Biological Assessment
for the
Mokelumne Hill Sanitary District
Wastewater System Improvements Project

Calaveras County, CA

Prepared by:

SWCA Environmental Consultants
6355 Riverside Blvd., Suite C
Sacramento, CA 95831-1143
916.427.0703
www.swca.com

Prepared for:

Weber, Ghio & Associates
201 Hanford St Sutter Creek
San Andreas, CA 95249
Attn: Frank Whitmore

February 2022

Biological Assessment
for the
Mokelumne Hill Sanitary District-Wastewater System Improvements Project

Calaveras County, CA

Table of Contents

Figures

Tables

Appendices

I. SUMMARY OF FINDINGS AND CONCLUSIONS

This Biological Assessment (BA) was prepared for the Mokelumne Hill Sanitary District-Wastewater System Improvements Project in Calaveras County, CA. The Biological Study Area (BSA) is approximately 11.97 acres and consists of five locations in the community of Mokelumne Hill including the Green Gravity Main, Lagoons Office-Lab Sprayfield area, Easy Bird area, Garden Lane area, and Maretta Lane area.

The BSA is located in the Upper Mokelumne River Hydrologic Unit (hydrologic unit code 18040012). One seasonal wetland and three ephemeral drainages were observed and mapped within the BSA. The report includes the results of a field evaluation of potential waters and wetlands observed within the BSA.

A total of 0.01 acre of aquatic resources within the BSA could potentially be under jurisdiction of the U.S. Army Corps of Engineers (Corps). The wastewater treatment lagoon are not a special status natural community and are not under the jurisdiction of the Corps. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States (Corps 2012).

The BSA provides suitable habitat for California red-legged frog (*Rana draytonii*) and western pond turtle (*Emys marmorata*). The BSA and surrounding area provides potential nesting habitat for birds listed under the Federal Migratory Bird Treaty Act and State Fish and Wildlife Code. With implementation of the proposed avoidance and minimization measures the Project will not affect CRLF. The proposed avoidance and minimization measures will also protect WPT and nesting birds. The BSA does not contain essential fish habitat (EFH) for Pacific salmon.

The BSA provides suitable habitat for the following four special-status plants: big-scale balsamroot (*Balsamorhiza macrolepis),* Stanislaus monkeyflower (*Erythranthe marmorata*), Parry's horkelia (*Horkelia parryi*), and prairie wedge grass (*Sphenopholis obtusata*). No special-status plants were observed during the September 2021 survey. A survey conducted during the evident and identifiable period would be required to determine if these species occur in the BSA.

II. INTRODUCTION

The Mokelumne Hill Sanitary District (MHSD) is in the process of obtaining a State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (CWSRF) Grant to make improvements to their collection system, wastewater treatment plant (WWTP), and disposal facilities in the community of Mokelumne Hill.

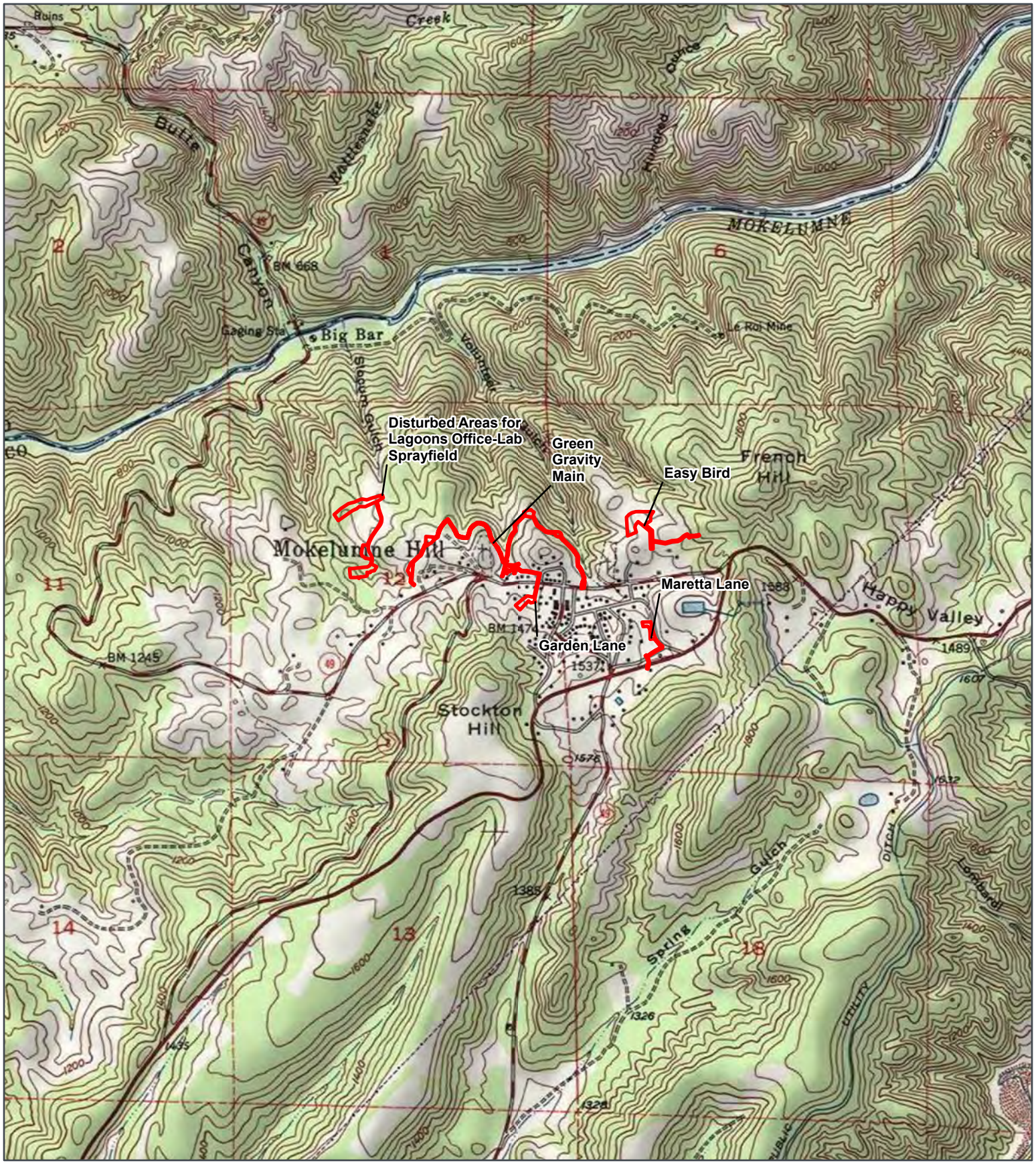
A. Purpose of Report

The purpose of this report is to document baseline biological conditions and any special-status biological resources in the biological study area (BSA). This report is intended for use in support of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) review process and permit applications. Project impacts are identified and avoidance and minimization measures are proposed.

B. Project Location

The Project is in the unincorporated community of Mokelumne Hill north of the intersection of State Highway 49 and State Highway 26 in northwestern Calaveras County in the western foothills of the Sierra Nevada Mountains (Figures 1 and 2). The approximately 12-acre Project area includes the MHSD facilities and crosses numerous private residences. The Project is located in a rural community and is bounded primarily by residential uses.

The Project is on the Mokelumne Hill USGS topographic quad (T5N, R11E, Section 12, Mt. Diablo Meridian and T5N, R12E, Section 7, Mt. Diablo Meridian) in the in the Upper Mokelumne River Hydrologic Unit (hydrologic unit code 18040012). The centroid of the Project is located at 38.304200° north, -120.707400° west (WGS84), and its UTM coordinates (Zone 10S) are 700462.37 m East; 4242054.18 m North. The Project is relatively flat and ranges in elevation from approximately 1,257 to 1,520 feet above sea level. Figure 1 shows the project location. Figure 2 is an aerial photo of the BSA.



MOKELUMNE HILL CWSRF PROJECT

Figure 1. Location Map

Project Location

Calaveras County, CA
Town of Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 California Teale Albers FtUS
120.7082°W 38.3022°N

0 1,000 2,000 Feet
0 250 500 Meters

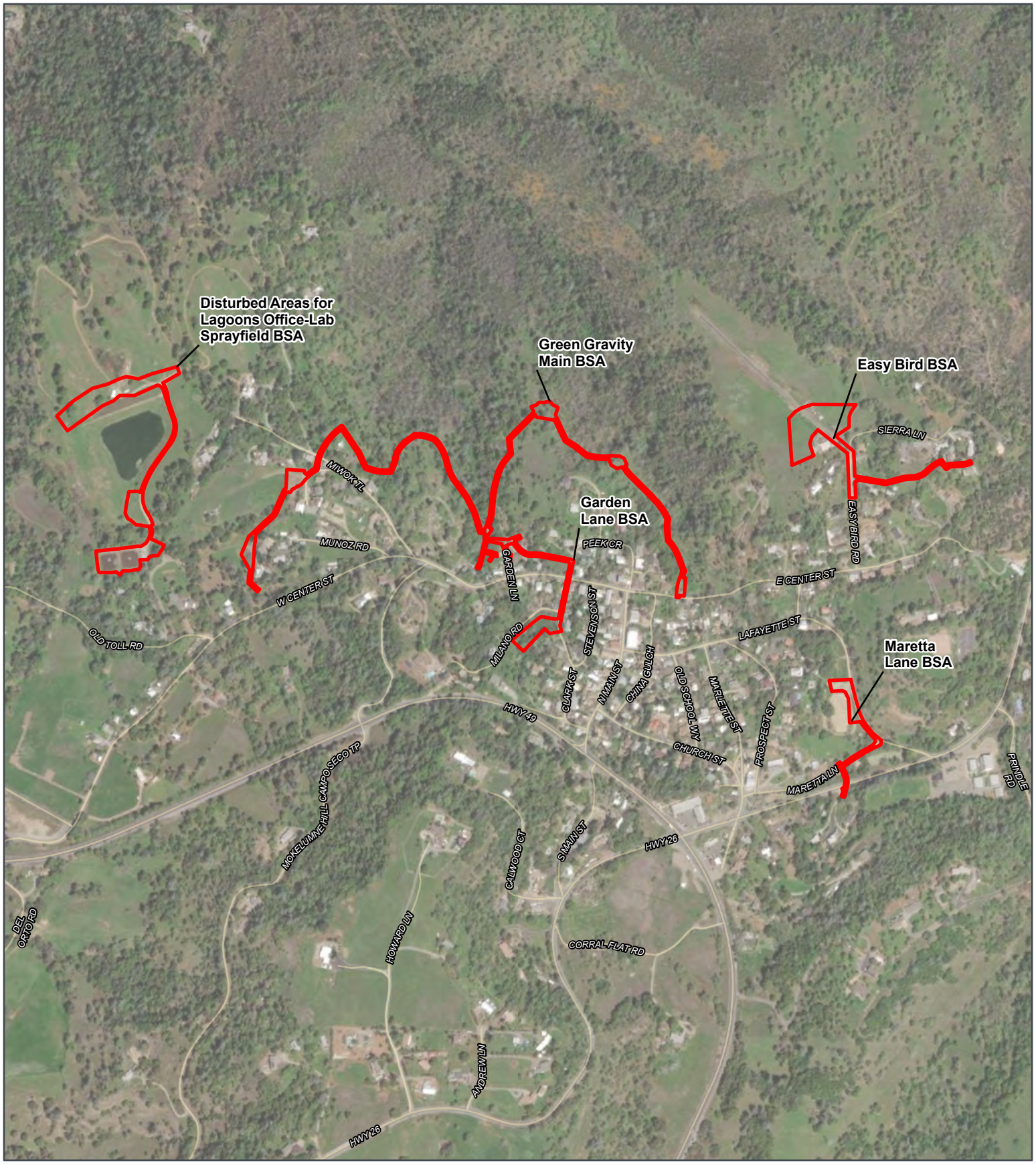
N

1:24,000

Base Map: US topo maps, Esri ArcGIS Online, accessed September 2021

Updated: 9/21/2021
Project No. 67722
Layout: 67722_mokelumneHill_Location(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS



