grassland, and adjacent open space.



Photograph 3: South side of Interstate 580/Corral Hollow Road Interchange facing north, showing Peruvian pepper trees.



Photograph 4: East Corral Hollow Road, showing nest present on utility pole along roadside in BSA.



Photograph 5: West corner of Interstate 580/Corral Hollow Road interchange facing south, showing culvert under Corral Hollow Road overpass.



Photograph 6: South corner of Interstate 580/Corral Hollow Road interchange facing east, showing interchange, cement-lined drainage, ruderal/disturbed areas, and Peruvian pepper trees.



Photograph 7: East corner of Interstate 580/Corral Hollow Road interchange facing northwest, showing interchange, wild oat-annual brome grassland, coast live oak trees, and adjacent open space.



Photograph 7: East corner of Interstate 580/Corral Hollow Road interchange facing southeast, showing Interstate 580, wild oat-annual brome grassland, coast live oak trees, and adjacent open space.



Photograph 9: West side of Interstate 580 in central portion of BSA facing north, showing roadside drainage from cement-lined culvert.



Photograph 10: West side of Interstate 580 north of Corral Hollow Creek, showing beardless wild rye patch.



Photograph 11: West side of Interstate 580 north of Corral Hollow Creek, showing saltgrass patch.



Photograph 12: East side of Interstate 580 in southern portion of BSA facing west, showing Interstate 580 overpasses over Corral Hollow Creek that supports swallow nests.



Photograph 13: West side of Interstate 580 at southwest corner of BSA facing north, showing Interstate 580, ruderal/disturbed area, wild oat-annual brome grassland, coast live oak tree, and adjacent open space.



Photograph 14: West side of Interstate 580 at southwest corner of BSA facing south, showing Interstate 580, wild oat-annual brome grassland, and adjacent open space.

Appendix F - Species Compendium

Species Compendium

Scientific Name	Common Name	Status
WILDLIFE		
Invertebrates		
<i>Chrysochus cobaltinus</i>	cobalt milkweed beetle	native
<i>Libellula saturata</i>	flame skimmer dragonfly	native
<i>Pepsis thisbe</i>	Thisbe's tarantula-hawk wasp	native
Birds		
<i>Buteo sp.</i>	hawk	native
<i>Columba livia</i>	rock pigeon	non-native
<i>Corvus brachyrhynchos</i>	Amercian crow	native
<i>Falco sp.</i>	falcon	native
<i>Mimus polyglottos</i>	northern mockingbird	native
<i>Passer domesticus</i>	house sparrow	non-native
<i>Petrochelidon pyrrhonota</i>	cliff swallow	native
PLANTS		
<i>Acacia melanoxylon</i>	blackwood acacia	Cal-IPC: L
<i>Amsinckia sp.</i>	fiddleneck	native
<i>Artemisia californica</i>	California sagebrush	native
<i>Asclepias fascicularis</i>	narrow leaf milkweed	native
<i>Avena sp.</i>	oat grass	Cal-IPC: M
<i>Baccharis pilularis</i>	coyote brush	native
<i>Baccharis salicifolia</i>	mule fat	native
<i>Brachypodium distachyon</i>	false brome	Cal-IPC: M
<i>Bromus diandrus</i>	ripgut brome	Cal-IPC: M
<i>Bromus hordeaceus</i>	soft brome	Cal-IPC: L
<i>Bromus madritensis</i>	foxtail brome	non-native
<i>Carduus pycnocephalus</i>	Italian thistle	Cal-IPC: M
<i>Centaurea melitensis</i>	Maltese star thistle	Cal-IPC: M
<i>Centaurea solstitialis</i>	yellow star thistle	Cal-IPC: H
<i>Centromadia sp.</i>	tarweed	native
<i>Conium maculatum</i>	poison hemlock	Cal-IPC: M
<i>Croton setiger</i>	turkey-mullein	native

Scientific Name	Common Name	Status
<i>Datura wrightii</i>	sacred datura	native
<i>Deinandra sp.</i>	tarweed	native
<i>Distichlis spicata</i>	saltgrass	native
<i>Elymus triticoides</i>	beardless wild rye	native
<i>Erodium cicutarium</i>	redstem stork's bill	Cal-IPC: L
<i>Festuca myuros</i>	rattail sixweeks grass	Cal-IPC: M
<i>Foeniculum vulgare</i>	sweet fennel	Cal-IPC: M
<i>Grindelia camporum</i>	Great Valley gumweed	native
<i>Helianthus annuus</i>	common sunflower	native
<i>Heliotropium curassavicum</i>	salt heliotrope	native
<i>Heterotheca grandiflora</i>	telegraph weed	native
<i>Hirschfeldia incana</i>	short podded mustard	Cal-IPC: M
<i>Holocarpha sp.</i>	tarweed	native
<i>Lactuca serriola</i>	prickly lettuce	non-native
<i>Lepidium latifolium</i>	broadleaved pepperweed	Cal-IPC: H
<i>Malva sp.</i>	mallow	non-native
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	Cal-IPC: L
<i>Populus fremontii</i>	Fremont cottonwood	native
<i>Quercus agrifolia</i>	coast live oak	native
<i>Raphanus raphanistrum</i>	wild radish	non-native
<i>Raphanus sativus</i>	cultivated radish	Cal-IPC: L
<i>Rumex crispus</i>	curly dock	Cal-IPC: L
<i>Salsola tragus</i>	Russian thistle	Cal-IPC: L
<i>Scandix pecten-veneris</i>	shepherd's needle	non-native
<i>Schinus molle</i>	Peruvian pepper tree	Cal-IPC: L
<i>Silybum marianum</i>	milk thistle	Cal-IPC: L
<i>Tamarix parviflora</i>	smallflower tamarisk	Cal-IPC: H
<i>Tamarix ramosissima</i>	saltcedar	Cal-IPC: H
<i>Trichostema lanceolatum</i>	vinegarweed	native
<i>Verbena lasiostachys</i>	western vervain	native