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BIOLOGICAL RESOURCE ASSESSMENT

Aquatic, Terrestrial, and Botanical Resources

Colusa Triple Crown Project

Colusa County, California

October 2025

Prepared for:

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EXECUTIVE SUMMARY

This biological resource assessment (BRA) summarizes an overall evaluation of (1) the existing biological and botanical conditions of the Colusa Triple Crown Project (Project) site, (2) the potential for special-status species to occur in or near the Project site, and (3) the measures of avoidance to minimize the potential impacts to special-status species during Project activities.

The proposed project involves the construction of a cannabis research and development business park. It would encompass approximately 2,130,000 square feet on 88.9 acres. The Colusa Triple Crown Project (Project) is located approximately 2 miles southwest of the City of Colusa, Colusa County, California. The primary objective of the Project is to construct up to ten (10) steel warehouse buildings on permanent rebar and concrete foundations. Additional improvement measures consist of providing localized drainage improvements, installation of water, sewer, and electrical lines to supply the new buildings, as well as fencing surrounding all new Project facilities.

Land within the biological survey area (BSA) is characterized by cropland, barren, and man-made riverine habitats. There is suitable habitat within the BSA for federal and state listed species. Special-status plants that have the potential to occur within the BSA include heartscale (*Atriplex cordulata var. cordulata*). Special-status animals, including proposed and candidate species, that have the potential to occur within the BSA include Crotch's bumble bee (*Bombus crotchii*), monarch butterfly (*Danaus plexippus*), giant garter snake (*Thamnophis gigas*), northwestern pond turtle (*Actinemys marmorata*), western burrowing owl (*Athene cunicularia ssp. hypugaea*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), and a variety of migratory bird and raptor species protected by the Migratory Bird Treaty Act (MBTA). There is no designated United States Fish and Wildlife Service (USFWS) critical habitat within the BSA for any federally listed species.

BIOLOGICAL RESOURCE ASSESSMENT

Colusa Triple Crown

Colusa County, California
USGS "Colusa" 7.5' Quadrangle
Section 11 Township 15N Range 02W

INTRODUCTION

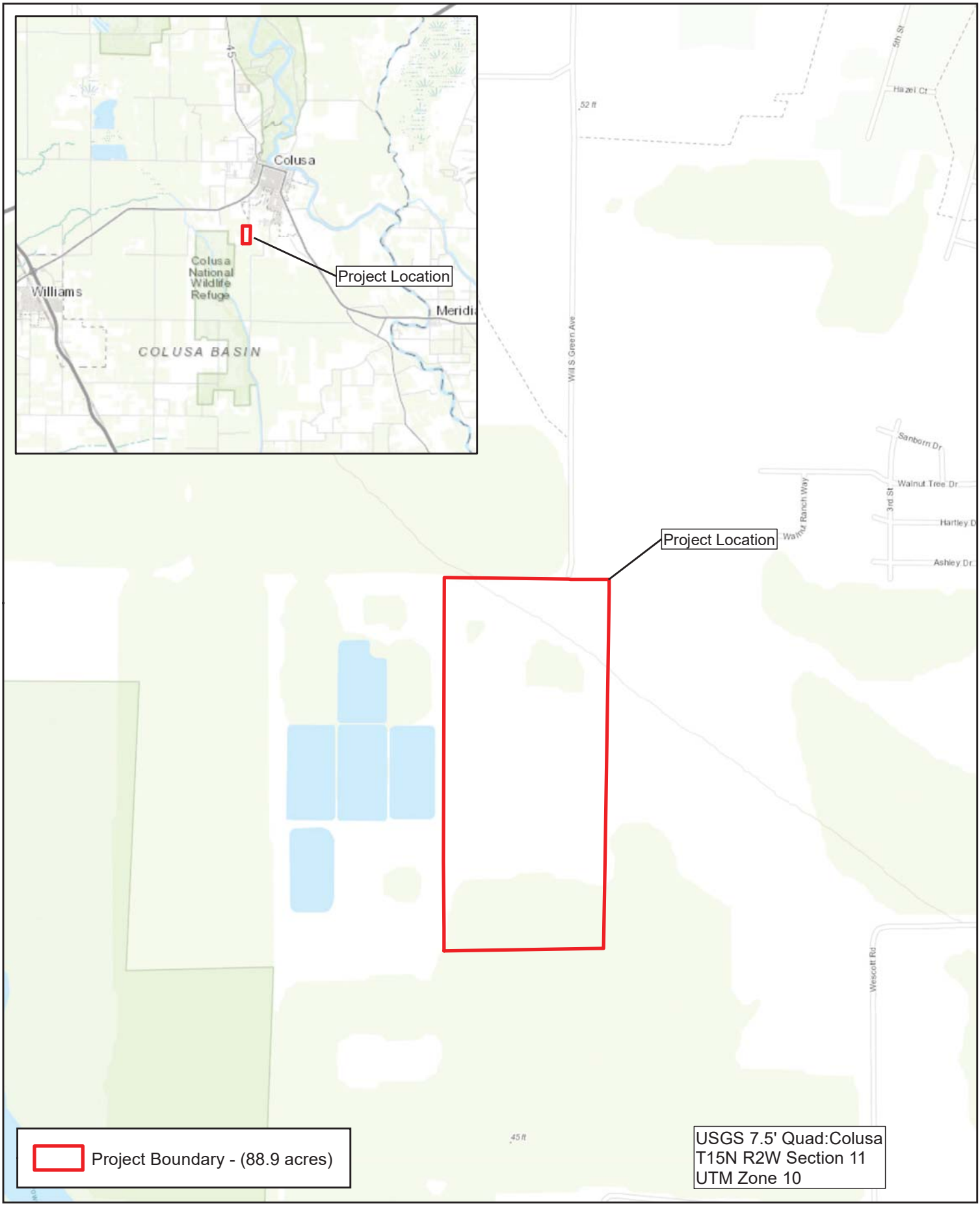
Purpose and Overview

The purpose of this biological resource assessment (BRA) is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of the Triple Crown Project (Project), near the City of Colusa, Colusa County, California (**Figure 1**). The proposed Project includes the construction and operation of a cannabis research and development business park. It would encompass approximately 2,130,000 square feet on 88.9 acres.

The BSA is the area where the focus of biological surveying is conducted (**Figure 2**). Gallaway Enterprises conducted biological and botanical habitat assessments within the BSA to evaluate site conditions and the potential for special-status wildlife and botanical species to occur. Other primary references consulted include species lists and information gathered using the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), the National Oceanic and Atmospheric Administration (NOAA) Fisheries/National Marine Fisheries Service (NMFS) consultation online tools, California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) inventory of rare and endangered plants, and literature review. The BRA results are the findings of habitat assessments and surveys, and recommendations for avoidance and minimization measures.

Project Location and Environmental Setting

The Project is located in the Sacramento Valley, the northern portion of California's Central Valley. The BSA is located on the west side of Will S. Green Avenue and Westcott Road, just south of the city limits of Colusa, Colusa County, California, Latitude 39.187932, Longitude -122.026729, within the United States Geological Survey (USGS) "Colusa" 7.5-minute quadrangle, Section 11, Township 15N, Range 02W. The Property is bounded by Will S. Green Ave. to the east and is surrounded by rural agricultural land to the east, north and south, and a county-operated maintenance building and water treatment facility to the west. The BSA has an elevation of approximately 50 feet and is approximately 2.5 miles west of the Sacramento River. It consists of flat terrain that is currently used for raising several rotating crops, most recently safflower. There are several wetland features throughout the property, characterized as agricultural ditches and canals/levees. The area's average annual precipitation is 16.2 inches, and the average annual temperature is 61.3° F (WRCC 2025) in the region where the BSA is located. Soil type within the BSA is a Scribner silt loam, 0 to 1 percent slope, subject to occasional flooding, with a depth to restrictive layer of more than 80 inches (USDA 2025).



NORTH

1:12,000

0 250 500 Feet

Data Sources: ESRI, World Topographic Map

Colusa Triple Crown
Regional Location
Figure 1

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GE: #25-053 Map Date: 09/12/2025

1:8,000

0 150 300 Feet

NORTH

Data Sources: ESRI, Maxar 05/11/2023

Colusa Triple Crown
Biological Survey Area
Figure 2

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GE: #25-053 Date: 9/12/2025

Project Description

The proposed Project will involve construction and operation of a cannabis research and development business park in a rural agricultural area outside of the city limits of Colusa. It would encompass approximately 2,130,000 square feet on 88.9 acres

Proposed improvements include the construction of up to ten (10) steel warehouse buildings on permanent rebar and concrete foundations. Construction is planned as a five-phased approach. There are no trees within the BSA, and the area at the time of the habitat assessments was open and free of vegetation, except for the vegetation that is lining the irrigation ditches and canals; thus, no tree removals or extensive vegetation removals will be required for the project. Some maintenance clearing of the agricultural ditches may be required to connect new systems to the existing irrigation system on site. Additional improvement measures consist of providing localized drainage improvements, installation of water, sewer, and electrical lines to supply the new buildings, as well as fencing surrounding all of the new Project facilities.

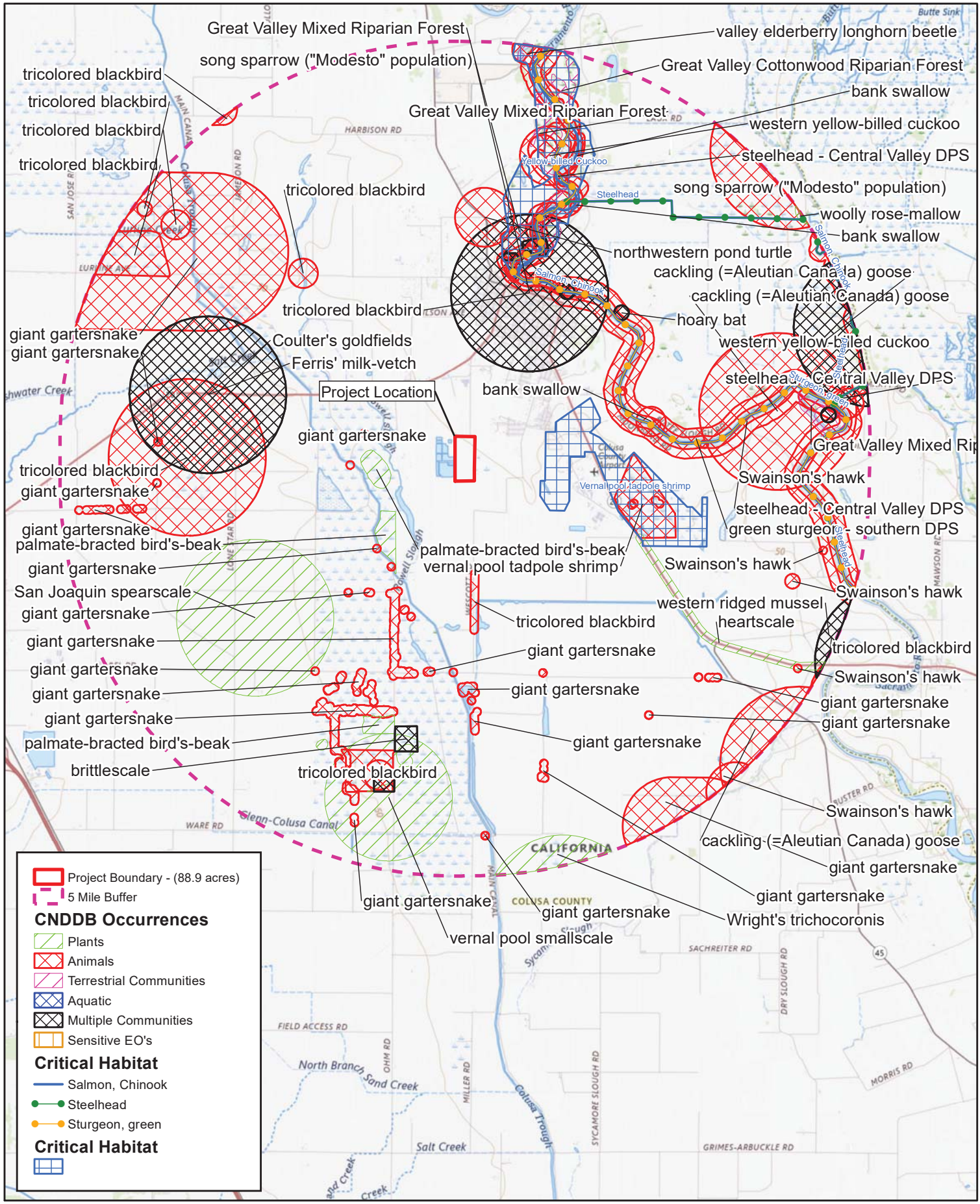
It is anticipated that excavators, dozers, cranes, pavers, dump trucks, concrete trucks, concrete pumps, excavation shoring systems, concrete formwork systems, and drilling equipment may be required to construct the improvements. It is not anticipated that the improvements would impede traffic, as the Project will not require staging equipment on the street, and Will S. Green Ave. is an unpaved road typically only used by industrial or county vehicles.