MOKELUMNE HILL CWSRF PROJECT

Biological Study Area (BSA)

Calaveras County, CA
Town of Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7082°W 38.3022°N

0 400 800 Feet
0 100 200 Meters

N

1:9,600

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed September 2021

Updated: 9/21/2021
Project No. 67722
Layout: 67722_mokelumneHill_Aerial(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS

Figure 2.
Aerial Photograph

C. Project Applicant

Applicant
Mokelumne Hill Sanitary District
P.O. Box 215
San Andreas, CA 95249
Phone: 209.256.4548

Engineer
Frank Whitmore, P.E.
Weber Ghio & Associates
P.O. Box 251
201 Hanford St Sutter Creek
San Andreas, CA 95249
Phone: 209.267.0173

D. Project Description

The MHSD is in the process of obtaining a SWRCB CWSRF grant to replace the wastewater system and associated facilities. The proposed improvements will consist of:

- Eliminating two sanitary sewer lift stations and replacing with an 8" diameter open-cut trench gravity main system. The new pipe will be approximately 5,500 LF and will be composed of PVC. Approximately 33 manholes will be placed and be composed of concrete.
- Lining the two existing treatment plant lagoons with approximately 30,000 SF of synthetic material and a reinforced concrete cap.
- Replacing approximately 1,270 LF of 4" and 6" diameter sewer main (open cut trench) at Easy Bird Road, Garden Lane and Maretta Lane.
- Constructing a new office and lab facility (approximately 768 SF) to provide worker safety with a permanent eye wash station, to accommodate an appropriate size work environment including a location for record keeping and storage and provide workspace and testing lab/area and will also allow for ADA accessibility.
- Installing a fully automated sanitary sewer spray field system that will reduce labor costs and human error by automatically shutting the spray field system off or by sending warning signals to the operator when there is pipe or sprinkler head failure.

1. Project Purpose

The Project would provide a safer, more efficient system for the MHSD in protecting the adjacent environmentally sensitive Mokelumne River Watershed and significantly reduce operational costs. The Project will replace aged and undersized sewer mains ensuring that the District's domestic wastewater is safely conveyed to the WWTP.

2. History

The Mokelumne Hill Sanitary District (MHSD) owns and operates the wastewater collection, treatment and disposal facilities serving the community of Mokelumne Hill. The District's service area boundary encompasses approximately 730 acres. The District currently provides service to approximately 300 active wastewater connections comprised of 275 residential, 15 commercial and 10 institutional. The original wastewater treatment plant constructed in 1947, was located on a 3-acre parcel north of town and was served by a gravity feed collection system. This plant was replaced with a new current 86-acre facility in the 1970's.

III. STUDY METHODS

A. Studies Conducted

An evaluation of biological resources was conducted to determine if special-status plant or wildlife species, their habitat, or other sensitive habitats occur in the BSA. Data on special-status species and habitats known in the area were obtained from state and federal agencies. Maps and aerial photographs of the BSA and surrounding areas were reviewed. Field surveys were conducted to determine the habitats present. The field survey, map review, and a review of the biology of evaluated species and habitats were used to determine the special-status species and sensitive habitats that could occur in the BSA.

Special-status species in this report are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by the California Department of Fish and Wildlife (CDFW), or that are Rank 1 or 2 in the California Native Plant Society's Inventory of Rare and Endangered Plants of California (CNPS 2021). Special-status natural communities are waters, wetlands, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (August 2021).

B. Survey Dates and Personnel

Alex Jamal and Monica Coll, biologists with SWCA Environmental Consultants, conducted a general biological survey of the entire BSA on 29 September 2021. CRLF survey work consisted of a site assessment, one day survey, and two night surveys and were focused on the existing WWTP. A CRLF site assessment and day survey of Lagoons 1, 2, and 3, located at the WWTP was conducted on 29 September. Two nighttime surveys focused on CRLF were conducted on the 12 and 19 October 2021.

C. Problems Encountered and Limitations That May Influence Results

Portions of the approximately 11.97-acre BSA on private property were not accessible during the September 2021 survey. The areas that were inaccessible were surveyed with binoculars. The general biological survey may not necessarily have detected cryptic, fossorial, migratory or aestivating wildlife species. Such species with habitat in the BSA could be present in or periodically utilize suitable habitat in the BSA even if not observed during a general biological survey. Sign of such species (potentially occupied burrows, feathers, excrement, carcasses, etc.) was recorded if observed. No other problems or limitations were encountered.

D. Literature Search

An official letter and list were obtained from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office (Appendix A). The list identifies federal-listed, candidate, or proposed species that potentially occur in or could be affected by the project. An official list of federal-listed fish species, designated critical habitat, and Essential Fish Habitat areas that occur on the Mokelumne Hill USGS quad was generated on 13 May 2021 from the NMFS

West Coast Region California Species List December 2016 KMZ layer in Google Earth (NMFS 2019, Appendix B).

The California Natural Diversity Database (CNDDB) was queried for known occurrences of special-status species near the BSA (Mokelumne Hill USGS quad and the eight surrounding quads; Appendix C). The California Native Plant Society (CNPS) online inventory of rare and endangered plants was queried for known occurrences of special-status plants in or near the BSA (Mokelumne Hill USGS quad and the eight surrounding quads; Appendix C).

E. Field Survey Methods

Biological surveys consisted of walking through the BSA to assess potential habitat for special-status species and sensitive communities. Portions of the BSA on private property were surveyed with binoculars. All plants and wildlife observed are listed in Appendix E. Photographs are in Appendix F.

F. Mapping

SWCA mapped biological resources observed in the field with a handheld TDC-100 Global Positioning System (GPS) unit equipped with an R-1 receiver, and with a Trimble Nomad5 equipped with an Empower Module. The GPS data were exported to Google Earth, where feature boundaries were completed with the aid of photographs and field notes. The GPS data and Google Earth polygons were exported to ArcGIS and aligned with the aerial imagery to create Figure 4.

IV. ENVIRONMENTAL SETTING

The BSA includes the Green Gravity Main, Lagoons Office-Lab Sprayfield area, Easy Bird area, Garden Lane area, Maretta Lane area and associated staging areas. in the unincorporated community of Mokelumne Hill, CA (Figure 2). The BSA is in the lower foothills of western Calaveras County. Elevation ranges from approximately 1,257 ft to 1,520 ft above sea level.

A. Soils

Soil mapping units in the BSA are shown on Figure 3 and summarized below (NRCS 2021). Reported colors are for moist soil unless otherwise stated.

Millvilla-Luckymine complex, 15-30% slopes:

The Millvilla series consists of moderately deep, well drained soils formed in colluvium over residuum weathered from phyllite, schist, and other metasedimentary rocks. These soils are on hills and in canyons. Slopes range from 3 to 90 percent. Vegetation on these soils consists of interior live oak, blue oak, California foothill pine, Pacific poison oak, whiteleaf manzanita, toyon, buckbrush, chaparral coffeeberry, California yerba santa, and squirreltail.

The Luckymine series consists of shallow, well drained soils formed in colluvium and residuum from phyllite, schist, and other metasedimentary rocks. These soils are on hills. Slopes range from 8-60 percent. Vegetation on these soils consists of blue oak and annual grasses and forbs.

Holland-Chawanakee-Rock outcrop complex 45-90% slopes:

The Holland series consists of very deep, well drained soils that formed in materials weathered from granitic rock. These soils are found on foothills and low mountains and have slopes of 2 to 75 percent. Vegetation on these soils consist of native vegetation in open to semi-dense stands of ponderosa pine and incense cedar with some white fir, sugar pine, California black oak or canyon live oak with an understory of mountain misery and whiteleaf manzanita.

The Chawanakee series consists of shallow, somewhat excessively drained soils formed in material weathered from granitic rock. These soils found on mountains and hills and have slopes of 2 to 110 percent. Vegetation on these soils consist of native vegetation in a dense woody cover of shrubs and semi-open cover of mixed conifers; principal shrubs are mountain misery, whiteleaf manzanita and buckbrush; principal trees are ponderosa pine, incense cedar, California black oak and canyon live oak.

Millvilla-Copperopolis-Hetchy complex, 30-60% slopes:

The Millvilla series is described above.

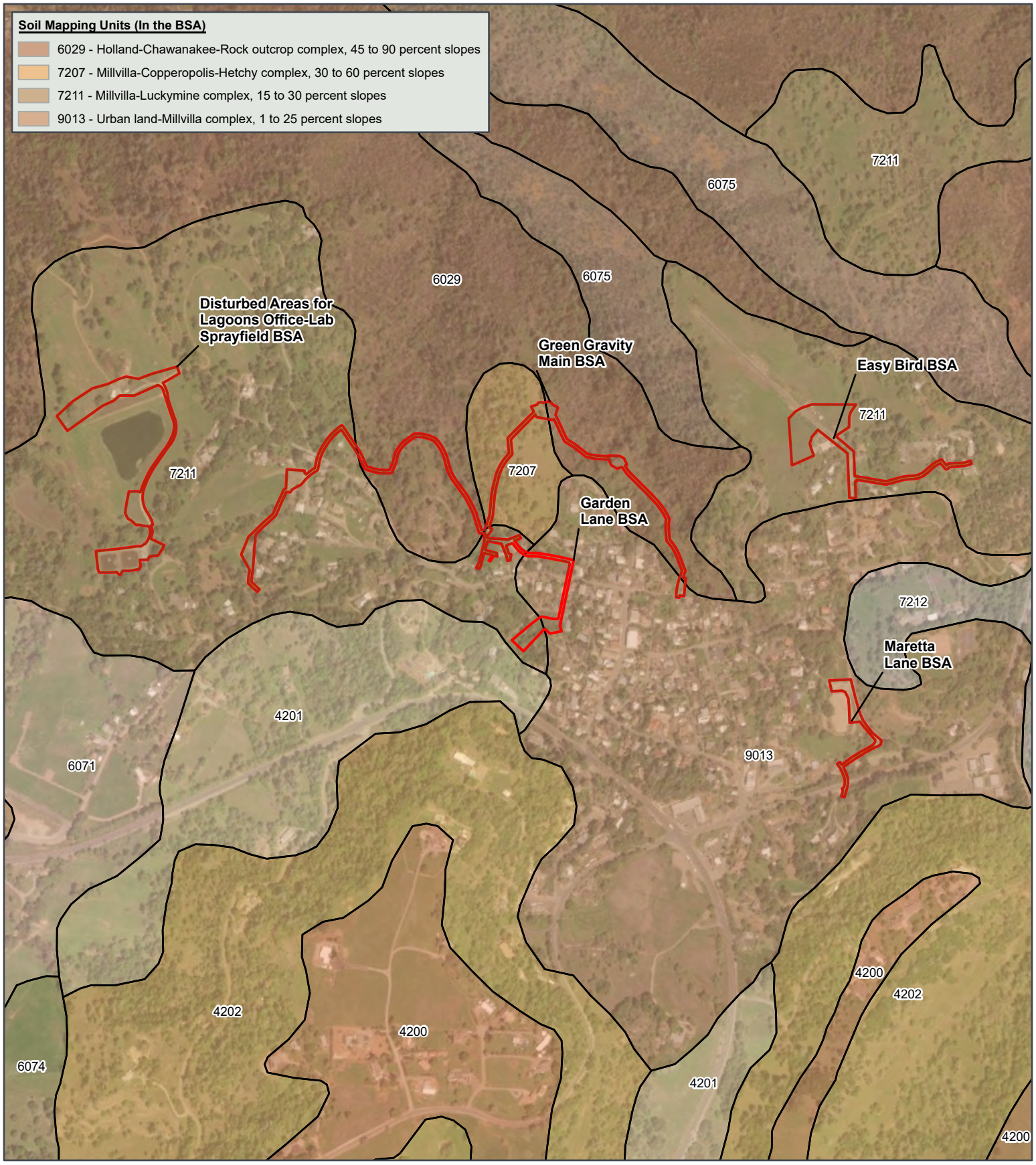
The Copperopolis series consists of shallow, well to somewhat excessively well drained soils formed in colluvium over residuum from metasedimentary rocks. The Copperopolis soils are on hills. Slopes range from 2 to 90 percent. Vegetation on these soils consists of blue oak, California foothill pine, soft chess, annual ryegrass, ripgut brome, wild oat and

forbs. On droughty south-facing slopes the vegetation may also include chamise and deerbrush.

The Hetchy series consists of moderately deep, well drained soils formed in colluvium and residuum weathered from phyllite, schist, and other metasedimentary rocks. The Hetchy soils are on hills and ridges. Slopes range from 3 to 60 percent. Vegetation on these soils consists of interior live oak, blue oak, California foothill pine, Pacific poison oak, whiteleaf manzanita, toyon, buckbrush, chaparral coffeeberry, California yerba santa, and squirreltail.

Urban land-Millvilla complex, 1-25% slopes:

The Millvilla soils is described above. Approximately 50 percent of the map unit is composed of urban land. Urban land generally consists of soils covered by pavement, concrete, buildings and other structures.



MOKELUMNE HILL CWSRF PROJECT

Figure 3.
Soils Map

Biological Study Areas (BSA)

Soil Mapping Unit Boundary

Calaveras County, CA
Town of Mokelumne Hill, CA
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7082°W 38.3022°N

Source: Soil Survey Geographic database for Calaveras Area, CA, Parts of Calaveras and Stanislaus Counties, CA, USDA, NRCS (17 Sept. 2018)
Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online, accessed September 2021

Updated: 9/21/2021
Project No. 67722
Layout: 67722_mokelumneHill_Soils (8x11P)
Aprx: 67722_MokelumneHillCWSRF

0 400 800 Feet
0 100 200 Meters

N

1:9,600

SWCA ENVIRONMENTAL CONSULTANTS

B. Biological Communities

Biological communities are defined by species composition and relative abundance. A biological resource map of the BSA is in Figure 4, Sheets 1 to 5. Photographs of the BSA are in Appendix F. These communities correlate where applicable with the list of California terrestrial natural communities recognized by CDFW (2021a). Descriptions of biological communities present in the BSA are included below.

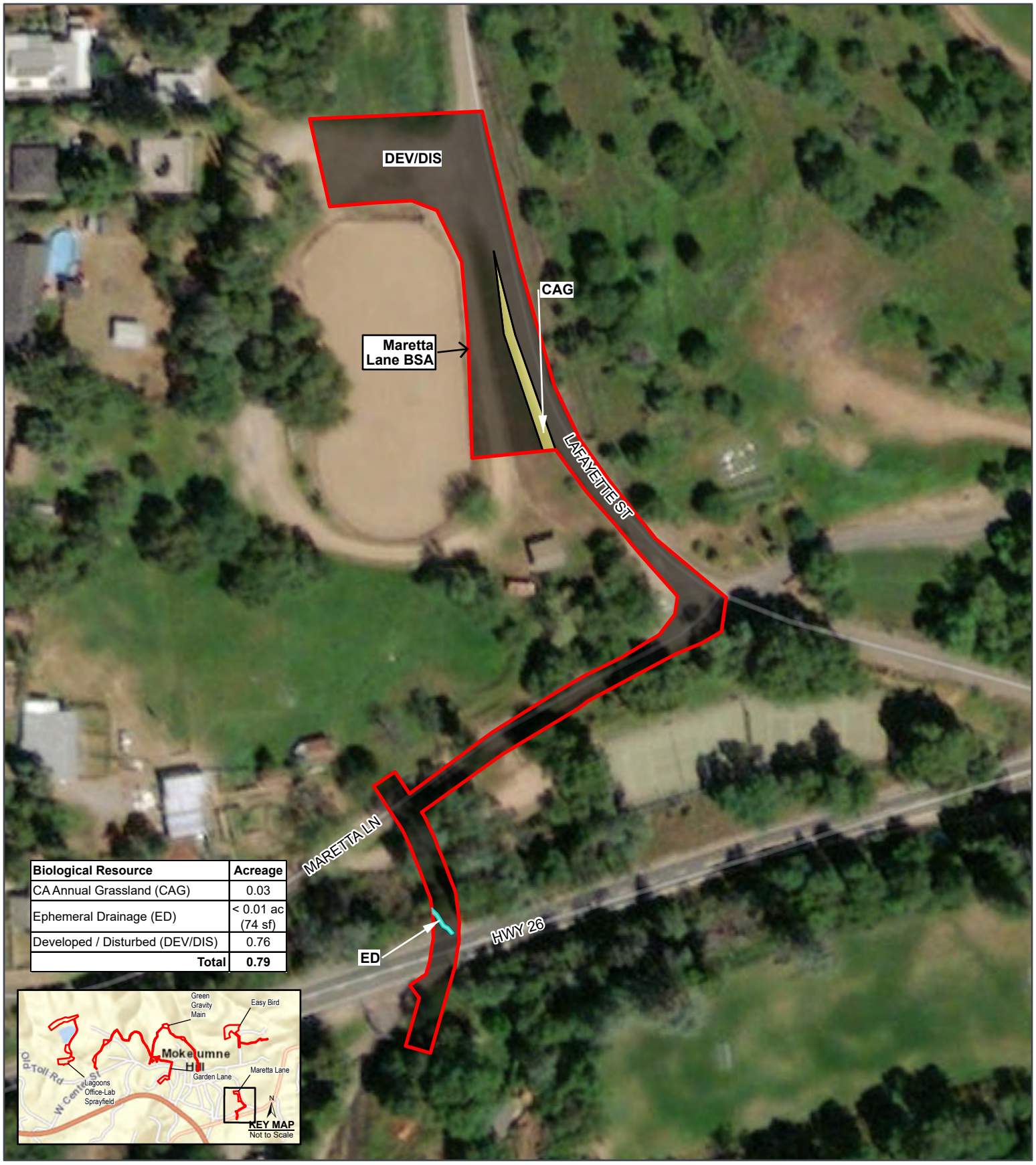
Special-status natural communities in this report include waters, wetlands, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (2021a). Table 1 summarizes the habitat types and other features in the BSA and provides habitat acreages. Impacts to non-special-status communities are not discussed further. Temporary impacts include all potential disturbance, and may be reduced as the Project design is further refined. Table 1 includes the acreage of the various communities in the BSA.

Table 1. Biological Communities in the BSA.

Biological Community (Scientific Name [CDFW Code] [1])	**Biological Resource Acreage per Project Site**						**Total Acreage (in BSA)**
	Maretta Lane	**Easy Bird**	**Garden Lane**	**Green Gravity Main**	**Lagoons Office-Lab Sprayfield**	**Rarity Rank[2]**	
CA annual grassland (CAG) (*Avena (barbata, fatua)* semi-natural herbaceous stands [44.150])	0.03	1.53	0.00	0.63	1.85	--	**4.04**
Mixed oak woodland (MOW) (71.100.07 Mixed oak – *Pinus sabiniana* / grass)	0.00	0.31	0.64	1.76	0.16	G4S4	**2.87**
Ruderal (RUD)	0.00	0.00	0.00	0.37	0.00	--	**0.37**
Seasonal Wetland (SW)	0.00	0.00	0.01	<0.01 ac (41 sf)	0.00	--	**0.01**
Ephemeral Drainage (ED)	<0.01 ac (74 sf)	0.00	<0.01 ac (187 sf)	0.00	0.00	--	**< 0.01 ac (261 sf)**
Developed / Disturbed (DEV/DIS)	0.76	0.90	0.63	0.49	1.90	--	**4.68**
Total	**0.79**	**2.74**	**1.28**	**3.25**	**3.91**		**11.97**

[1] Sawyer et al. (2009) and CDFW (August 2021).

[2] Vegetation with State (S) ranks of 1-3 are considered highly imperiled by CDFW (October 2021).



Biological Resource	Acreage
CA Annual Grassland (CAG)	0.03
Ephemeral Drainage (ED)	< 0.01 ac (74 sf)
Developed / Disturbed (DEV/DIS)	0.76
Total	**0.79**

MOKELUMNE HILL CWSRF PROJECT

Figure 4. Biological Resources Map

Sheet 1 of 5, Maretta Lane

- Biological Study Area (BSA)
- CA Annual Grassland (CAG)
- Developed / Disturbed (DEV/DIS)
- Ephemeral Drainage (ED)

Calaveras County, CA
Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7009°W 38.2995°N

0 40 80 Feet
0 10 20 Meters

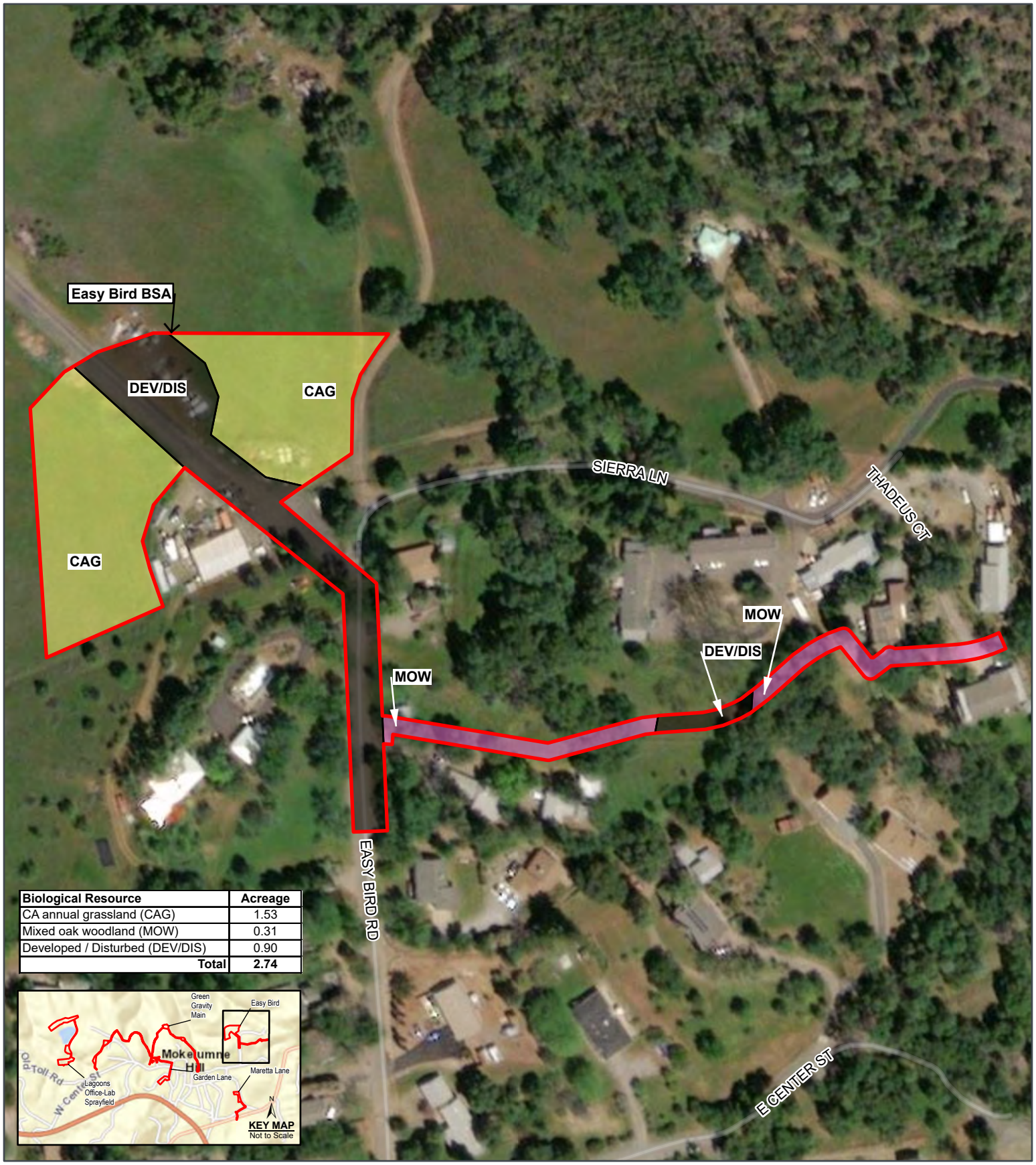
N

1:1,200

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed February 2022

Updated: 2/15/2022
Project No. 67722
Layout: 67722_mokelumneHill_Biores(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS



Biological Resource	Acreage
CA annual grassland (CAG)	1.53
Mixed oak woodland (MOW)	0.31
Developed / Disturbed (DEV/DIS)	0.90
Total	**2.74**

MOKELUMNE HILL CWSRF PROJECT

Figure 4. Biological Resources Map

Sheet 2 of 5, Easy Bird

- Biological Study Area (BSA)
- CA Annual Grassland (CAG)
- Mixed Oak Woodland (MOW)
- Developed / Disturbed (DEV/DIS)

Calaveras County, CA
Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7003°W 38.3044°N

0 70 140 Feet
0 10 20 Meters

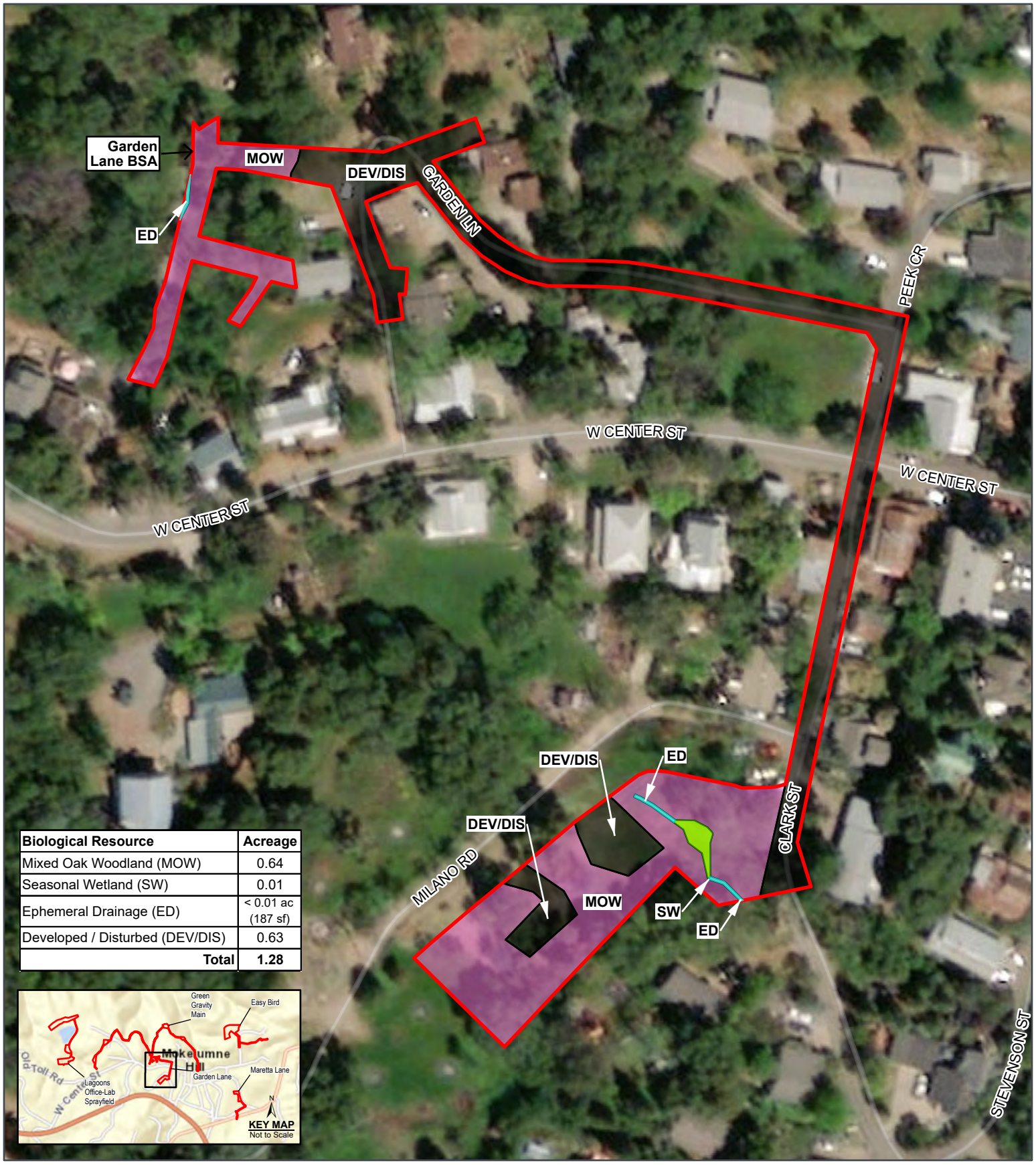
N

1:1,800

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed February 2022

Updated: 2/15/2022
Project No. 67722
Layout: 67722_mokelumneHill_Biores(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS



Biological Resource	Acreage
Mixed Oak Woodland (MOW)	0.64
Seasonal Wetland (SW)	0.01
Ephemeral Drainage (ED)	< 0.01 ac (187 sf)
Developed / Disturbed (DEV/DIS)	0.63
Total	**1.28**

MOKELUMNE HILL CWSRF PROJECT

Figure 4. Biological Resources Map

Sheet 3 of 5, Garden Lane

- Biological Study Area (BSA)
- Mixed Oak Woodland (MOW)
- Developed / Disturbed (DEV/DIS)
- Ephemeral Drainage (ED)
- Seasonal Wetland (SW)

Calaveras County, CA
Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.708°W 38.302°N

0 40 80 Feet
0 10 20 Meters

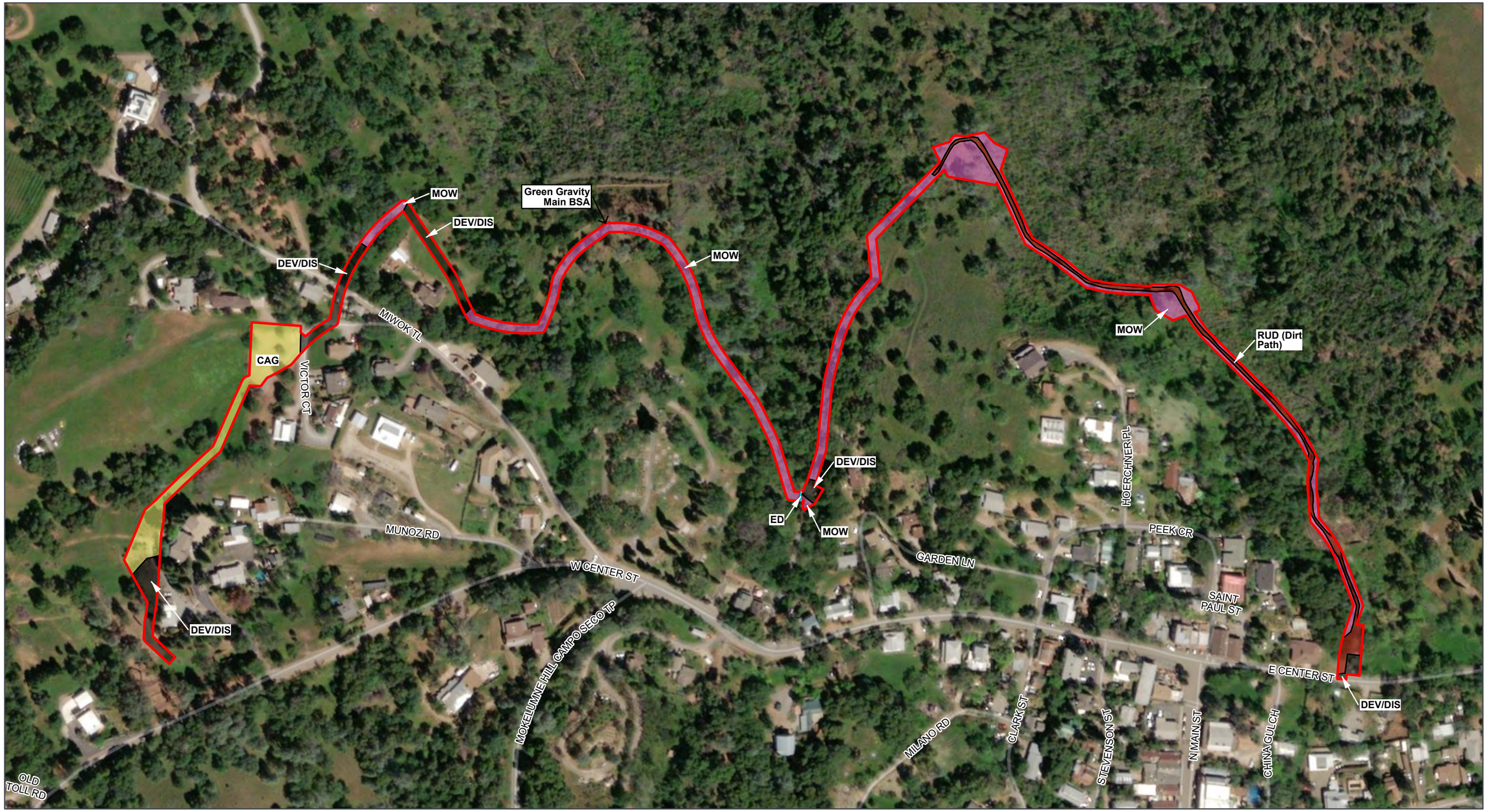
N

1:1,200

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed February 2022

Updated: 2/15/2022
Project No. 67722
Layout: 67722_mokelumneHill_Biores(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS



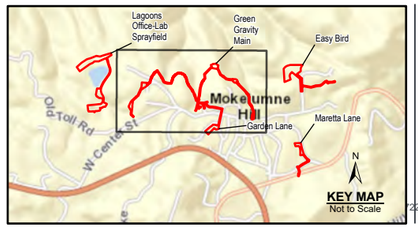
MOKELUMNE HILL CWSRF PROJECT

Figure 4. Biological Resources Map

Sheet 4 of 5, Green Gravity Main

- Biological Study Area (BSA)
- CA Annual Grassland (CAG)
- Mixed Oak Woodland (MOW)
- Ruderal (RUD)
- Developed / Disturbed (DEV/DIS)
- Ephemeral Drainage (ED)