METHODS

References Consulted

Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDB Rarefind 5 database was also consulted to identify special-status species occurrences within a 5-mile radius of the BSA (**Figure 3**). Primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed and candidate species, and their habitats within the BSA used in the preparation of this BRA are:

- The USFWS IPaC Official Species List for the BSA, Project Code 2025-0144325, September 3, 2025 (**Appendix A**);
- Results of a species record search of the CDFW CNDDB RareFind 5 for the USGS 7.5-minute “Colusa” and eight surrounding quadrangles, September 3, 2025 (**Appendix A**);
- Review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the USGS 7.5-minute “Colusa” and eight surrounding quadrangles, September 3, 2025 (**Appendix A**);
- Review of the USFWS and NOAA Fisheries critical habitat online maps, September 3, 2025; and,
- Results from the habitat assessments conducted by Gallaway Enterprises on September 16, 2025. (**Appendix B**).



Colusa Triple Crown
CNDDB Occurrences and Critical Habitat
Figure 3

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GE: #25-053 Map Date: 09/12/2025

Special-Status Species

Special-status species that have potential to occur in the BSA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFGC; i.e., Fully Protected Species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA; §15380).

Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical landscape and are typically preserved as valued components of California's diverse habitat assemblage. The CDFW CNDDB was accessed on September 3, 2025, to determine if the BSA occurred within an SNC.

Critical Habitat

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species' survival, and which are occupied by the species during the species' listing under the ESA. Areas outside of the species range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

The USFWS Critical Habitat on-line mapper was accessed on September 3, 2025, to determine if critical habitat occurs within the BSA. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat. The NOAA Fisheries Critical Habitat Mapper App for the West Coast Region was accessed on September 3, 2025, to determine if critical habitat for ESA listed fish occurs within the BSA.

It was determined that there is no critical habitat overlapping the BSA for any special-status species.

Habitat Assessment

Habitat assessments were conducted by Gallaway Enterprises staff on September 16, 2025, by Associate Biologist Kaela Gamio and Senior Botanist Cheryl Ballantyne. Habitat assessments for botanical and wildlife species were conducted to determine if suitable habitat elements for special-status species occur within the BSA. The habitat assessments were conducted by walking the entire BSA and recording observed species or their sign along with specific habitat types and elements. If habitat was observed for

special-status species, it was then evaluated for quality based on vegetation composition and structure, physical features (e.g., soils, elevation), microclimate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates), and land use patterns. Wildlife species and botanical species observed during the site assessment are included in **Appendix B**.

RESULTS

Habitat Types

The habitat types and vegetation communities that are present within the BSA are detailed below as described in the current classification scheme identified in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). A map depicting the approximate extent of the habitat types within the BSA is included (**Figure 4**). For the full lists of animal and plant species observed within these various habitat types during site evaluations, please refer to **Appendix B**.

Cropland

Vegetation in cropland habitat includes a variety of sizes, shapes, and growing patterns. Most croplands support annuals, planted in spring and harvested during summer or fall. In many areas, second crops are commonly planted after harvesting the first. Soils often dictate the crops grown. Cropland vegetation is grown as a monoculture, using tillage or herbicides to eliminate unwanted vegetation. Croplands are established on the State's most fertile soils, which historically supported an abundance of wildlife unequalled in other sites. Croplands have greatly reduced the wildlife richness and diversity of California. Many species of rodents and birds have adapted to croplands and are controlled by fencing, trapping, and poisoning to prevent excessive crop losses (California Department of Food and Agriculture 1975). Except for insectivores, raptors, doves, and pheasants, avian wildlife that becomes numerous and uses crops before they are harvested are generally not welcome by growers. Wildlife such as waterfowl, sandhill cranes, and other species that use waste grain after harvest are usually not discouraged. Croplands flooded for weed control, leaching, irrigation, or waterfowl hunting serve as freshwater wetlands for a variety of associated wetland wildlife, including shorebirds, wading birds, and gulls. A variety of plants may occupy the periphery of cropland, where drainage or irrigation ditches harbor moisture for longer periods, and the soils are not as frequently disturbed. At the time the habitat assessment was performed, the cropland within the BSA was not being utilized for production, and the only plants within the mostly barren rows was the occasional stinkwort weed (*Dittrichia graveolens*). However, a larger variety of plant species were observed within the drainage ditch on the western edge of the field, including prickly lettuce (*Lactuca serriola*), black nightshade (*Solanum nigrum*), Russian thistle (*Salsola tragus*), perennial pepperweed (*Lepidium latifolium*), European heliotrope (*Heliotropium europaeum*), and even some tomato (*Lycopersicon asculentum*) deposited there from a previous crop cycle. Similarly, no animals were seen within the designated cropland of the BSA; they were only found on the periphery within the irrigation ditch, and included several species of pollinators (butterflies, wasps, and honey bees) as well as western fence lizards (*Sceloporus occidentalis*), black phoebes (*Sayornis nigricans*), and lesser goldfinch (*Spinus psaltria*).

NORTH

1:6,000

0 100 200 Feet

Data Sources: ESRI, Maxar 05/11/2023

Colusa Triple Crown
Habitat Types
Figure 4

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Barren

Barren habitat is typified by non-vegetated soil, rock, and gravel. Access paths, parking, unpaved roads, and storage areas associated with existing buildings are classified as barren habitat within the BSA. Barren habitat typically provides low quality habitat to wildlife. Some ground-nesting birds, such as killdeer (*Charadrius vociferus*), will nest in gravelly, barren substrate, and reptile species may use this habitat for thermoregulation.

Riverine

Intermittent or continually running water distinguishes rivers and streams. With increasing temperatures, decreasing velocities and accumulating bottom sediment, organisms of the fast water are replaced by organisms adapted to slower moving water. Mollusks and crustaceans replace the rubble-dwelling insect larvae. Backswimmers, water boatmen and diving beetles inhabit sluggish stretches and backwaters. Emergent vegetation grows along the banks, and duckweed floats on the surface. Abundant decaying matter on the river bottom promotes the growth of plankton populations that are not usually found in fast water. Most natural riverine systems are relatively stable over long periods of time as long as there is no human interference. The building of dams and the dredging and straightening of stream channels are the most important factors controlling the duration of stream and river types. Riverine habitats can occur in association with many terrestrial habitats. The temperature of the riverine habitat is not constant. In general, small, shallow streams tend to follow, but lag behind air temperatures, warming and cooling with the seasons. Waters provide food for waterfowl, herons, shorebirds, belted kingfisher, and American dipper. Many species of insectivorous birds (swallows, swifts, flycatchers) hawk their prey over water. The riverine habitat within the BSA was dominated by a thick, dead stand of cattail (*Typha sp.*) within the larger irrigation ditches that had not had continuous flow of water for some time.

Sensitive Natural Communities

There are no designated SNCs that occur within the BSA.

Critical Habitat

It was confirmed that the BSA does not overlap proposed critical habitat for any federally listed species.

Special-Status Species

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS IPaC species list, CNDDB list of occurrences, and the CNPS list of rare and endangered plants within the USGS 7.5-minute “Colusa” and eight surrounding quadrangles, and their potential to occur within the BSA are described in **Table 1**. Potential for occurrence was determined by reviewing database queries from federal and state agencies and evaluating habitat characteristics. The following special-status species have potential to occur within the BSA based on the presence of suitable habitat and/or known records of species occurrence within the vicinity of the BSA.

Table 1. Special-Status Species and Sensitive Natural Communities and Their Potential to Occur in the BSA