Biological Resource	Acreage
CA Annual Grassland (CAG)	0.63
Mixed Oak Woodland (MOW)	1.76
Ruderal (RUD)	0.37
Ephemeral Drainage (ED)	< 0.01 ac (41 sf)
Developed / Disturbed (DEV/DIS)	0.49
Total	**3.25**



Calaveras County, CA
Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7094°W 38.3036°N

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed February 2022

Updated: 2/14/2022
Project No. 67722
Aprx: 67722_MokelumneHillCWSRF

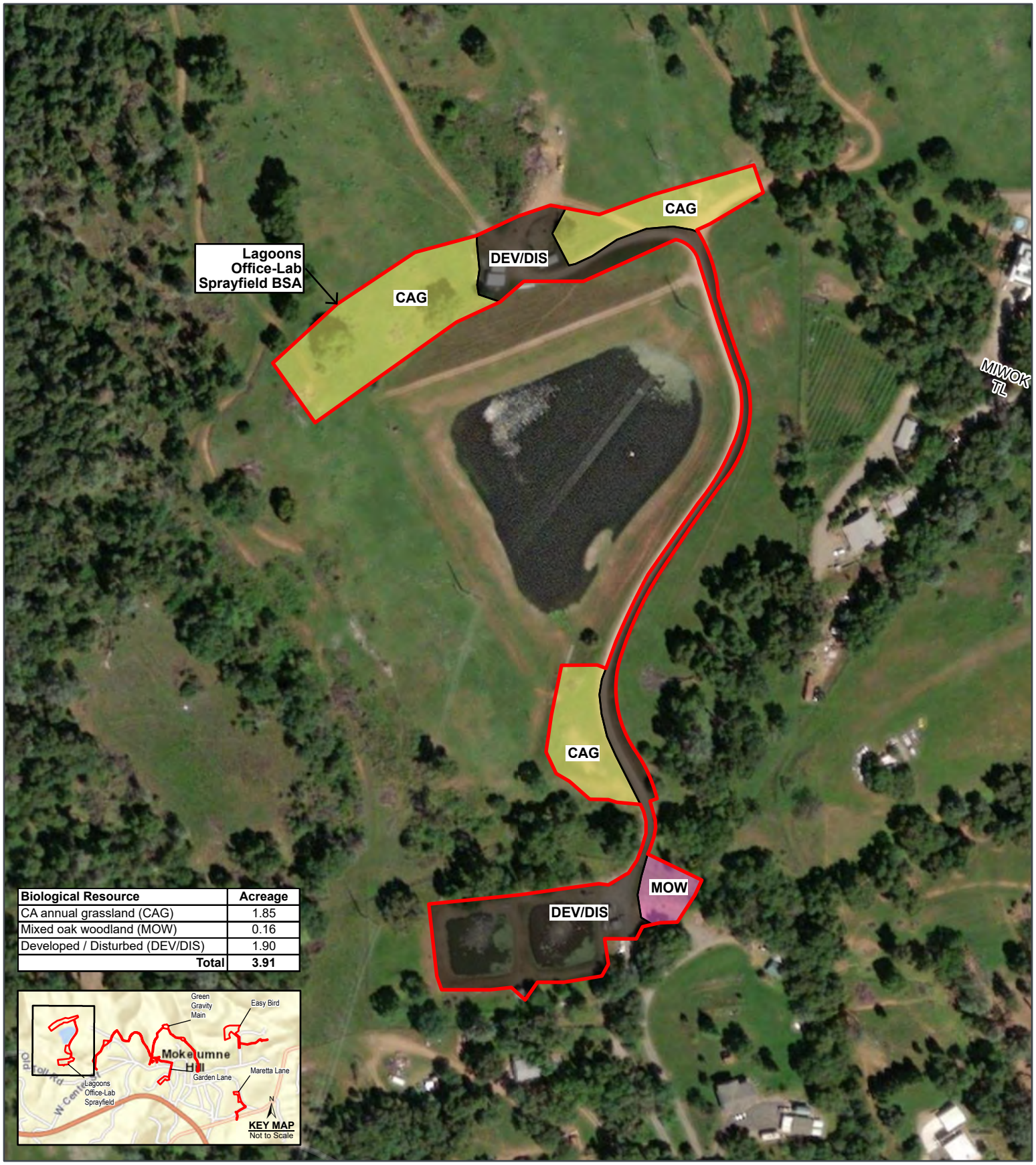
22_mokelumneHill_BioresGreenGravity(11x17P)

0 100 200 Feet
0 25 50 Meters

N

1:2,400

SWCA ENVIRONMENTAL CONSULTANTS



Biological Resource	Acreage
CA annual grassland (CAG)	1.85
Mixed oak woodland (MOW)	0.16
Developed / Disturbed (DEV/DIS)	1.90
Total	**3.91**

MOKELUMNE HILL CWSRF PROJECT

Figure 4. Biological Resources Map

Sheet 5 of 5, Lagoons, Office-Lab and Sprayfield

- Biological Study Area (BSA)
- CA Annual Grassland (CAG)
- Mixed Oak Woodland (MOW)
- Developed / Disturbed (DEV/DIS)

Calaveras County, CA
Mokelumne Hill, CA
Township 5 North, Range 11 East
NAD 1983 StatePlane California III
FIPS 0403 Feet
120.7169°W 38.304°N

0 100 200 Feet
0 25 50 Meters

N

1:2,400

Aerial Photo: 3 April 2020
WV03 Vivd Maxar Imagery
World Imagery Basemap layer
Esri ArcGIS Online,
accessed February 2022

Updated: 2/15/2022
Project No. 67722
Layout: 67722_mokelumneHill_Biores(8x11P)
Aprx: 67722_MokelumneHillCWSRF

SWCA ENVIRONMENTAL CONSULTANTS

Developed/ Disturbed

This land cover type includes roads, buildings/ yards, and driveways and occurs at scattered locations at the Lagoons Office-Lab Sprayfield site and the Green Gravity Main, Easy Bird, Garden Lane, Maretta Lane alignments and associated staging areas. Vegetation in this community is largely absent with some ruderal species, non-native horticultural trees and shrubs, and grass/lawn/ turf. Floating vegetation including duckweed (*Lemna* sp.) occurs in the MHSD treatment lagoons. Some scattered native trees and shrubs occur along edges of the roads in this community.

Ruderal

This community occurs along the eastern portion of the Green Gravity Main alignment in the eastern portion of the BSA, north of East Center Street. This community consists of a dirt road beginning at East Center Street and extending northwest for approximately 0.3 mile. Ruderal species present include turkey mullein (*Croton setigerus*), summer mustard (*Hirschfeldia incana*), English plantain (*Plantago lanceolata*), tarweed (*Deinandra* sp.), prickly lettuce (*Lactuca serriola*), and bristly dogtail grass (*Cynosurus echinatus*).

Ephemeral Drainage

Three ephemeral drainages occur within the BSA. Very little vegetation occurs within this community. The ephemeral drainages were dry during the September 2021 survey. The drainages range from 2 to 3 feet wide. One ephemeral drainage is located within the Garden Lane BSA southwest of the Milano Road and Clark Street intersection. Water enters the drainage from the north and connects to a seasonal wetland. Water flows out of the seasonal wetland via the southern portion of the drainage and flows into a culvert under Clark Street. One ephemeral drainage occurs within the Maretta Lane BSA and is located north of Highway 26. One ephemeral drain occurs within the Green Gravity Main BSA and is located west of Garden Lane.

Seasonal Wetland

One seasonal wetland occurs within the BSA. The 0.01-acre wetland is located southwest of the Milano Road and Clark Street intersection. The seasonal wetland may meet the U.S Army Corps of Engineers (Corps) parameters for waters of the U.S. This area was previously disturbed and contained debris from trees that were removed. Vegetation in this community is dominated by Himalayan blackberry (*Rubus armeniacus*). Other species in this community include English black walnut (*Juglans hindsii*), broadleaf cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), willow (*Salix* sp.), and valley oak (*Quercus lobata*).

California Annual Grassland

This community is scattered throughout the BSA and generally occurs along roadsides and around residential buildings. This community is dominated by hare barely (*Hordeum murinum ssp. leporinum*), bristly dogtail grass (*Cynosurus echinatus*), oat (*Avena* sp.), rye grass (*Festuca perennis*), ripgut grass (*Bromus diandrus*), and knotweed (*Polygonum*

aviculare ssp. *depressum*). Other species observed in this community include English black walnut, sunflower (*Helianthus* sp.), oniongrass (*Melica* sp.), moth mullein (*Verbascum blattaria*), and dock (*Rumex* sp.). The California annual grassland is an upland plant community.

Mixed Oak Woodland

This community is dominated by valley oak and gray pine (*Pinus sabiniana*). Some blue oak (*Quercus douglasii*), English black walnut and tree of heaven (*Ailanthus altissima*) are scattered within this community. The understory consists of toyon (*Heteromeles arbutifolia*), interior live oak (*Quercus wislizeni* var. *wislizeni*) saplings, oat, ripgut grass, summer mustard, and gumplant. Other species observed in this community include western poison oak (*Toxicodendron diversilobum*), rose clover (*Trifolium hirtum*), milk thistle (*Silybum marianum*), goldback fern (*Pentagramma triangularis*), and common madia (*Madia elegans*).

C. The Existing Level of Disturbance

The majority of the BSA is composed of developed/ landscaped areas that are subject to frequent disturbance from vehicular traffic, pedestrian traffic, and vegetation maintenance. Much of the BSA includes residential areas with gardens, lawns, or areas disturbed by pets. The existing Lagoons Office-Lab Sprayfield site is subject to vegetation management and other regular maintenance activities. Portions of the Green Gravity Main alignment were previous used for a previous effluent pipeline.

V. BIOLOGICAL RESOURCES IN THE PROJECT STUDY AREA

A. Determination of Special Status Species in the Project Study Area

File data from USFWS, NMFS, CNDDB, and CNPS were used to determine the special-status species that could occur in the area. The USFWS list of special-status species that could occur in or be affected by the Project is in Appendix A. The NMFS list of special-status species is in Appendix B. CNDDB and CNPS queries for the Mokelumne Hill and eight surrounding USGS quads are in Appendix C. A biological survey was conducted to determine if special-status species or their habitats are present in the BSA. Special-status species with potential habitat are listed in Table 2.

Table 2. Special-Status Species with the Potential to Occur.

Special-Status Species	Common Name	Federal Status[a, b]	State Status [a] & Other Codes [b,c]	Source [d]	Habitat Present? / Species Observed?
Amphibians					
Rana draytonii	California red-legged frog	T, CH	SSC	1, 2	Yes/ No
Reptiles					
Emys marmorata	Western pond turtle	--	SSC	2	Yes / No
Birds					
Nesting Birds (MBTA or CA protected)		--	--	3	Yes / No
Plants					
Balsamorhiza macrolepis	Big-scale balsamroot	-	--/ 1B.2	2	Yes / No
Erythranthe marmorata	Stanislaus monkeyflower	--	--/ 1B.2	2	Yes / No
Horkelia parryi	Parry's horkelia	--	--/ 1B.2	2	Yes/No
Sphenopholis obtusata	Prairie wedge grass	--	--/ 2B.2	2	Yes/No

[a] **Listing Status : E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare.

[b] **Other Codes: SSC** = CDFW Species of Special Concern; **FP** = CDFW Fully Protected; **CH =** Critical habitat designated.

[c] **CNPS Rare Plant Rank**: 1A = Presumed Extinct in CA; 1B = Rare or Endangered in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = More information is needed about this plant species (review list); 4 = Limited distribution (watch list).

CNPS Decimal Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in California (20-80% occurrences threatened); .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known).

[d] **Sources 1** = From USFWS list. **2** = From CNDDB/CNPS Records. **3 =** Observed or included by Sycamore Environmental.

B. Special Status Species Not in the Project Study Area

Special-status species for which suitable habitat is not present, or for which range limits preclude the possibility of their occurrence in the BSA, are evaluated in Appendix D and are not discussed further.

C. Evaluation of Special Status Wildlife

1. California red-legged frog (CRLF; *Rana draytonii*)

HABITAT AND BIOLOGY: CRLF was listed as a federal-threatened species on 23 May 1996 (FR 61:25813-25833). Critical habitat was designated for CRLF in April 2006 (FR 71:19244-19346) and revised in March 2010 (FR 51:12816-12959). CRLF is a CDFW species of special concern (CDFW 2021b). CRLF inhabits ponds and quiet pools of streams and marshes (CWHR 2021). Adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (>2 feet), still, or slowly moving water. Deep-water pools with dense stands of overhanging willows intermixed with cattails support the highest densities of CRLF. Well-vegetated terrestrial areas within a riparian corridor may provide important sheltering habitat during the winter (USFWS 1996). Frogs spend considerable time resting and feeding in riparian vegetation when it is present (USFWS 2002).

CRLF require water to breed. Breeding sites may hold water only seasonally, but sufficient water must persist into the summer for tadpoles to reach a size for metamorphosis. CRLF typically breed from mid-December through early April, earlier than other ranids within its range (Barry and Fellers 2013). Timing of breeding is likely influenced by local precipitation and ambient temperature. CRLF typically breed after significant rainfall and after the cold periods of winter have passed (Cook 1997).

Female CRLF deposit egg masses on emergent vegetation so that the masses float on the surface of the water. Embryos hatch in 1-4 weeks depending on water temperature. The tadpoles metamorphose within 3-5 months, usually from July through September (Cook 1997), although there are records of them overwintering (Fellers et al. 2001). Breeding habitat for CRLF varies from deep, still, or slow moving water and dense riparian or emergent vegetation to shallow sections of streams that are not covered with riparian vegetation. While frogs successfully breed in streams, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Barry and Fellers (2013) hypothesized that, given the absence of natural ponds in the Sierra Nevada foothills, it is likely that permanent or near-permanent, quiet pools and backwaters of streams comprise the principal natural breeding and non-breeding CRLF habitat through much of the Sierra Nevada population. Artificial impoundments, such as stock ponds, that have a vegetative cover and few nonnative predators may also be used by CRLF for breeding (USFWS 2002).

During the summer, adult frogs frequently move from breeding areas to quiet, shaded pools along streams where they use undercut banks, dense thickets, or root masses for shelter.

Some frogs spend most of the year in non-breeding habitats. Other adult frogs remain in breeding pools all year (Barry and Fellers 2013).

Aestivation habitat is essential for the survival of CRLF within a watershed when water is not available year-round in breeding habitats. During dry periods, CRLF are rarely encountered far from water (USFWS 1996). Although CRLF can breed in temporary or permanent streams or ponds, populations probably cannot be maintained in temporary water bodies unless the surrounding area contains suitable aestivation habitat as well as migration corridors linking the breeding habitat to the aestivation habitat. CRLF have been observed using migration corridors that consist of undisturbed habitats, such as grasslands and riparian areas, as well as relatively disturbed habitats, such as closely grazed fields, plowed agricultural land, areas with maturing crops, and pastureland. Aestivation habitat must provide sufficient moisture for survival during the nonbreeding season, sufficient cover to moderate temperature extremes, and protection from predators. Logs, downed large branches, exposed tree roots, rodent burrows, and low-lying vegetation are among the habitat elements that provide foraging, aestivation and cover for CRLF (Dodd 2013). Ephemeral channels, which flow only in response to storm events and contain surface water for a few hours or days continuously, are not breeding or aestivation habitat.

Most CRLF do not disperse farther than the nearest suitable non-breeding habitat, but of the CRLF that do move further, the distance traveled is highly site-dependent and influenced by the local landscape (Fellers and Kleeman 2007). In rare instances, CRLF have been documented to travel up to a mile from their breeding areas (Fellers and Kleeman 2007).

Nonnative aquatic vertebrate and invertebrate predators have been a significant factor in the decline of CRLF. Bullfrogs (*Lithobates catesbeiana*), crayfish (*Procambarus* sp.), and various fish species, especially bass, catfish (*Ictalurus* spp.), sunfish (*Lepomis* spp.), and mosquito fish (*Gambusia affinis*), are predators on one or more life stages of CRLF (USFWS 2002). An experimental study showed that bullfrog tadpoles reduced the survival of red-legged frog tadpoles to less than 5% and suggested that competition was the reason. The study also showed that mosquito fish injured and reduced the growth of tadpoles, but did not affect their survival rate (Cook 1997). The combined effects of both nonnative frogs and nonnative fish often lead to extirpation of CRLF (USFWS 2002). In the Sierra Nevada, chemical pollutants, such as pesticides, may be a major factor in the decline of CRLF (Cook 1997).

Habitat alteration, such as damming of intermittent streams that creates a permanent, warm-water habitat, favors the establishment of bullfrogs and fish to the detriment of CRLF (Cook 1997). Most remaining CRLF populations occur in non-perennial habitats without bullfrogs (Hayes and Jennings 1988). Some of the largest remaining populations of CRLF, however, appear to co-occur with the bullfrog. The areas include several marshes and ponds in coastal habitats. The ability of these two species to co-occur at these locations is likely due to the local climatic conditions, the non-perennial nature of the water bodies, and the rate of

predation by one species on the other. The lack of permanent water eliminates the presence of fish and reduces the reproductive success of the bullfrog, which generally requires permanent, warm-water habitat for tadpoles to metamorphose. In several permanent coastal ponds where CRLF and bullfrog co-occur, the year-round cool temperatures may be a key factor in reducing bullfrog reproductive success (Cook 1997).

RANGE: CRLF are endemic to California and Baja California, Mexico. Its elevation range extends from near sea level to approximately 5,200 feet. Nearly all sightings have occurred below 3,500 feet (USFWS 2002). CRLF historically occurred through Pacific slope drainages from the vicinity of Redding (Shasta County) inland and to Point Reyes (Marin County) southward to the Santo Domingo River drainage in Baja California, Mexico (Jennings and Hayes 1994). CRLF is now known only from isolated localities in the Sierra Nevada, northern Coast, and northern Transverse Ranges (USFWS 2002).

Critical Habitat: Critical habitat was designated for CRLF in April 2006 (USFWS 2006) and revised in March 2010 (USFWS 2010). The closest critical habitat for CRLF located in Calaveras County, is three miles northeast of Valley Springs, approximately 6.3 miles southwest of the BSA (USFWS 2010). The critical habitat designation identifies the physical and/or biological features essential to the conservation of CRLF that may require special management consideration or protection. The features are known as the primary constituent elements, and are as follows:

> 1) aquatic breeding habitat consisting of standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years;
>
> 2) aquatic non-breeding habitat that includes freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance and aquatic dispersal of juvenile and adult CRLF;
>
> 3) upland habitat adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of one mile in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the CRLF. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, riparian habitat; and

4) dispersal habitat that includes accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within one mile of each other, and that support movement between such sites (USFWS 2010).

Recovery Plan: The USFWS prepared a Recovery Plan for CRLF to protect existing populations within 8 recovery units throughout California. The BSA is located in CRLF Recovery Unit 1, which is defined as Sierra Nevada Foothills. Within recovery units are core areas representing 35 focused areas that will allow for long-term viability and reestablishment of CRLF populations. The BSA is located north of the South Fork Calaveras River core area (USFWS 2002).

KNOWN RECORDS: There is one CNDDB record of CRLF in the 9-quad area surrounding the BSA. The CNDDB record (Occurrence #671) is located approximately 6.7 miles southwest of the BSA. The record, from 2003, is located in Youngs Creek 0.9 miles upstream from the confluence with Spring Valley Creek. Habitat is described as a spring-fed stream surrounded by riparian and grazed oak savanna. Stream substrate consists of course sediment, gravel, sand and silt, with a gradient of less than 1%. Three adults were observed during a USFWS field survey. This record represents the only CNDDB record of CRLF in Calaveras County. USFWS estimated that the Youngs Creek CRLF population includes at least 10 adults and was reproductive (Barry and Fellers 2013).

SURVEY RESULTS: A CRLF site assessment and a focused day and two night surveys for CRLF were conducted in the BSA. The surveys followed the USFWS *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Guidance) (USFWS 2005). No CRLF were observed during the surveys. The site assessment and field survey data sheets are in Appendix G and H.

The USFWS Guidance provides information to assess the likelihood of CRLF presence in the vicinity of a project site. The Guidance recommends that the following questions be answered when assessing habitat for CRLF in the vicinity of a project site:

1. **Is the project site within the current or historic range of CRLF?**

The BSA is located in the historic range of CRLF as shown on Figure 3 in the "Recovery Plan for the California Red-legged Frog" (USFWS 2002). The BSA is located in the current range of CRLF as mapped by CWHR (2021). CRLF appears on the USFWS list that identifies federal-listed species that could potentially occur in or could be affected by projects on the Mokelumne Hill quad and in Calaveras County. The BSA is located within CRLF Recovery Unit 1, which is defined as Sierra Nevada Foothills and Central Valley.

There are two records for CRLF in Calaveras County on the CRLF distribution map in *Amphibian and Reptile Species of Special Concern in California*. Both are in the northwest

quadrant of the County. One record is labeled as "extinct based on verified museum record" and the second is labeled as "extinct based on verified sighting" (Jennings and Hayes 1994).

The Project site does not occur within CRLF designated critical habitat. The closest critical habitat unit for CRLF is located approximately 6.3 miles southwest of the BSA, as described above (USFWS 2010).

2. Are there known records of CRLF at the site or within a one mile radius of the site?

There are no known occurrences of CRLF in the BSA.

No CNDDB records for CRLF occur within one mile of the BSA. The closest CNDDB record occurs approximately 6.7 miles southwest of the BSA. Information about the closest CNDDB record is described above.

The California Academy of Sciences, Department of Herpetology, has no collections of CRLF from Calaveras County (California Academy of Sciences 2014).

The University of California, Berkeley Museum of Vertebrate Zoology has no collections of CRLF from Calaveras County. Tuolumne County, just to the south, has collections of CRLF from two locations. Four specimens were collected in April 1950 from a site near Woods Creek, though the exact location is vague. This site is located approximately 28 miles south of the BSA. Another specimen was collected on 2.4 miles northwest of Sonora in February 1975. This site is located approximately 26 miles south of the BSA (Museum of Vertebrate Zoology 2014).

3. What are the habitats within the project site and within one mile of the project boundary?

Upland communities in the BSA are mixed oak woodland, California native grassland, ruderal, disturbed, and developed. Aquatic communities in the BSA are the wastewater treatment lagoons. Community types in the BSA are described in more detail in Section 3.1.3.

The wastewater treatment lagoons provide only marginal breeding habitat. Lagoon 1-2 contain untreated effluent. There is little emergent vegetation around the lagoon. Lagoon 1 and 2 are aerated and may not be quiet enough to attract CRLF to breed there. A third lagoon located immediately adjacent to the Lagoons Office-Lab Sprayfield area but outside the BSA was also surveyed. No frogs were seen at any lagoons. The remaining portions of the BSA do not provide suitable habitat for CRLF.

Upland areas within one mile of the BSA primarily consist of undeveloped oak woodland and chaparral, rural residences, undeveloped pine forest and oak woodland, and the community of Mokelumne Hill.