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence**
SENSITIVE NATURAL COMMUNITIES			
Coastal and Valley Freshwater Marsh	_/SNC/_	Freshwater marsh.	None. Does not occur within the BSA.
Great Valley Cottonwood Riparian Forest	_/SNC/_	Cottonwood dominant riparian forest.	None. Does not occur within the BSA.
Great Valley Mixed Riparian Forest	_/SNC/_	Mixed riparian forest.	None. Does not occur within the BSA.
Great Valley Willow Scrub	_/SNC/_	Willow scrub.	None. Does not occur within the BSA.
PLANTS			
Baker's navarretia *(Navarretia leucocephala ssp. bakeri)*	_/_/1B.1	Adobe or alkaline soils; Cismontane woodland, meadows, seeps, vernal pools & swales, valley & foothill grassland, lower montane coniferous forest. (BP: Apr - July)	None. There is no suitable habitat within the BSA.
Bent-flowered fiddleneck *(Amsinckia lunaris)*	_/_/1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub; often on serpentine. (BP: Mar-Jun)	None. There is no suitable habitat within the BSA.
Brittlescale *(Atriplex depressa)*	_/_/1B.2	Alkali scalds or alkali clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. (BP: Apr-Oct)	None. There is no suitable habitat within the BSA.
California alkali grass *(Puccinellia simplex)*	_/_/1B.2	Alkaline, vernally mesic. Sinks, flats, and lake margins; meadows, grassland, vernal pools, & chenopod scrub. (BP: Mar-May)	None. There is no suitable habitat within the BSA.
Colusa layia *(Layia septentrionalis)*	_/_/1B.2	Sandy or serpentine soil in chaparral, cismontane woodland, or grasslands. (BP: Apr-May)	None. There is no suitable habitat within the BSA.
Coulter's goldfields *(Lasthenia glabrata ssp. coulteri)*	_/_/1B.1	Usually on alkali soils; coastal salt marshes, playas, vernal pools. (BP: Feb-Jun)	None. There is no suitable habitat within the BSA.
Ferris' milk-vetch *(Astragalus tener var. ferrisiae)*	_/_/1B.1	Subalkaline flats on overflow land in the Central Valley; usually in dry, adobe soil in meadows and seeps. (BP: Apr-May)	None. One historical (1926) CNDDB occurrence 2.5 miles away. Since then, agricultural development has resulted in unsuitable habitat within the BSA.
Heartscale *(Atriplex cordulata var. cordulata)*	_/_/1B.2	Alkaline flats/scalds in the Central Valley, sandy soils; chenopod scrub, grasslands, meadows, seeps. (BP: Apr-Oct)	**Low.** One CNDDB occurrence 2.3 miles SE of BSA, from 2002.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence**
PLANTS			
Palmate-bracted bird's-beak *(Chloropyron palmatum)*	FE/SE/1B.1	Usually on alkaline Pescadero silty clay in chenopod scrub or valley and foothill grassland. (BP: May-Oct)	None. Several extant CNDDB occurrences within 1 – 4.25 mi from the BSA; all within the undeveloped Colusa National Wildlife Refuge to the WSW. No suitable habitat within the BSA.
Peruvian dodder *(Cuscuta obtusiflora var. glandulosa)*	_/_/2B.2	Freshwater marshes and swamps. (BP: Jul-Oct)	None. There is no suitable habitat within the BSA.
San Joaquin spearscale *(Extriplex joaquinana)*	_/_/1B.2	Seasonal alkali wetlands or alkali sink scrub. (BP: Apr-Oct)	None. Two CNDDB occurrences within 3.5 miles, but neither are recent (1993 & 1916). No suitable habitat within the BSA.
Vernal pool smallscale *(Atriplex persistens)*	_/_/1B.2	Alkaline vernal pools or wetlands below 400 ft elevation. (BP: Jun-Oct)	None. There is no suitable habitat within the BSA.
Water star-grass *(Heteranthera dubia)*	_/_/2B.2	Alkaline, still or slow-moving water with pH of 7 or higher, usually in slightly eutrophic waters of marshes and swamps. (BP: Jul-Oct)	None. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Watershield *(Brasenia schreber)*	_/_/2B.3	Aquatic; known from water bodies both natural and artificial in California. (BP: Jun-Sep)	None. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Woolly rose-mallow *(Hibiscus lasiocarpos var. occidentalis)*	_/_/1B.2	Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. (BP: Jun-Sep)	None. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Wright's trichocoronis *(Trichocoronis wrightii var. wrightii)*	_/_/2B.1	Mud flats of vernal lakes, drying river beds, marshes & swamps, alkali meadows or seeps in riparian forest. (BP: May-Sep)	None. There are no CNDDB occurrences within a 5-mile radius of the BSA.
INVERTEBRATES			
Crotch's bumble bee *(Bombus crotchii)*	_/(C)SE/_	Coastal California east to the Sierra-Cascade crest and south into Mexico; native grasslands and shrublands generally featuring Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**Low.** The BSA may contain areas with suitable foraging habitat on the fringes; an occurrence approximately 14 miles from the BSA recorded in 2007.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence**
INVERTEBRATES			
Monarch butterfly *(Danaus plexippus)*	(P)FT/_/_	Egg and larval stage dependent upon milkweed. Adults migrate seasonally, amassing in in dense tree canopy, e.g., eucalyptus.	**Low.** In the nearby wildlife refuge, documented breeding as recently as 2018; an observation of milkweed was documented 0.8 mi southeast from the BSA in 2024, and there are suitable floral foraging resources within the BSA.
Valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT/_/_	Blue elderberry shrubs; usually associated with riparian areas.	None. There are no elderberry shrubs within the BSA.
Conservancy Fairy Shrimp *(Branchinecta conservatio)*	FE/_/_	Vernal pools.	None. There is no vernal pool habitat within the BSA.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE/_/_	Deep vernal pools.	None. There is no vernal pool habitat within the BSA.
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/_/_	Inhabit small, clear-water sandstone-vernal pools and grassed swale, earth slump, or basalt-flow vernal pools.	None. There is no vernal pool habitat within the BSA.
FISH: The potential of occurrence for **green sturgeon - southern DPS** *(Acipenser medirostris pop. 1)*, **longfin smelt - San Francisco Bay-Delta DPS** *(Spirinchus thaleichthys pop. 2)*, and **steelhead - Central Valley DPS** *(Oncorhynchus mykiss irideus pop. 11)* is **None** because these species can only be found in natural riverine habitat, and are not within the artificial irrigation/riverine habitat found in the BSA.			
HERPTILES			
Giant garter snake *(Thamnophis gigas)*	FT/ST/_	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	**Moderate.** Although habitat within the BSA is marginal, and the upland habitat frequently disturbed, there is a drainage ditch within the Project that could provide aquatic habitat, and over one dozen (19 total) occurrences within 5 miles of the BSA.
Northwestern pond turtle *(Actinemys marmorata)*	(P)FT/SSC/ _	Perennial bodies of water with deep pools, locations for haul out, and locations for oviposition.	**Low.** Suitable habitat is present in the canals of the BSA, and the Project site could provide suitable upland nesting habitat; one occurrence approximately 2.75 miles N of the BSA recorded in 2017.
Western spadefoot *(Spea hammondii)*	(P)FT/SSC/ _	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Open, intermittent pools are essential for breeding (January through May).	None. There is no suitable breeding habitat (i.e. vernal pools) near the BSA, and the nearest CNDDB occurrence is over 12 miles south.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence**
BIRDS			
Bald eagle *(Haliaeetus leucocphealus)*	_/SE, FP/_	Coast, large lakes and river systems, with open forests with large trees and snags.	None. There is no suitable habitat within the BSA.
Western burrowing owl *(Athene cunicularia)*	_/(C)SE, SSC/_	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation; dependent upon burrowing mammals, most notably, the CA ground squirrel.	**Low.** Although there are no CNDDB occurrences within a 5-mile radius of the BSA, there was an anecdotal observation of a burrowing owl nest in 2024 reported as 'near the irrigation canal' within the BSA (pers. Comm.).
California black rail *(Laterallus jamaicensis coturniculus)*	_/ST, FP/_	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays; needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting.	None. There is no suitable habitat present within the BSA.
Greater sandhill crane *(Antigone canadensis tabida)*	_/ST, FP/_	Winters in the Central Valley; prefers grain fields within 4 miles of a shallow body of water used as communal roost sites; irrigated pasture used as loafing sites.	None. There is only one (1) historical occurrence, from 1924, approximately 8.25 miles ESE of the BSA.
Northern harrier *(Circus hudsonius)*	_/SSC/_	Coastal salt and freshwater marsh. Forage in grasslands, nests on ground in shrubby vegetation, usually at marsh edge.	None. There is no suitable habitat within the BSA and the only CNDDB occurrence is over 14 miles away, from 1993.
Song sparrow ("Modesto" population) *(Melospiza melodia)* pop. 1	_/SSC/_	Freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, & Valley Oak restoration sites. Cover consists of willow/nettle thickets, growths of tules/cattails, & riparian oak forests with blackberry understory.	None. The BSA contains suitable foraging area and cover, however, the three nearest CNDDB occurrences are historical, the most recent being last seen in 1931.
Swainson's hawk *(Buteo swainsoni)*	_/ST/_	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees.	**Low.** There is suitable foraging habitat within the BSA, and one semi-recent (2016) CNDDB occurrence less than 10 miles from the Project boundary.
Tricolored blackbird *(Agelaius tricolor)*	_/ST, SSC/_	Highly colonial species, most numerous in Central Valley; requires open water, protected nesting substrate, and foraging area with insect prey	**Low.** There is some suitable foraging habitat within the BSA, and seven (7) CNDDB occurrences within a 5-mile radius.

Common Name *(Scientific Name)*	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence**
MAMMALS			
American badger *(Taxidea taxus)*	_/SSC/_	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils and open, uncultivated ground.	None. There is no suitable habitat present within the BSA.
Western red bat *(Lasiurus blossevillii)*	_/SSC/_	Solitary, family groups roost together, nursery colonies found with many females and young, usually does not roost with other species. Roosts primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark groundcover, 2-40 ft high. Roost in leaf litter in the winter.	None. The BSA contains suitable foraging habitat; there are several CNDDB occurrences within a 5-miles radius, but no roosting habitat within the BSA.

CODE DESIGNATIONS

FE = Federally listed Endangered
FT = Federally listed Threatened
NEEP = Non-Essential Experimental Population
SE = State-listed Endangered
ST = State-listed Threatened
SR = State-listed Rare
(C) =Candidate for listing
(P) = Proposed for listing
SSC = State Species of Special Concern
FP =CDFW Fully Protected Species
SNC = CDFW Sensitive Natural Community
CH = USFWS Critical Habitat **CRPR 1B** = Rare or Endangered in California or elsewhere
CRPR 2 = Rare, Threatened or Endangered in California, more common elsewhere
CRPR 3 = More information is needed
CRPR 4 = Plants with limited distribution, not considered rare, threatened, or endangered
0.1 = Seriously Threatened
0.2 = Fairly Threatened
0.3 = Not very Threatened

Potential for Occurrence: for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include:

None: The species or natural community is known not to occur and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distribution of the species.

Low: Potential habitat in the BSA is sub-marginal and/or the species is known to occur in the vicinity of the BSA.

Moderate: Suitable habitat is present in the BSA and/or the species is known to occur in the vicinity of the BSA. Pre-construction surveys may be required.

High: Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed. Pre-construction surveys required, except for indicators for foraging habitat.

Known: Species was detected in the BSA, or a recent reliable record exists for the BSA.

Endangered, Threatened, and Rare Plants

A botanical assessment was conducted on September 16, 2025. A full list of observed botanical species can be found in **Appendix B**. During these field assessments, it was determined that there is potentially suitable habitat for one of the special-status plants:

- Heartscale *(Atriplex cordulata var. cordulata)*

It should be noted that while suitable habitat may be present, this species was not discovered during the botanical assessment.

HEARTSCALE

Heartscale is a California endemic species in the Chenopodiaceae family with a CA Rare Plant Rank of 1B.2. It occurs in Central Valley, from Colusa County in the north to Kern County in the south. It prefers sandy or clay saline or alkaline soils in Chenopod scrub, valley and foothill grassland, meadows and seeps. It is an annual herb that produces one or more erect stems to heights between 10 and 50 centimeters. The branches are scaly gray and have woolly fibers toward the ends. The gray scaly leaves are no bigger than 1. 5 centimeters long and most have heart-shaped bases. The plant has male and female inflorescences which are small hard clusters of flowers, blooming from April to October.

CNDDB Occurrences

There is one (1) CNDDB occurrence within Colusa County. The occurrence (#80) was recorded in 1998, approximately 2.35 miles away from the BSA, along State Highway 20, approximately 3-6 miles east of the Coty of Colusa. It was observed in 2002.