Aerial images from various dates were examined in Google Earth and the USFWS online National Wetlands Inventory (NWI) map was examined to determine aquatic habitats within one mile of the BSA. The NWI identifies 5 freshwater ponds and 7 freshwater emergent wetlands within one mile of the BSA. Ponds identified on the NWI map and aerial photos within one mile of the BSA could provide potential breeding habitat for CRLF. Most of these aquatic sites are separated from the BSA by dry, upland habitat which would be inhospitable to migrating frogs. There are no current records of CRLF in the vicinity of the BSA.

PROJECT IMPACTS: With implementation of the avoidance and minimization efforts, the Project will have no effect on CRLF.

PROPOSED AVOIDANCE AND MINIMIZATION: A qualified biologist shall conduct a preconstruction survey for CRLF within 48 hours prior to the onset of vegetation removal at the Lagoons Office-Lab Sprayfield area in the BSA. If any CRLF are found, construction activities will stop and the USFWS will be contacted immediately for further guidance.

Environmental awareness training will be conducted by a qualified biologist prior to the onset of project work for construction personnel to brief them on how to recognize CRLF, the importance of avoiding impacts to this species, and what to do if they are found. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

CUMULATIVE EFFECTS: No cumulative effects were identified. This Project will not encourage changes to existing land use.

2. Western Pond Turtle (WPT; *Emys marmorata*)

HABITAT AND BIOLOGY: WPT are a CDFW species of special concern (CDFW 2021b). WPT prefer aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. WPT are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams (CWHR 2021). They are omnivorous generalists and opportunistic predators that prey upon small insects, aquatic invertebrates, fish, frogs, snakes, and small mammals. They also eat aquatic plant material and carrion (Stebbins 2003).

Two distinct habitats may be used for oviposition. Along large slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes traveling over 330 ft to find a suitable nest site. Soil must usually be at least 4 inches deep for nesting. WPT lay 3 to 11 eggs from March to August depending on local conditions and incubate them for approximately 73 to 80 days (CWHR 2021).

RANGE: WPT occur throughout northern California west of the Sierra Nevada (Stebbins 2003) from sea level to 4,690 ft (CWHR 2021).

KNOWN RECORDS: There are nine CNDDB records of WPT in the 9-quad area surrounding the BSA. The closest extant CNDDB record for WPT (occurrence #564) is located approximately 3.8 miles northwest of the BSA. The record, from 2002, describes habitat as a year-round freshwater pond with limited surrounding marshland 0.3 miles southeast of the intersection of French Bar Road and Highway 49. Approximately 30 individuals were observed.

SURVEY RESULTS: WPT were not observed in the BSA during the general biological fieldwork. There is marginal aquatic habitat present in Lagoons 1 and 2 at the Lagoons Office-Lab Sprayfield area in the BSA. The Mixed Oak Woodland adjacent to Lagoons 1 and 2 provide upland habitat for WPT. The remaining portions of the BSA do not provide suitable habitat for WPT.

PROJECT IMPACTS: With implementation of the avoidance and minimization measures, the Project will not impact western pond turtle.

PROPOSED AVOIDANCE AND MINIMIZATION: A qualified biologist shall conduct a preconstruction survey for WPT within 48 hours prior to the onset of vegetation removal or ground disturbance at the Lagoons Office-Lab Sprayfield area in the BSA.

> If WPT are found, construction activities with potential to harm the individual(s) will stop and a qualified biologist will be notified. Construction will resume when the biologist has either relocated the WPT out of the construction zone to nearby suitable habitat, or, after thorough inspection, determined that the WPT has moved away from the construction zone.

Environmental awareness training will be conducted by a qualified biologist prior to the onset of project work for construction personnel to brief them on how to recognize WPT. Construction personnel will be informed that if a WPT is encountered in the work area, construction should stop and a qualified biologist be notified. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

CUMULATIVE EFFECTS: No cumulative effects were identified. This Project will not encourage changes to existing land use.

3. Nesting Birds Listed Under the MBTA or Regulated by CA Fish and Game Code

CA Fish and Game Code §3503 protects most birds and their nests. CA Fish and Game Code §3503.5 further protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) also protects most birds and their nests, including most non-migratory birds in California. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

SURVEY RESULTS: The BSA provides potential nesting sites for birds listed under the MBTA and regulated by CA Fish and Game Code. Depending on the species, birds may nest on trees, shrubs, in or on the ground, and on artificial structures such as buildings, bridges, culverts, headwalls, poles, and signs.

PROJECT IMPACTS: With implementation of the avoidance and minimization measures, the Project will not impact active nests of protected birds.

PROPOSED AVOIDANCE AND MINIMIZATION:

Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds-of-prey is anticipated from 15 February to 1 September. The following avoidance and minimization measures will be implemented:

Swallows and Other Bridge Nesters

In California, bridge-nesting swallows typically arrive in mid-February, increase in numbers until late March, and remain until October. Nesting begins in April, peaks in June, and continues into August. Black phoebes, another bridge-nesting species, nest from March to August with peak activity in May. Measures should be taken to prevent establishment of nests on the culverts, headwalls or other structures that will be impacted prior to construction. Effective techniques to prevent nest establishment include using exclusion devices and removing and disposing of partially constructed and unoccupied nests of migratory or nongame birds on a regular basis to prevent their occupation. This can be done by:

- On a weekly or more frequent basis, remove all partially completed nests using either hand tools or high-pressure water; and/or
- Hang netting from the bridge before nesting begins. If this technique is used, netting should be in place from late February until project construction begins.

Birds of Prey and Birds Protected by the Migratory Bird Treaty Act

- If construction begins outside the 15 February to 1 September breeding season, there will be no need to conduct a preconstruction survey for active nests.
- If applicable, trees scheduled for removal should be removed during the non-breeding season from 2 September to 14 February.
- If construction is scheduled to begin between 15 February and 1 September, a biologist shall conduct a survey for active bird of prey nests within 500 ft and active MTBA bird nests within 100 ft of the Project area from publicly accessible areas within one week prior to construction. The measures listed below shall be implemented based on the survey results.

No Active Nests Found:

- If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary.

Active Nests Found:

- If an active nest of a bird of prey, MBTA bird, or other CDFW protected bird is discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:
    1. Stop all work within a 100-ft radius of the discovery
    2. Notify the Engineer
    3. Do not resume work within the specified radius of the discovery until authorized.
- The biologist shall establish a minimum 500-ft Environmentally Sensitive Area (ESA) around the nest if the nest is of a bird of prey, and a minimum 100-ft ESA around the nest if the nest is of an MBTA bird other than a bird of prey.

Bird Species Protection Areas

Identification	Location
Bird of Prey	500 ft no-disturbance buffer
MBTA protected bird (not bird of prey)	100 ft no-disturbance buffer

- Activity in the ESA will be restricted as follows:
    1. Do not enter the ESA unless authorized
    2. If the ESA is breached, immediately:

a. Secure the area and stop all operations within 60 ft of the ESA boundary

b. Notify the Engineer

3. If the ESA is damaged, the District determines what efforts are necessary to remedy the damage and who performs the remedy.

- No construction activity will be allowed in the ESA until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller ESA will protect the active nest.
- The size of an ESA may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. Reduction of ESA size depends on the species of bird, the location of the nest relative to the project, project activities during the time the nest is active, and other project-specific factors.
- Between 15 February and 1 September, if additional trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

CUMULATIVE EFFECTS: No cumulative effects were identified. This Project will not encourage changes to existing land use.

D. Special-Status Plant Species

Big-scale balsamroot, Stanislaus monkeyflower, Parry's horkelia, and prairie wedge grass are four special status plants that have the potential to occur in the BSA. These species are not state or federal listed plants. These species are designated by the California Native Plant Society as list 1B.1, 1B.2, and 2B.2 plants. These species are not subject to the provisions of the FESA, CESA, or the California Native Plant Protection Act. Transplantation/ propagation of these species does not require any permit action from USFWS or CDFW. The MHSD as the CEQA lead agency must evaluate potential impacts to these species and must mitigate all significant impacts to these species to a level of less than significant.

1. Big-scale balsamroot (*Balsamorhiza macrolepis)*

HABITAT AND BIOLOGY: Big-scale balsamroot is a CNPS rare plant rank 1B.2 plant species (CNPS 2021). Big-scale balsamroot is a perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils, from 295 to 5,105 feet. It blooms March through July (Jepson eFlora 2021, CNPS 2021).

RANGE: Big-scale balsamroot is known from the Bay Area, Sacramento Valley, and Sierra Nevada foothills (CNPS 2021).

KNOWN RECORDS: There is one CNDDB record of big-scale balsamroot in the 9 quads centered on the BSA (Occurrence #43). The record, from 1895, is approximately 8 miles northwest of the BSA. The location is described as Stony Creek at an elevation of 1,000 ft. No habitat information is provided.

SURVEY RESULTS: The California Annual Grassland and Mixed Oak Woodland communities located within the BSA provide potential habitat for big-scale balsamroot. The 9 September 2021 general biological survey was conducted outside of the evident and identifiable period for this species.

PROJECT IMPACTS: Installation of the new and replacement six- and eight-inch drain pipe, construction staging, and construction access have potential to impact this species if present in the California Annual Grassland and Mixed Oak Woodland communities located in the BSA.

PROPOSED AVOIDANCE AND MINIMIZATION: Implementation of the measure below will reduce potential impacts to this species.

- Prior to the start of project construction, a focused botanical survey will be conducted for big-scale balsamroot, Stanislaus monkeyflower, Parry's horkelia, and prairie wedge grass during the evident and identifiable blooming period in suitable habitat in the BSA.
- If big-scale balsamroot, Stanislaus monkeyflower, Parry's horkelia, or prairie wedge grass are not observed, no further action is needed.
- If big-scale balsamroot, Stanislaus monkeyflower, Parry's horkelia, or prairie wedge grass is identified, they will be included in an ESA. The ESA non-disturbance buffer will be determined by a qualified botanist. The plant(s) will be clearly delineated using high visibility orange fencing. The ESA fencing will remain in place throughout the duration of the proposed action, while construction activities are ongoing, and will be regularly inspected and fully maintained at all times.
- The ESA fencing will be installed to exclude construction activities from avoided habitat. The fencing will be stalled prior to initial clearing of vegetation. Vehicles will not be allowed to park in, nor will equipment be stored in the ESA. No storage of oil, gasoline, or other substances will be permitted in the ESA. No vegetation removal or ground disturbing activities will be permitted in the ESA.
- If rare plant populations cannot be protected in place, the District will prepare a transplantation/ propagation plan for the relocation of the rare plant(s). Rare plant relocation will occur in the project area. The transplantation/ propagation plan will be sent to CDFW.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

2. Stanislaus monkeyflower (*Erythranthe marmorata*)

HABITAT AND BIOLOGY: Stanislaus monkeyflower is a CNPS rare plant rank 1B.1 plant species (CNPS 2021). Stanislaus monkeyflower is an annual herb found in cismontane woodland and lower coniferous forest from 330 to 2,950 feet. It blooms from March through May (CNPS 2021).

RANGE: Stanislaus monkeyflower is known from Calaveras and Fresno counties. Presumed extirpated from Amador, Stanislaus, and Tuolumne counties (CNPS 2021).

KNOWN RECORDS: There are two CNDDB records of Stanislaus monkeyflower on the 9 quads centered on the BSA. The closest CNDDB record (Occurrence #9) for Stanislaus monkeyflower is located within the BSA. The undated record location is described as Mokelumne hill and the exact location is unknown.

SURVEY RESULTS: The Mixed Oak Woodland community within the BSA provides potential habitat for Stanislaus monkeyflower. The 9 September 2021 general biological survey was conducted outside of the evident and identifiable period for this species.