Status of Occurrence in the BSA

The irrigation ditches that run along three of the four peripheries of the BSA offer potentially suitable habitat, although the habitat is low quality and marginal at best. Because there is suitable habitat within or immediately adjacent to the BSA, and at least one relatively recent occurrence documented within a five-mile radius of the BSA, thus there is **low** potential for Heartscale to occur within the BSA.

Endangered, Threatened, and Special-Status Wildlife

A wildlife habitat assessment was conducted within the BSA on September 16, 2025. Potentially suitable habitat was identified for the following species:

- Crotch's bumble bee *(Bombus crotchii)*
- Monarch butterfly *(Danaus plexippus)*
- Giant garter snake (*Thamnophis gigas*)
- Northwestern pond turtle *(Actinemys marmorata)*
- Western burrowing owl (*Athene cunicularia*)
- Tricolored blackbird (*Agelaius tricolor*)
- Swainson's hawk (*Buteo swainsoni*)
- Other: nesting avian species protected under the MBTA & CFGC.

CROTCH'S BUMBLE BEE

On June 12, 2019, the California Fish and Game Commission voted to accept a petition from the Xerces Society to consider listing four (4) subspecies of bumble bee, including the Crotch's bumble bee (CBB, *Bombus crotchii*), under CESA. As a result of this decision, the CBB is a state candidate endangered species; as such, it is afforded the same protection as state-listed threatened or endangered species. California is home to more than half (27) of the fifty (50) bumble bee species in North America. The CBB is largely endemic to California, historically known throughout California's Central Valley, which once contained vast prairies rich with wildflowers. The range of this species historically extended throughout the southern two-thirds of California, from coastal California east to the Sierra-Cascade crest and south into Mexico. This species is found in open grassland and scrub, and can persist in semi-natural habitats surrounded by intensely modified landscapes, but recent data indicates that this species is absent from the center of its historical range due to extensive agricultural intensification and urbanization (Xerces 2018). This species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. It has also been documented in southwest Nevada, near the California border. This species was historically common in the Central Valley of California but now appears to be absent from most of it.

Suitable bee habitat is based on three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens (Xerces 2018). Most species of bumble bees are eusocial, meaning they primarily reside in colonies of related individuals that cooperate to support the colony for food, rearing offspring, and defending the nest. This cooperative lifestyle, with many individuals centered around a single nest, influences the habitat that they require for foraging, nesting, and overwintering. Bumble bees have an annual life cycle, meaning most individuals in the colony live about one year or less. Reproductive females are the only caste that overwinters. A mated queen starts a new colony in early spring by selecting a nest site, laying her first generation of eggs, and collecting resources (pollen and nectar) to support her future offspring. Once female offspring have emerged, they take over to tending the nest and foraging. At the end of the summer, the colony produces reproductive males and females that will leave to mate. Following mating, the males die, and the newly mated queens continue to forage and build up fat reserves for the winter, while returning to the nest. Eventually, they search out a hibernacula, usually a shallow hole in the ground they excavate, where they undergo diapause (period of suspended development) through the winter (Xerces 2023). Crotch's bumble bees, like most bumble bee species, nest underground (e.g., in abandoned rodent holes) (Williams et al. 2014 cited in Xerxes 2018). Little is known about the hibernacula utilized by CBB queens in the winter; however, bumble bees generally overwinter in soft, disturbed soil, leaf litter, or abandoned small mammal burrows (Williams et al. 2014; Xerces 2018). The flight period for queens is from late February to late October, peaking in early April and again in July. The flight period for workers and males extends between late March and September (Xerces 2018). It is a nonmigratory species of bumblebee.

Crotch's bumble bees are generalist foragers (i.e., they do not depend on any one flower type) and have been reported visiting a wide variety of flowering plants.. The CBB has a short tongue and thus is best suited to forage at open flowers with short corollas. The plant families most visited in California include

Fabaceae, Apocynacea, Asteraceae, Lamiacea, Hydrophyllacae, Asclepiadaceae, and Boraginaceae (Thorp et al. 1983; Richardson 2017). Documented food plants for Crotch bumble bees include *Asclepias sp*. (milkweed), *Chaenactis sp*. (dustymaidens), *Lupinus sp*. (lupin), *Medicago sp*. (medick/burclover), *Phacelia sp*. (phacelia/heliotrope/borage), and *Salvia sp*. (sage) (Xerces 2018). The CBB is also associated with flowering plants in the *Antirrhinum* (dragon flowers), *Phacelia* (borage), *Clarkia* (godetia), *Dendromecon* (tree poppy), *Eschscholzia* (poppy), and *Eriogonum* (wild buckwheat) genuses (CNDDB 2024). Note that these floral associations do not necessarily represent preference for these plants over other flowering plants, but may rather represent the prevalence of these flowers in the landscape where this species occurs (Xerces 2018).

The major threats to bumble bees include spread of pests and diseases by the commercial bumble bee industry, other pests and diseases, habitat destruction or alteration, intense urbanization, habitat fragmentation, agricultural and residential pesticides, invasive species, natural pest or predator population cycles, and climate change. Bumble bees are threatened by many kinds of habitat alterations which may destroy, alter, fragment, degrade or reduce their food supply (flowers that produce the nectar and pollen they require), nest sites (e.g. abandoned rodent burrows and bird nests), and hibernation sites for over-wintering queens. Major threats that alter landscapes and habitat required by bumble bees include agricultural and urban development. Livestock grazing also may pose a threat to bumble bees, as animals remove flowering food sources, alter the vegetation community, and could crush or disturb nest sites. As bumble bee habitats become increasingly fragmented, the size of each population diminishes, and inbreeding becomes more prevalent. Inbred populations of bumble bees show decreased genetic diversity and increased risk of decline (Xerces 2024).

CNDDB Occurrences

There are two (2) CNDDB occurrences of CBB within Colusa County, but only one of the occurrences has been documented within twenty (20) miles of the BSA and the 'Colusa' 7.5 Quad. The occurrence (#9) is approximately fourteen (14) miles southeast of the BSA, along Highway 45, east of Arbuckle. It was documented in May 2007.

Status of Occurrence in the BSA

The BSA contains and is adjacent to patches of native grassland and flowering species that could provide foraging opportunities for CBB. Though the documented flowering species that are utilized by CBB were not observed within the BSA, this species is a generalist forager, not depending on any one flower type (Xeres 2018), thus the observed black nightshade (*Solanum nigrum*), Russian thistle (*Salsola tragus),* white horehound (*Marrubium vulgare)*, mallow (*Malva sp.),* and yellow starthistle (*Centaurea solstitialis)* offer potential foraging habitat for this species within the BSA. Soft soils were observed within the BSA that could be utilized as overwintering habitat, and small mammal burrows were observed that could be utilized as nesting habitat along the periphery of the BSA. Several flowering species were observed within the BSA, offering potential foraging opportunities, and although there are few occurrences and the nearest one is approximately fourteen (14) miles from the BSA, the occurrence is relatively recent. Additionally, it is likely that robust surveying for this species is lacking, as surveying and identifying bees is difficult, time consuming, and sometimes lethal for observed specimens. Thus, we conclude that the potential for CBB to occur within the BSA is **low** but cannot be ruled out.

MONARCH BUTTERFLY

On December 12, 2024, the monarch butterfly (*Danaus plexippus*) was proposed for listing as threatened under the ESA, and 4,395 acres in Alameda, Marin, Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura Counties, California, were proposed as critical habitat (USFWS 2025). North American migratory monarchs are divided into eastern and western populations. The Rocky Mountains limit contact between these two populations, however, the populations are not completely isolated from each other and still occasionally interbreed. The Eastern North American migratory monarch population is the largest population of monarchs, in both individuals and range, encompassing upwards of 70% of the total North American monarch range, and can have an annual migration that stretches over 2,000 miles. The western populations migrate annually from 300 to 1,000 miles (about 500 to 1,600 km) and overwinters in hundreds of groves (clusters of trees) along the California coast and into northern Baja California, Mexico. There are also non-migratory monarchs that remain year-round at the southern end of their breeding range in North America, including parts of Florida, the Gulf Coast and California, where temperatures and weather are suitable for year-long growth of milkweed (USFWS 2025). Over the past two decades, monarch numbers in North America have declined, prompting the U.S. Fish and Wildlife Service to join Tribes, state agencies, other federal agencies, and non-government groups to identify threats to the monarch and take steps to conserve monarchs throughout their range. (USFWS 2025).

With its iconic orange and black markings, the monarch butterfly is one of the most recognizable species in North America. A monarch's markings indicate its toxicity to predators; toxins that accumulate when they are caterpillars as a result of feeding on their singular host plants, milkweed (*Asclepias sp.)*. Each fall, the eastern and western North American monarchs go into a state of suspended reproduction, known as diapause, and begin migrating to their respective overwintering sites. In early spring, surviving monarchs break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds. After several generations of monarch offspring in the spring and summer, a new generation begins the fall migration for the first time (USFWS 2025). Spring and summer generations have an average adult lifespan of one month, but the overwintering migratory generation lives far longer, up to nine months (MJV 2025).

Both male and female adult monarchs can mate several times during their lives. Once mated (3-8 days after emergence from pupae), a female monarch immediately begins to lay eggs. Over a period ranging from two to five weeks, female monarchs will search out milkweed plants to lay their eggs on, typically depositing a single egg per plant. Monarchs lay an average of 300 to 500 eggs but sometimes lay more. During the summer generations, eggs hatch in 3-5 days. Caterpillars go through stages of growth and molting called instars, with the number of instars varying by species. Monarchs spend approximately two weeks as caterpillars and have five instars; the first four stages of development last only 1-3 days each, and the fifth and final instar stage lasts 3-5 days; time to molting is temperature dependent. Once a fifth instar forms a pupa, or chrysalis, it will complete the process of metamorphosis and emerge as an adult monarch in eight (8) to fifteen (15) days under normal summer conditions, with the time required for this transformation also being temperature dependent. Eggs laid in the spring (March – April) by monarchs who have migrated and overwintered in Mexico and the southern United States can take much longer to

fully develop. They often spend 40 to 50 days, or sometimes longer, transitioning from eggs into their adult stage. (USFWS 2025; MJV).

Loss of breeding, migrating, and overwintering habitat is the greatest threat facing monarchs. Other major threats include residential and commercial pesticide use, parasitoids, and habitat fragmentation. The loss of milkweed in agricultural fields across the U.S. is a major cause of the decline in monarchs, though there are other factors contributing to the decline in milkweed availability. Herbicide application and increased mowing in roadside ditches and agricultural margins is eradicating milkweed habitat, even from more rural areas (MJV). In addition, herbicides kill species of native flowering plants that would otherwise be used as foraging habitat for migrating monarchs, contributing to habitat fragmentation. Losses of overwintering habitats are caused by municipal and commercial development, legal and illegal logging, land conversion for agricultural use, and climate change events like severe storms and extended drought (Nature Conservancy 2022). Pesticides are often used to prevent infestation of only a few crop-damaging pests, but their effects are indiscriminate, and many pollinators are lethally affected by their use. There are also several species of Tachinidae fly and a protozoan (*Ophryocystis elektroscirrha* (OE)) that are parasites of monarchs. OE is of particular concern in the west because the average infection prevalence is four times higher in western compared to eastern populations, and because infections lower flight performance and increase mortality (Majewska et. al. 2019). This is thought to be primarily because the non-native tropical milkweed (*A. curassavica)*, a popular choice for landscaping because of its prolific, colorful blooms, can persist year-round in temperate climates. OE persists in higher numbers on tropical milkweed, which increases transmission rates (MJV). Insects exposed to environmental stressors such as pesticides or thermal stress can become more susceptible to pathogen-mediated declines (Majewska et. al.).

As for other pollinator species, such as the bumble bees discussed above, encouraging land managers and homeowners to foster an increase in native floral diversity across the landscape would be greatly beneficial for migrating monarchs, especially if the mix of floral resources includes native milkweeds for reproduction. If managed appropriately, roadsides could provide millions of acres of habitat suitable for monarchs and other pollinators and would be beneficial despite the increased risk for vehicle collisions. Reducing or eliminating pesticide and herbicide use at these sites will further reduce risk of lethal exposures.

CNDDB Occurrences

There are no occurrences documented on CNDDB of monarch butterflies within Colusa County. Although there are no CNDDB observations of monarchs, there are documented occurrences of their host plants, evidence of breeding, and individual butterfly sightings recorded with websites and mapping applications such as iNaturalist and the Western Monarch Milkweed Mapper. In Colusa County, the mapped observations occur primarily within the Colusa National Wildlife Refuge that is less than one (1) mile east of the BSA. Observations include individuals, breeding, and host plants (milkweed), and dates range from 2015 to 2019.

The monarch migration range covers all of California and parts of New Mexico, Arizona, Nevada, Oregon, Washington, and Canada. Overwintering monarchs are monitored through annual large-scale efforts of researchers and citizen scientists to better understand changes in their migration patterns and population

dynamics. Monarchs are tagged with geographic information that can be recovered later to inform researchers about where the monarch originated. In California, it is illegal to tag monarchs without the appropriate handling permit. Since the monarch was proposed for listing there have been efforts to increase the scale and intensity of monitoring for this species.

Status of Occurrence in the BSA

While it is highly unlikely that milkweed would be found within the BSA, there are still floral foraging resources along the periphery of the BSA that were being visited by other butterfly pollinators during the habitat assessment, and that could be visited by migrating monarchs. Because there are potential foraging resources for adult monarchs, documented occurrences of all life stages of monarch and of milkweed within one mile, and because the range of migrating monarchs extends over the entire BSA, there is a **low** potential for monarchs to occur in the BSA. If a tagged monarch is recovered, information from the tag should be used to contact the individual or group who tagged that individual.

GIANT GARTER SNAKE

Giant garter snakes (GGS, *Thamnophis gigas*) are listed as threatened under the ESA and CESA. Giant garter snakes are found in the low-elevation (0-400 feet) wetlands of the Sacramento and San Joaquin Valleys from Chico, Butte County to Mendota Wildlife Area, Fresno County. Suitable habitat includes marshes, sloughs, back waters of rivers, irrigation ditches, drainage canals, agricultural wetlands, flooded rice fields, and occasionally streams with low gradient and slow to stagnant waters. They prefer areas with vegetation close to the water for basking. (USFWS 2022, CalHerps 2025). They are highly aquatic, and tend to always remain within 30 meters of a water source (Halstead et al. 2015). Daily activity for GGS is described as emerging from burrows after sunrise, basking and then foraging or courting activities for the remainder of the day. The home range of GGS is typically small, 42- to 109-acres average, with individuals demonstrating site fidelity, especially females.

Giant garter snakes are the largest species of garter snake in the world, reaching lengths of up to 64 inches. They are olive to brown with a cream, yellow or orange stripe running down their back, and two light colored stripes running along each side. They can also have a checkered pattern of black spots between the back and side stripes. Individuals in the northern Sacramento Valley tend to be darker with more pronounced stripes. The snake's underside ranges in color from cream to orange to olive brown to pale blue, with or without markings. When giant garter snakes are about to shed their skin, their patterns and coloration may be obscured. Their typically muted/dull striping colors and wide head, and of course larger size if in the adult stage, are features that most commonly distinguish GGS from other species of garter snake (USFWS 2022). When threatened or picked up, this snake will release its cloacal contents and excrete a foul-smelling musk (CalHerps 2025).

Giant garter snakes stay active when temperatures are warm and start to move underground into small upland mammal burrows or crevices when their environment begins to cool, usually sometime in October or November, to brumate (a semi-dormant state; torpor) and avoid potentially lethal autumn and winter temperatures (CalHerps 2025). They breed from March to April, soon after emergence. Females are ovoviviparous: they carry their eggs within their body until they hatch, and then they give birth to the live young from July to early September. Litter size ranges from 10 to 46 individuals, and the young

immediately scatter, absorb their yolk sacs, and begin foraging on their own (USFWS 2022). Giant garter snake is an elusive species that is sensitive to disturbance and will shelter within underground burrows while not basking or hunting in aquatic habitat during the active season.

Historical prey (native species of fish, frogs, and tadpoles) have been extirpated in much of this snake's range, leaving it to consume introduced bullfrogs and introduced species of fish. Non-native species are now thought to be the predominant food items for GGS (CalHerps 2025). Current threats facing these snakes are habitat loss and fragmentation as a result of urbanization and conversion of wetlands, agricultural conversion, changes in water availability, levee and canal maintenance, invasive aquatic plants and removal techniques including herbicides and mowing, water management and water deliveries that do not account for GGS, small populations, drought, and invasive predatory fish (USFWS 2022, CalHerps 2025).

CNDDB Occurrences

There are fifty-three (53) documented occurrences in Colusa County, fourteen (14) of which are within the "Colusa" 7.5 Quad. The Colusa National Wildlife Refuge is central to most of the observations within this quad, and the refuge is approximately 0.50 mile from the western edge of the Project. This area has been surveyed numerous times between 1996 and 2015, with most occurrences having multiple site visits in that timeframe. Numbers vary from single individuals to dozens at different sites. Additional detections have been made in the upper reaches of Lucine Creek and the Colusa Trough and along multiple other neighboring tributaries, sloughs, and canals which are part of the system that supplies the Project's canals with water. From the details noted for all the observations, it appears likely that most breeding and overwintering occurs in the refuge, as these sites have more consistent wetland features and are less disturbed.

Status of Occurrence in the BSA

Giant garter snakes are known to occur in the canals and sloughs that are hydrologically connected to the Project area, as well as in the nearby wildlife refuge. The riverine areas in the BSA are directly adjacent to the open or otherwise barren areas that are being proposed for construction and staging. No in-water work is expected to be required for this Project, which decreases the chance of an encounter with GGS, but snakes utilizing upland habitat could be encountered, thus there is still a **moderate** potential for GGS to be encountered within the BSA.

NORTHWESTERN POND TURTLE

The northwestern pond turtle (NPT, *Actinemys marmorata*) is a California Species of Special Concern and is proposed for federal listing as threatened under the ESA as of October 3, 2023. They are a medium-sized (4.33 to 7.05 inches) semi-aquatic turtle that are drab, darkish colored usually with a network of spots, lines, or dashes of brown or black and a yellowing plastron (underside of shell) that may have blackish or dark brown blotches. Males and females are sexually dimorphic. They are omnivorous and considered dietary generalists, consuming a wide variety of food items including small aquatic invertebrates, fish, tadpoles, frogs, carrion, and plant material. In California, the NPT is found from sea-level to 6,500 feet in elevation in areas of the Coast Range from Oregon-California border down to northern Monterey County, the lower elevation and foothills of the southern Cascades and Sierra Nevada

Mountains, and areas within Sacramento and San Joaquin Valleys. The home range of NPT is normally quite restricted, typically less than 0.31 miles (500 meters) needed for movements between aquatic and upland habitats. Most dispersal of NPT occurs within drainages or watersheds and can vary from 1.6 to 4.3 miles within aquatic habitats and overland dispersal distances occurring in less than 3 miles under optimal conditions.

The NPT needs a network of appropriate aquatic breeding, feeding, and basking habitat that has sufficient upland nesting and overwinter/aestivation sites that are connected by suitable habitat. Habitat needs to include (1) aquatic features such as ponds, lakes, and streams for breeding, feeding, overwintering, sheltering and dispersal; (2) basking sites such as submerged logs, rocks, mats of floating vegetation, or open banks that allow for thermoregulation; and (3) terrestrial or upland features adjacent to the aquatic habitat for nesting, overwintering and aestivation, and dispersal. Water bodies at a variety of depths can provide NPT with habitat necessary for overwintering and hatchling growth. Primary habitat for hatchlings and young juveniles is shallow water with dense submerged vegetation and logs that provide shelter, prey, and thermoregulatory requirements for survival. Overwintering habitat typically is within 500 feet of an aquatic resource and may be classified as terrestrial refuge with a cool north- and east- facing slope (Reese and Welsh 1997) or lentic bodies of waters. Turtles found in lentic aquatic habitats, such as ponds, lakes, and slack water habitats, often overwinter within the aquatic environment by burying themselves within the bottom substrate. (USFWS 2023). Upland nesting habitat needs to be near an aquatic resource; on average nests are found within 820 feet (250 meters). This habitat typically has sparse vegetation with short grasses and forbs, and little or no canopy to allow for exposure to direct sunlight. Upland overwintering habitat usually occurs above the high-water elevation of the aquatic habitat and beyond any riparian zone. Open areas are typically avoided, and leaf litter is preferred with partial exposure to sun for overwintering habitat. It has been recorded that turtles may spend up to seven months of the year in their overwintering habitats (Reese and Welsh 1997). Evidence of nest site fidelity is strong.

Courtship and mating behaviors have been observed from April through November, and nesting behaviors and oviposition usually occur from May through July. Females will excavate nests in compact, dry soils and lay 6 to 10 eggs before covering the nest over with vegetation and wet soil. Incubation periods range from 75-134 days (USFWS 2023) and nest temperature during incubation determines hatchling sex (NPS 2025). Hatchlings emerge from the nest the following March (eight months later). Hatchlings do not immediately leave the nest area after emerging, spending as many as nine days under leaves (Reese and Welsh 1997).

Habitat loss and fragmentation, altered hydrology, predation, competition from non-native species, road impacts, collection, contaminants, disease, and the effects of climate changes have been identified by USFWS as the greatest threats to individuals and the population as a whole (UFSFW 2023). Turtles that travel between water and uplands are doubly vulnerable to habitat loss, as well as barriers to movement. Urbanization and land conversion have taken up much of the northwestern pond turtles' upland habitat (NPS 2025). Turtle eggs are a highly sought after meal for mammals like skunks, raccoons, and foxes, who predate many nests and hatchlings. Once hatchlings emerge and make it to a nearby body of water, they are at risk of predation by invasive species such as bullfrogs and bass fish. Red-eared slider turtles, a common pet that is sometimes illegally released into the wild, compete with northwestern pond turtles

for prime habitat. Invasive red-eared sliders cause negative impacts in the ecosystems they are introduced to because they have certain advantages over the native populations, such as a lower age at maturity, higher fecundity rates, and larger body size, which gives them a competitive advantage at basking and nesting sites, as well as when exploiting food resources (Parry 2025). They also transmit diseases and displace the other turtle species with which they compete for food and breeding space.

CNDDB Occurrences

There are two (2) CNDDB occurrences within Colusa County, and only one (1) documented occurrence of NPT within the "Colusa" 7.5 Quad. The nearest CNDDB occurrence (#1478) is approximately 2.75 miles north of the BSA, when an NPT was found attempting to cross Highway 45 where it passes through an agricultural area, and is from 2017. The next nearest occurrence (#166) was documented over fourteen (14) miles north in Butte Creek, and is from 2001.

Status of Occurrence in the BSA

The BSA is situated within a complex of suitable aquatic resources including man-made irrigation levees, canals, and ditches, and perennial and ephemeral tributaries and the riverine habitat of the Sacramento River, all providing suitable aquatic habitat for NPT. The thick vegetation found along the banks of the canal within the BSA may provide suitable nesting habitat for NPT, though it is more likely that NPT would only use these areas of aquatic habitat as migration corridors and foraging habitat. Because there is suitable aquatic habitat within the BSA, habitat could provide NPT nesting areas, and there is one CNDDB occurrence within 3 miles of the BSA, there is **low** potential for the NPT to occur within the BSA.

WESTERN BURROWING OWL

Western burrowing owls (WEBO, *Athene cunicularia ssp. hypugaea*) are listed as species of special concern in California, and as of October 10, 2024, has been listed as a candidate species for protection under CESA and receives full protections of CESA including the prohibition of "take" (i.e., hunt, pursue, catch, capture, kill, or attempt to do so) without proper authorization from CDFW. They are also listed as Endangered in Canada and Threatened in Mexico. The WEBO can be found from the southern portions of western Canada, through the western half of the United States, and throughout Mexica down to western Panama. Historically WEBO were found broadly across California in wide lowland valley bottoms, flat coastal lowlands and interior deserts. Currently, the WEBO population is most abundant in the Imperial Valley and parts of the Central Valley.

They are one of the smallest species of owls, measuring about 9-11 inches tall and weighing about four ounces. They have no ear tufts, yellow eyes, short tail, and distinctively long legs. The stilt-like legs are exceptionally long for an owl, but are well designed for running around on the ground after insect prey. Unlike most owls, males tend to be slightly larger than females. WEBO nest in abandoned underground burrows, most often those of ground squirrels, and thus a population of ground squirrels is typically present in high-quality WEBO habitat. They are diurnal, meaning they are active both day and night, with most activity occurring at dusk and dawn. They occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, and urban vacant lots, as well as the margins of airports, golf courses, and roads (CDFW 2024).

Burrowing owls require habitat with three basic attributes: open, well-drained terrain; short, sparse vegetation; and unoccupied underground burrows or burrow facsimiles (Klute et al. 2003). They have high site fidelity, often returning to the same location each year. They can also be relatively tolerant of human activity, and are occasionally known to forage or nest in areas with high levels of disturbance. During the breeding season, they may also need permanent cover and taller vegetation within their foraging range to provide them with sufficient prey (Holroyd and Wellicome 1997). Foraging occurs primarily within 600 meters of their nests during the breeding season. Burrows and the associated surrounding habitat are essential ecological requisites for WEBO throughout the year and especially during the breeding season. During the non-breeding season, WEBOs remain closely associated with burrows, as they continue to use them as refuge from predators, shelter from weather and roost sites (DFG 2012). In conclusion, essential habitat for WEBO in California must include suitable year-round habitat, primarily for breeding, foraging, wintering and dispersal habitat consisting of short or sparse vegetation, presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant available prey within close proximity to the burrow (DFG 2012).

These opportunistic feeders will consume arthropods, small mammals, birds, amphibians, and reptiles. Insects are often taken during the day, while small mammals are taken at night. In California, crickets and meadow voles were found to be the most common food items (Thomsen 1971). In urban areas, WEBO are often attracted to streetlights, where insect prey congregates. Burrowing owls in California typically begin pair formation and courtship in February or early March, when adult males attempt to attract a mate. Breeding behavior includes nest site selection by the male, pair formation, copulation, egg laying, hatching, fledging, and post-fledgling care of young by the parents. The peak of the breeding season occurs between 15 April and 15 July and is the period when most WEBO have active nests (eggs or young). The incubation period lasts 29 days and young fledge after 44 days. Burrowing owls may change burrows several times during the breeding season, starting when nestlings are about three weeks old. The WEBO may use “satellite” or non-nesting burrows, moving young at 10-14 days, presumably to reduce risk of predation and possible to avoid nest parasites. (DFG 2012). They are considered a sedentary species, showing strong fidelity to their nest site from year to year. Despite the high nest fidelity rates, dispersal distances may be considerable for both juveniles and adults. Distances of 53 km to roughly 150 km have been observed in California for adult and natal dispersal, respectively (DFG 2012).

CNDDB Occurrences

There are only three (3) CNDDB occurrences of WEBO in Colusa County, and none within the “Colusa” 7.5 Quad, although we did receive one anecdotal report of a burrowing owl nesting in the canal just outside of the BSA in 2024 (via conversation with a worker on site during the habitat assessment). All of the CNDDB occurrences were last verified in 1992. The nearest of the three occurrences (#156) is approximately 11.3 miles southwest, with the other two also to the southwest and between 11.5 and 13 miles away. The habitat of occurrence #156 is described as being surrounded by agricultural fields.

Status of Occurrence in the BSA

The BSA contains some habitat elements that could meet the roosting and foraging needs of this species, although the habitat can become more or less suitable based upon the activity and crops in the BSA and surrounding area. No WEBO has been officially documented near the BSA, but there was one anecdotal

report of WEBO having nested adjacent to the BSA as recently as 2024. Because habitat exists within the BSA, and because there was a recent observation near the BSA, there is a **low** potential for WEBO to occur within the BSA.

TRICOLORED BLACKBIRD

The tricolored blackbird (TRBL, *Agelaius tricolor*) is listed as threatened under CESA. They range from southern Oregon through the Central Valley, and coastal regions of California into the northern part of Mexico. Tricolored blackbirds are medium-size birds with black plumage and distinctive red marginal coverts, bordered by whitish feathers. Tricolored blackbirds' nest in large colonies within agricultural fields, marshes with thick herbaceous vegetation, or in clusters of large blackberry bushes near a source of water and suitable foraging habitat. They are nomadic migrators, so documenting occurrence at any location does not mean that they will necessarily return to that area.

The TRBL is a California native, with 90% of all breeding adults occurring in the Central Valley (Hamilton 2000). This species also breeds locally in other lowland areas of California west of the Cascade-Sierra axis and in valleys at higher elevations in northeastern California. Durin winter, virtually all birds from outside the state, except a few in Oregon, withdraw to concentrate in the California breeding range. The TRBL is a permanent resident of California, but birds make extensive migrations and movement, both in the breeding season and in winter, within their restricted range. Studies have shown that some TRBL reside in the Central Valley throughout the year. Breeding extends from mid-March through early August, although autumnal breeding (Sep through Nov) has been documented at several sites in the Central Valley and at Point Reyes, Marin County. During the breeding season, the species often exhibit itinerant breeding. Individuals usually move north after first nesting efforts (Mar – Apr) in the San Joaquin Valley and Sacramento Valley to new breeding locations in the Sacramento Valley, northeastern California, and rarely Oregon, Nevada, and Washington.

Historical breeding range in California included the Sacramento and San Joaquin valleys, the foothills of the Sierra Nevada south to Kern County, the coastal slop from Sonoma County south to the Mexican border, and, sporadically, the Modoc Plateau. Recent documentation includes local populations at the periphery of the range, such as those on the coast north to Humboldt County, in northeastern California, and in the western Mojave Desert, and of new colony sites within the overall historic range. Since 1980, active breeding colonies have been observed in 46 California counties; all of the largest (>20,000 adults) were in the Central Valley or at the Toledo Pit, Riverside County. Recent statewide censuses have shown dramatic declines in TRBL numbers in the Central Valley. Although resident in California, wintering TRBL populations move extensively throughout their range in the nonbreeding season. Major wintering concentrations occur in and around the Sacramento-San Joaquin River Delta and coastal areas, including Monterey and Marin counties, where they are often associated with dairies. They are rare in winter in the southern San Joaquin Valley and in the Sacramento Valley north of Sacramento County.

The TRBL forms the largest breeding colonies of any North American land bird. As many as 20,000 to 30,000 nests have been recorded in cattail (*Typha* spp.) marshes of 4 ha or less. The basic requirements for selecting breeding sites are open accessible water; a protected nesting substrate, including either

flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few kilometers of the nesting colony.

Historically, before rivers were dammed and channelized, the Central Valley flooded in many years, forming a vast mosaic of seasonal wetlands, freshwater marches, alkali flats, native grasslands, riparian forests, and oak savannas, supporting nesting or foraging for TRBL. Historically, most colonies were in freshwater marches dominated by cattails or tules (*Scirpus* spp.), but some were in nettles (*Urtica* spp.), thistles (*Cirsium* spp.) and willows (*Salix* spp.). However, the use of freshwater marshes as breeding colony sites decreased and an increasing percentage of colonies since the 1970s have been reported in Himalayan blackberry (*Rubus discolor*) and thistles, and some of the largest recent colonies were in silage and grain fields near diaries in the San Joaquin Valley. Less commonly used nesting substrates include Safflower *(Carthamus tinctorius*), tamarisk (*Tamarix* spp.), elderberry/Western poison oak (*Sambucus* spp. And *Toxicodendron diversilobrum*), giant reed (*Arundo donax*), and riparian scrublands and forests (e.g., *Salix* spp., *Populus* spp., *Fraxinus* spp.). With the loss of natural flooding cycle and most native wetland and upland habitats in the Central Valley, TRBL now forage primarily in artificial habitats such as rice, alfalfa, and irrigated pastures crops and ripening or cut grain fields (e.g., oats, wheat, silage) as well as annual grasslands, cattle feedlots, and dairies. Most TRBL forage within 5 km of their colony site. (Shuford and Gardali 2008).

The greatest threats to this species are the direct loss and degradation of habitat from human activities. Most native habitats that once supported nesting and foraging TRBL in the Central Valley have been replaced by urbanization and agricultural croplands unsuited to their needs.

CNDDB Occurrences

There are thirty-four (34) CNDDB occurrences within Colusa County, and seven (7) of those were documented within a 5-mile radius of the BSA. The nearest CNDDB occurrence (#214) is approximately 1.3 miles south of the BSA, from 1992, when approximately 1,000 birds were observed nesting among cattails in an agricultural canal and foraging near Wescott Road and Abel Road. The next nearest occurrences (#'s 525, 215, 2, and 264) were documented 2, 3, 3.5 and 4 miles away, respectively. These sites have been observed several times over the years; none of them had any birds observed in their last observation year, with the exception of the one that is nearest the Project.

Status of Occurrence in the BSA

The BSA contains some habitat elements that could meet the roosting and foraging needs of this species, although the habitat can become more or less suitable based upon the activity and crops in the BSA and surrounding area. No TRBL has been documented near the BSA since 1992, with most other nearby occurrences having been checked since then (between 1992 and 2014) and found not to contain TRBL. Because habitat exists within the BSA, this species is known to travel extensively throughout their range at all times of year, and because there was a reported occurrence of a breeding colony within 1.5 miles of the Project boundary, there is a **low** potential for TRBL to occur within the BSA.

SWAINSON'S HAWK

Swainson's hawks (*Buteo* swainsoni) are listed as threatened in the state of California and are also federally protected under the Migratory Bird Treaty Act of 1918. They are found throughout the western

United States and from Canada to Mexico. Most Central Valley populations overwinter in Central and South America. California's Swainson's hawk summering population grew rapidly between 2005 and 2018 at a rate of 13.9% per year (95% CI: 7.8–19.2%). Despite strong evidence that the species has rebounded overall in California, Swainson's hawks remain largely extirpated from Southern California where they were historically common. Further, the increase in Swainson's hawks has been coincident with expanded orchard and vineyard cultivation which is not considered suitable for nesting (Furnas 2022).

Swainson's hawks are a large, slender hawk with three (3) different color morphs. The most common morph in northern California is the dark morph, which demonstrates black to dark brown under coverts and flight feathers. Suitable habitat includes open grasslands or agricultural fields that are adjacent to a riparian forest or oak woodland. Swainson's hawks primarily nest in riparian forests next to open fields that provide foraging opportunities. Common foraging habitats include alfalfa, fallow fields, low-growing row or field crops, dry-land and irrigated pasture, rice land (when not flooded) and cereal grain crops (including corn after harvest) (CDFW 2016). Major prey items include small mammals, birds, reptiles, and insects. Courtship begins in early March, with nesting beginning typically in early April.

Swainson's hawks are documented to utilize a ten-mile radius for standard flight distance between active (and successful) nest sites and suitable foraging habitats (Estep 1989, Babcock 1993). According to the CDFW 1994 *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California,* an active Swainson's hawk nest is defined as being used during one or more of the last 5 years. If a project is proposing to impact potential Swainson's hawk foraging habitat and there is not an active nest within a 10-mile radius of the project, then there is no foraging habitat within the Project Boundary that is being used by Swainson's hawks.

CNDDB Occurrences

There are sixty-seven (67) documented CNDDB occurrences within 10 miles of the BSA, but all are old enough to be considered 'inactive' as they were all last surveyed over five (5) years ago. Dates for the occurrences range from 1979 to 2009, with just one more recently documented (2016). However, it should be noted that, as far as could be determined, there has been no recent concentrated survey effort in this area that has been uploaded into the CNDDB database, and thus there is potential for an undocumented nest or an 'inactive' nest to be in use without our knowledge. The 2016 occurrence (#2079) is located approximately seven (7) miles southwest of the BSA, on the east side of Interstate 5, when a nesting pair was observed. The nearest occurrence (#2082) was documented along the Sacramento River approximately 2.2 miles northeast of the BSA in 2003.

Status of Occurrence in the BSA

Although marginally suitable foraging habitat could be present in the BSA in the form of cropland, there is **low** potential for Swainson's hawk to occur within BSA because all the CNDDB occurrences within 10 miles of the BSA were last confirmed active over five (5) years ago.

MIGRATORY BIRDS AND RAPTORS

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (§3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS for "activities such as falconry, raptor propagation,

scientific collecting, special purposes (rehabilitation, educational, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal."

The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) 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." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

CNDDB Occurrences

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDB because they are abundant and widespread.

Status of Occurrence in the BSA

There is suitable nesting habitat for ground-nesting avian species in some areas on the periphery of the BSA, where the vegetation is abundant enough to provide cover and is less frequently disturbed, however the BSA is more likely to be utilized by migratory birds as foraging habitat for insects or other prey. There are nearby trees and shrubs around the BSA that would offer suitable nesting habitat for a variety of avian species. Additionally, the BSA offers sufficient foraging habitat for raptors that may prey upon larger animals, including other bird species.

REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

Federal Regulations

Federal Endangered Species Act

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either "endangered" or "threatened." Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of "candidate" species. Candidate species are species for which there is enough information to warrant proposing them for listing,

but that have not yet been proposed. “Proposed” species are those that have been proposed for listing but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which kills or injures wildlife. Such an act may include significant habitat modification or degradation where it kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is a federal law that implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS for “activities such as falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, educational, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal.” California Fish and Game Code Sections 3503 and 3503.5 (protection of birds’ nests) and 3513 (taking Migratory Bird Treaty Act birds) also prohibit the destruction of any nest, egg, or nestling. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13).

Activities that involve (1) the removal of vegetation including trees, shrubs, grasses, and forbs or (2) ground disturbance have the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g., spatial or temporal buffers) must be implemented.

State of California Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the California Environmental Quality Act (CEQA). The purpose is to ensure that the actions of the lead agency 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. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code (§3503.5)

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes; 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." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and game Code §1913 exempts from the 'take' prohibition "the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way."

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g., candidate species, Species of Special Concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

CONCLUSIONS AND RECOMMENDATIONS

The following are the recommended minimization and mitigation measures to further reduce or eliminate Project-associated impacts to special-status plant and wildlife species. These proposed measures may be amended or superseded by the Project-specific permits issued by the regulatory agencies.

Endangered, Threatened, and Rare Plants

Special-Status Botanical Species

- A qualified botanist should conduct a protocol-level botanical survey during the appropriate survey window (i.e. blooming period) for special-status botanical species (i.e. heartscale) to determine presence or absence within the BSA.
- If special-status botanical species are observed within the BSA, then mitigation measures that are recognized by CDFW will be implemented based on the level of potential impacts. Mitigation options recognized include:
    - The Project should be designed to avoid or minimize impacts to areas where special-status botanical species occur and maintain protective elements such as, fencing, open space or conservation easements, and/or buffer zones around suitable habitat where special-status botanical species occur prior to construction activities and throughout construction activities and/or;
    - If the Project design cannot completely avoid impacts to special-status botanical species, then consultation with the CDFW should be conducted and on-site or off-site compensation (such as through a mitigation bank) may be required to mitigate for impacts.

Endangered, Threatened, and Special-Status Wildlife

Crotch's Bumble Bee

To avoid impacts to Crotch's bumble bee, the following are recommended avoidance and minimization measures:

- A qualified biologist should conduct a bumble bee survey during the worker bee active period; (for Crotch's bumble bee: April-August).
    - If CBB are discovered to be present at the site, then it is advised that a CESA incidental Take Permit (ITP) is obtained prior to construction activities occurring in the buffer area defined by the biologist in coordination with CDFW.
- Assume all bumble bees are special-status bees. If CBB or other species of bumble bees are observed during Project activities, allow the bumble bee to leave the work area under its own volition and notify a qualified biologist of the observation to determine appropriate avoidance measures.
- If a CBB nest is discovered during surveys or construction activities, the qualified biologist should establish a non-disturbance buffer around the suitable nesting habitat and CDFW should be consulted. No work should occur within the buffer until the nest is confirmed to be inactive.

Monarch Butterfly

In the event that monarch butterfly is formally listed by USFWS during development of the project site, the following avoidance and minimization measures are recommended:

- If monarch butterfly is observed consult with the USFWS on appropriate avoidance, minimization and mitigation measures.
- If any milkweed plants are discovered during survey efforts, then protection buffers should be established around the milkweed plants, as determined by a qualified biologist and consultation with the USFWS should be initiated.
- If a monarch butterfly is observed during Project activities, allow the monarch butterfly to leave the work area on its own accord.

Giant Garter Snake

If the proposed project does not involve work in or within 200 feet of the canal/riverine habitat the following avoidance and minimization measures are recommended:

- A pre-construction survey shall be conducted 24 hours before any ground disturbance activities around the canal channel. The survey should be repeated if there is a lapse in construction for two weeks or more.
- A qualified biologist shall be present on-site during vegetation removal to monitor for GGS.
- If a GGS is encountered during construction activities, then construction shall stop within the area of the sighting until the snake has left the work area, or a qualified biologist has determined that there will be no harm to the snake. Any sightings or incidental take shall be reported to USFWS and CDFW within 24 hours.
- Before initiating any ground disturbances, restrictive silt fencing will be installed along the construction boundaries to prevent wildlife (i.e., reptiles, mammals, birds, etc.) from entering the construction site from the adjacent aquatic settings and to prevent construction equipment and personnel from entering potential habitat from the construction site.
- Prior to commencement of construction, contractors and work crews that are onsite for more than 30 minutes, shall go through a worker environmental awareness training (WEAT) regarding avoidance of GGS and the possible penalties for not complying with these requirements. The training can be given by a qualified biologist or the Foreman that has been trained by the qualified biologist to conduct the WEAT.

If work is proposed to occur in or within 200 feet of the canal/riverine habitat, then consultation with the USFWS and CDFW will be required prior to any ground disturbance or in-water work. Any avoidance, minimization and mitigation measures identified by the results of the consultation with USFWS and CDFW shall be incorporated into the project conditions.

Northwestern Pond Turtle

The following are avoidance and minimization measures recommended in order to avoid and minimize potential impacts to northwestern pond turtle:

- Immediately prior to conducting vegetation removal or ground-disturbing activities in suitable northwestern pond turtle habitat, a qualified biologist shall conduct a survey to determine the presence or absence of western pond turtles. If NPT are observed where they could be potentially impacted by project activities, as determined by the onsite biologist, then work shall not be conducted within 100 feet of the sighting until the turtle has left the project site or a qualified biologist has relocated the turtle to suitable habitat outside of the project boundary.
- If turtle eggs are uncovered during construction activities, then all work shall stop within a 25-foot radius of the nest and the qualified biologist should be notified immediately. The 25-foot buffer should be marked with identifiable markers that do not consist of fencing or materials that may block the migration of young turtles to the water or attract predators to the nest site. No work will be allowed within the 25-foot buffer until consultation with CDFW has occurred.
- All portions of the project site that could result in inadvertently trapping turtles, such as open pits, trenches, and dewatered areas will be covered and/or exclusion fencing will be installed to prevent turtles from entering these areas.
- In the event that northwestern pond turtle is formally listed by USFWS prior to or during development of the project site, consultation with USFWS shall be conducted and any avoidance, minimization and mitigation measures identified by the results of the consultation shall be incorporated into the project conditions.

Western Burrowing Owl

To avoid impacts to WEBO from Project activities, the following are recommended avoidance and minimization measures:

- Per the CDFW Staff Report on Burrowing Owl Mitigation, direct impacts will be avoided by conducting a preconstruction survey within 14 days of the start of Project activities.
    - A qualified biologist will conduct the preconstruction survey. The biologist will have familiarity with the species and its local ecology, experience conducting habitat assessments and non-breeding and breeding season surveys, or experience with these surveys conducted under the direction of an experienced surveyor; familiarity with the appropriate state and federal statutes related to burrowing owls, scientific research, and conservation; and experience with analyzing impacts of development on burrowing owls and their habitat.
- If a burrowing owl or its burrow is observed within the Project limits or within 500 feet of the Project limits, work will stop within 500 feet of the observation, and a no disturbance buffer will be established and consultation with CDFW shall be initiated to identify appropriate avoidance, minimization and mitigation measures, which may include the acquisition of an Incidental Take Permit.

Tricolored Blackbird

To avoid impacts to TRBL from Project activities, the following are recommended avoidance and minimization measures:

- Conduct a pre-construction survey to determine presence or absence of nesting tricolored blackbird within 500 feet of mapped potentially suitable habitat. The pre-construction survey will be conducted within 7 days prior to ground-disturbing activities.
- If any tricolored blackbirds' nests are observed within 500 feet of the Project Boundary, the City will be notified and will then consult with CDFW for further guidance.

Swainson's Hawk

To avoid impacts to Swainson's hawks from Project activities, the following are recommended avoidance and minimization measures:

- If Project activities cannot begin prior to the avian breeding season (March 1 – August 31), then a pre-construction survey will be conducted to determine presence or absence of nesting Swainson's hawks within a quarter-mile of the Project Boundary. The pre-construction survey will be conducted within 7 days prior to ground-disturbing activities.
- If a Swainson's hawk nest is observed within a quarter-mile radius of the Project Boundary, the City will be notified and will then consult with CDFW for further guidance.

Migratory Birds and Raptors

To avoid impacts to avian species protected under the MBTA and the CFGC, the following avoidance and minimization measures are recommended:

- Project activities, including site grubbing and vegetation removal, should be initiated outside of the bird nesting season (February 1 – August 31) whenever feasible.
- If Project activities cannot be initiated outside of the bird nesting season, then the following will occur:
    - A qualified biologist shall conduct a nesting bird survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
    - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established by the qualified biologist and in consultation with appropriate agencies. The species protection buffer will be defined by a qualified biologist based on the species, nest type, and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged, or the nest fails, as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

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LIST OF PREPARERS

Kaela Gamio. Biologist, B.S. in Biological Sciences, Cal Poly, San Luis Obispo, CA. Her range of expertise encompasses survey, monitoring, and handling protocols for northwestern pond turtle, Yosemite toad, western spadefoot, California red-legged frog, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, cascades frog, relictual slender salamander, McCloud redband trout, yellow-billed cuckoo, Least Bell's vireo, bald eagle, golden eagle, California spotted owl, fisher, as well as bat acoustic monitoring and botanical surveys. In addition, she has field and husbandry experience in wildlife rehabilitation, captive rearing of northwestern pond turtles, wildlife monitoring, population management, species recovery efforts, invasive species management, and wildlife capture and handling.

Cheryl Ballantyne. Botanist and GIS Analyst. B.S. in Plant Science, University of California, Davis. Ms. Ballantyne has 10 years of experience conducting spatial protocol level botanical surveys, wetland delineations, data analysis, spatial analysis and preparing botanical assessments, technical documents, and maps.

Appendix A

Species Lists

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: 09/03/2025 18:21:15 UTC
Project Code: 2025-0144325
Project Name: City of Colusa Triple Crown Project

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: 2025-0144325
Project Name: City of Colusa Triple Crown Project
Project Type: Acquisition of Lands
Project Description: City of Colusa annexation 88 acres of land total, northern 88 acres of parcel no. 017-020-026
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.18162425,-122.02483316185669,14z

Counties: Colusa County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 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 Fisheries[1], 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.

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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.

BIRDS

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. 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/3911	Threatened

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* 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 *Danaus plexippus* 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 *Desmocerus californicus dimorphus* 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
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* 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 *Lepidurus packardi* 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
Palmate-bracted Bird's Beak *Cordylanthus palmatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1616	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:	Colusa city
Name:	Kaela Gamio
Address:	117 Meyers St
Address Line 2:	STE 120
City:	Chico
State:	CA
Zip:	95928
Email	kaela.gamio@gmail.com
Phone:	5303511158

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Colusa (3912221) OR Meridian (3912128) OR Williams (3912222) OR Maxwell (3912232) OR Moulton Weir (3912231) OR Sanborn Slough (3912138) OR Cortina Creek (3912212) OR Arbuckle (3912211) OR Grimes (3912118))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1	None	None	G4T2	S2	1B.1
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S3	
bent-flowered fiddleneck *Amsinckia lunaris*	PDBOR01070	None	None	G3	S3	1B.2
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
cackling (=Aleutian Canada) goose *Branta hutchinsii leucopareia*	ABNJB05035	Delisted	None	G5T3	S3	WL
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3T1	S2	FP
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
Coastal and Valley Freshwater Marsh *Coastal and Valley Freshwater Marsh*	CTT52410CA	None	None	G3	S2.1	
Colusa layia *Layia septentrionalis*	PDAST5N0F0	None	None	G2	S2	1B.2
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch's bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
Ferris' milk-vetch *Astragalus tener var. ferrisiae*	PDFAB0F8R3	None	None	G2T1	S1	1B.1
foothill yellow-legged frog - north coast DPS *Rana boylii pop. 1*	AAABH01051	None	None	G3T4	S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
Great Valley Cottonwood Riparian Forest *Great Valley Cottonwood Riparian Forest*	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest *Great Valley Mixed Riparian Forest*	CTT61420CA	None	None	G2	S2.2	
Great Valley Willow Scrub *Great Valley Willow Scrub*	CTT63410CA	None	None	G3	S3.2	
greater sandhill crane *Antigone canadensis tabida*	ABNMK01014	None	Threatened	G5T5	S2	FP
green sturgeon - southern DPS *Acipenser medirostris pop. 1*	AFCAA01031	Threatened	None	G2T1	S1	SSC
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	GNRT2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
longfin smelt - San Francisco Bay-Delta DPS *Spirinchus thaleichthys pop. 2*	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
northern harrier *Circus hudsonius*	ABNKC11011	None	None	G5	S3	SSC
northwestern pond turtle *Actinemys marmorata*	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL
palmate-bracted bird's-beak *Chloropyron palmatum*	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Peruvian dodder *Cuscuta obtusiflora var. glandulosa*	PDCUS01111	None	None	G5T4?	SH	2B.2
Sacramento Valley tiger beetle *Cicindela hirticollis abrupta*	IICOL02106	None	None	G5TH	SH	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G3	S2S3	
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
song sparrow ("Modesto" population) *Melospiza melodia pop. 1*	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T3	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G3	S3	
water star-grass *Heteranthera dubia*	PMPON03010	None	None	G5	S2	2B.2
watershield *Brasenia schreberi*	PDCAB01010	None	None	G5	S3	2B.3
western red bat *Lasiurus frantzii*	AMACC05080	None	None	G4	S3	SSC
western ridged mussel *Gonidea angulata*	IMBIV19010	None	None	G3	S2	
western small-footed myotis *Myotis ciliolabrum*	AMACC01230	None	None	G5	S3	
western spadefoot *Spea hammondii*	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-faced ibis *Plegadis chihi*	ABNGE02020	None	None	G5	S3S4	WL
woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Wright's trichocoronis *Trichocoronis wrightii var. wrightii*	PDAST9F031	None	None	G4T3	S1	2B.1
Yuma myotis *Myotis yumanensis*	AMACC01020	None	None	G5	S4	

Record Count: 55

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

20 matches found. Click on scientific name for details

Search Criteria: , 9-Quad include [3912221:3912232:3912212:3912211:3912118:3912231:3912138:3912128:3912222]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	S3	1B.2	Yes
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	S1	1B.1	Yes
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	S2	1B.2	Yes
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	S2	1B.2	Yes
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	S2	1B.2	Yes
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	S3	2B.3	
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	S3	4.2	Yes

Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	S1	1B.1	Yes
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	None	None	SH	2B.2	
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	S2	1B.2	Yes
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	S3	4.2	Yes
Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	S2	2B.2	
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	S3	1B.2	Yes
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	S3	4.2	Yes
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	S2	1B.1	
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	S2	1B.2	Yes
Myosurus minimus ssp. *apus*	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	S2	3.1	
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	S2	1B.1	Yes
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	S2	1B.2	

Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	S1	2B.1

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Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 3 September 2025].
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Appendix B

Observed Species List

25-053 Colusa Triple Crown: Observed Animal List
09/16/2025

Scientific Name	**Common Name**
Agelaius phoeniceus	Red-winged blackbird
Cathartes aura	Turkey vulture
Sceloporus occidentalis	Western fence lizard
Spinus psaltria	Lesser goldfinch
Sayornis nigricans	Black phoebe
Passerculus sandwichensis	Savannah sparrow
Polistes sp.	Paper wasp
Apis mellifera	European honey bee
Pieris sp.	Garden white butterfly
Strymon melinus	Gray hairstreak butterfly
Hylephila phyleus	Fiery skipper butterfly
Setophaga petechia	Yellow warbler
Zonotrichia leucophrys	White-crowned sparrow
Charadrius vociferus	Killdeer

Evidence of Occupancy (i.e. scat, footprints, etc.) seen for:

Vulpes sp.	Fox
Lepus sp.	Rabbit

25-053 Colusa Triple Crown Observed plant List 9/16/2025	
Scientific Name	**Common Name**
Amaranthus albus	Tumbleweed
Amaranthus blitoides	Prostrate pigweed
Centaurea solstitialis	Yellow starthistle
Centromadia parryi	Tarweed
Chenopodium album	Lambs quarter
Convolvulus arvensis	Field bindweed
Cyperus odoratus	Fragrant flatsedge
Cyperus difformus	Variable flatsedge
Dittrichia graveolens	Stinkwort
Erigeron bonariensis	Flax leaved horseweed
Fraximus latifolia	Oregon Ash
Heliotropium europaeum	European heliotrope
Hirschfeldia incana	Hoary mustard
Lactuca serriola	Prickly lettuce
Lepidium latifolium	Perennial pepperweed
Leptochloa fusca	Sprangletop
Lycopersicon asculentum	Tomato
Malva sp	Mallow
Marrubium vulgare	White horehound
Salsola tragus	Russian thistle
Solanum nigrum	Black nightshade
Sorghum halepense	Johnsongrass
Xanthium strumarium	Cocklebur

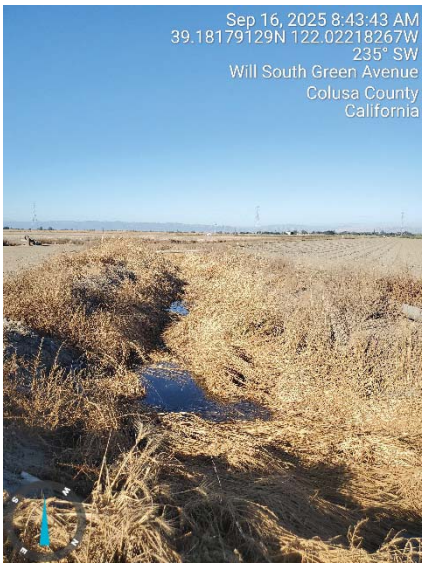
Appendix C

Project Site Photos

Project Site Photos

Taken September 16, 2025

Northwest corner looking south



Eastern boundary looking southwest at the canal

Northeast corner looking west

Northeast corner near Will S Green Ave looking west.