PROJECT IMPACTS: Installation of the new and replacement six- and eight-inch drain pipe, construction staging, and construction access have potential to impact this species if present in the Mixed Oak Woodland communities located in the BSA.

PROPOSED AVOIDANCE AND MINIMIZATION: Implementation of the measure above for Big-scale balsamroot will also prevent impacts to Stanislaus monkeyflower.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

CUMULATIVE EFFECTS: No cumulative effects were identified. This Project will not encourage changes to existing land use.

3. Parry's horkelia (*Horkelia parryi*)

HABITAT AND BIOLOGY: Parry's horkelia is a CNPS rare plant rank 1B.1 plant species (CNPS 2021). Parry's horkelia is a perennial herb found on Ione formations and in other soils in chaparral and cismontane woodland from 260 to 3,510 feet. It blooms April through September (Baldwin et al. 2012, CNPS 2021).

RANGE: Parry's horkelia is known from Amador, Calaveras, El Dorado, and Mariposa counties (CNPS 2021).

KNOWN RECORDS: There are eight CNDDB records of Parry's horkelia on the 9 quads centered on the BSA. The closest CNDDB record (Occurrence #42) for Parry's horkelia is located 6.9 miles southeast of the BSA. The record, from 1970, was found along Ponderosa Way at junction with Sierra Vista Fire Lookout road, the exact location is unknown.

SURVEY RESULTS: The Mixed Oak Woodland community located within the BSA provides potential habitat for Parry's horkelia. The 9 September 2021 general biological survey was conducted outside of the evident and identifiable period for this species.

PROJECT IMPACTS: Installation of the new and replacement six- and eight-inch drain pipe, construction staging, and construction access have potential to impact this species if present in the Mixed Oak Woodland communities located in the BSA.

PROPOSED AVOIDANCE AND MINIMIZATION: Implementation of the measure above for Big-scale balsamroot will also prevent impacts to Parry's horkelia.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

CUMULATIVE EFFECTS: No cumulative effects were identified. This Project will not encourage changes to existing land use.

4. Prairie wedge grass (*Sphenopholis obtusata*)

HABITAT AND BIOLOGY: Prairie wedge grass is a CNPS rare plant rank 2B.2 plant species (CNPS 2021). Prairie wedge grass is a perennial herb found in cismontane woodland and meadows and seeps from 985 to 6,560 feet. It blooms form April through July (CNPS 2021)

RANGE: Prairie wedge grass is known from Amador, Fresno, Inyo, Mono, Riverside, San Bernardino, San Diego, Stanislaus, and Tulare counties (CNPS 2021).

KNOWN RECORDS: There are four CNDDB records of prairie wedge grass on the 9 quads centered on the BSA. The closest CNDDB record (Occurrence #5) for prairie wedge grass is approximately 4.2 miles northwest of the BSA. The record, from 1892, was found in Jackson, the exact location is unknown.

SURVEY RESULTS: The Mixed Oak Woodland community located on within the BSA provides potential habitat for Prairie wedge grass. The 9 September 2021 general biological survey was conducted outside of the evident and identifiable period for this species.

PROJECT IMPACTS: Installation of the new and replacement six- and eight-inch drain pipe, construction staging, and construction access have potential to impact this species if present in the Mixed Oak Woodland communities located in the BSA.

PROPOSED AVOIDANCE AND MINIMIZATION: Implementation of the measure above for Big-scale balsamroot will also prevent impacts to Prairie wedge grass.

COMPENSATORY MITIGATION: No compensatory mitigation is proposed.

E. Special-Status Communities

1. Waters and Wetlands

SURVEY RESULTS: There is 0.01 acre of wetlands and waters in the BSA, consisting of a seasonal wetland (0.01 acre) and three ephemeral drainages (>0.01 acre). These aquatic features are potentially jurisdictional under the Clean Water Act, pending a jurisdictional verification by the U.S. Army Corps of Engineers. Wetlands and waters are shown on Figure 4, Sheets 1 to 5.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States (Corps 2012). The wastewater storage reservoir at MHSD is not under the jurisdiction of the U.S. Army Corps of Engineers (Corps).

DISCUSSION: The seasonal wetland and ephemeral drainages are potential Clean Water Act § 404 jurisdictional features. These features would likely be considered Waters of the State

under the Porter-Cologne Water Quality Control Act and would likely be subject to CDFW Lake and Streambed Agreements (FGC § 1600). Placement of fill in these features may require a permit from the U.S. Army Corps of Engineers and a Water Quality Certification from the Regional Water Quality Control Board. Alteration of the flow, bed, bank, or riparian vegetation associated with the channel features would require a CDFW Lake and Streambed Alteration Agreement.

PROJECT IMPACTS: Construction of the new line is intended to avoid impacts to potential waters of the U.S. and State including the seasonal wetland and ephemeral drainages. If final design is unable to avoid impacts to potential waters of the U.S. and State, the project will need to comply with State's no-net-loss of wetlands policy which requires a minimum mitigation ratio of 1:1 for impacts to wetlands and waters of the State.

PROPOSED AVOIDANCE AND MINIMIZATION:

- Once project design is finalized, the MHSD will obtain the appropriate Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers, Section 401 Water Quality Certification from the State Water Resources Control Board, and a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) if necessary.

COMPENSATORY MITIGATION: The MHSD will mitigate at a minimum 1:1 ratio for impacts to wetlands and waters of the State in accordance with the State of California's no-net-loss of wetlands policy and minimum mitigation ratio for impacts to wetlands and waters of the State. The MHSD will comply with any compensatory mitigation requirement of a Clean Water Act Section 404 permit, Section 401 Water Quality Certification or CDFW Streambed Alteration Agreement.

F. Essential Fish Habitat

Under the Magnuson-Stevens Fishery Conservation and Management Act, the Pacific Fishery Management Council (PFMC) manages salmon fisheries through the designation of EFH and monitoring of threats to that habitat from both fishing and non-fishing activities. Salmon EFH includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California. Salmon EFH excludes areas upstream of longstanding naturally impassible barriers (i.e. natural waterfalls in existence for several hundred years), but includes aquatic areas above all artificial barriers except specifically named impassible dams. Essential habitat types identified by NMFS for salmon include juvenile rearing areas, juvenile migration corridors, areas for growth and development into adulthood, adult migration corridors, and spawning areas (65 FR 7773). There are no aquatic features in the BSA that provide habitat for Pacific salmon. The BSA is located in the Upper Mokelumne River hydrologic unit. The upper extent of EFH in this hydrologic unit is Youngs Creek, located over 4 miles downslope and southwest of the BSA (NMFS 2021a). The BSA is not located in EFH.

VI. FEDERAL ENDANGERED SPECIES ACT SUMMARY

A. Conclusion

California red-legged frog

The BSA is within the current range of California red-legged frog (CRLF). The BSA provides marginally suitable breeding habitat for CRLF in the treatment lagoons. Although CRLF does not require emergent vegetation for breeding, the limited vegetation and absence of woody debris in both the treatment lagoons and the surrounding upland habitat makes it unlikely for CRLF to breed within the BSA. No riparian vegetation occurs adjacent to the treatment lagoons. The California Annual Grassland and Mixed Oak Woodland communities could provide upland dispersal and foraging habitat for CRLF.

Aestivation habitat does not occur in the BSA. The California Annual Grassland does not provide sufficient moisture or cover for aestivation. Most CRLF disperse to the nearest suitable upland habitat. The Mixed Oak Woodland community outside of and adjacent to the BSA would provide cover but does not provide wet areas for aestivation during the dry season. CRLF would be more likely to seek suitable areas for aestivation in the dense woodland towards the North Fork Mokelumne River located a minimum of approximately 0. 5 mile north of the BSA.

CRLF would most likely be present in the BSA during rain events and at night. Once constructed, the Project would not prevent CRLF from using areas within the BSA for upland dispersal. The California Annual Grassland would provide ample area for CRLF to disperse from the treatment lagoons to other areas. With implementation of the recommended avoidance and minimization measures, the project will have no effect on CRLF.

B. Determination

U.S. EPA has delegated authority to the California State Water Quality Control Board to initiate formal and informal consultation with USFWS and NOAA under FESA for the Clean Water State Revolving Fund (CWSRF) Grant program. For projects that have no effect on federal-listed species or critical habitat, no consultation is required. Table 3 summarizes potential Project effects on federal-listed species. The Project will have no effect on any designated critical habitat. With implementation of recommended measures, the Project will not affect CRLF.

Table 3. Summary of FESA Consultation Requirements

Scientific Name	Common Name	Federal Status [1]	No Effect	May affect, is not likely to adversely affect	May affect, is likely to adversely affect
Invertebrates					
Branchinecta lynchi	Vernal pool fairy shrimp	T, CH	X		
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	T, CH	X		

Scientific Name	Common Name	Federal Status [1]	No Effect	May affect, is not likely to adversely affect	May affect, is likely to adversely affect
Fish					
Hypomesus transpacificus	Delta smelt	T, CH	X		
Oncorhynchus mykiss	Steelhead, California Central Valley DPS	T, CH	X		
Amphibians					
Ambystoma californiense	California tiger salamander, central population	T, CH	X		
Rana draytonii	California red-legged frog	T, CH	X		
Plants					
Arctostaphylos myrtifolia	Ione manzanita	T	X		

[1] E = Federal Endangered; T = Federal Threatened; C = Federal Candidate, CH = Critical Habitat; P = Proposed

VII. LITERATURE CITED

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, eds. 2012. The Jepson manual: Vascular plants of California, 2nd ed. University of California Press, Berkeley, CA.

Barry, S.J. and G.M. Fellers. 15 September 2013. History and status of the California red-legged frog (*Rana Draytonii*) in the Sierra Nevada, California, USA. Herpetological Conservation and Biology 8(2):456-502.

Busby, P. J., T. C. Wainwright, and G. J. Bryant. 1996. Status review of West Coast steelhead from Washington, Oregon and California. NOAA Technical Memorandum NMFS-NWFSC-27. National Marine Fisheries Service, Seattle, WA.

California Academy of Sciences. Accessed October 2021. Data query for *Rana aurora*. Department of Herpetology, California Academy of Sciences, San Francisco, CA. http://research.calacademy.org/redirect?url=http://researcharchive.calacademy.org/research/herpetology/catalog/index.asp

California Department of Fish and Wildlife (CDFW). 18 August 2021 (2021a). California Natural Community List. Biogeographic Data Branch, CNDDB, Sacramento, CA. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline

California Department of Fish and Wildlife (CDFW). October 2021 (2021b). State and federally listed endangered and threatened animals of California. Habitat Conservation Division, CNDDB, Sacramento, CA.

California Invasive Plant Council (Cal-IPC). Accessed October 2021. Invasive plant inventory. California Invasive Plant Council, Berkeley, CA. www.cal-ipc.org

California Native Plant Society (CNPS). Accessed November 2021. Inventory of rare and endangered plants (online edition, v8-01a). California Native Plant Society, Sacramento, CA. http://www.rareplants.cnps.org/

California Wildlife Habitat Relationships (CWHR) Program. Accessed October 2021. California Wildlife Habitat Relationships System, Life history accounts and range maps. Updated from Zeiner, D.C. et al 1988-1990. CWHR Program, California Department of Fish and Game, Sacramento, CA. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range

Cook, D. 1997. Biology of the California red-legged frog: A synopsis. Transactions of the Western Section of The Wildlife Society 33:79-82.

Dodd, C.K. 2013. Frogs of the United States and Canada. Volume 2. John Hopkins University Press, Baltimore, Maryland.

Fellers, G. M. and P. M. Kleeman. 2007. California red-legged frog (*Rana draytonii*) movement and habitat use: implications for conservation. Journal of Herpetology 41(2):276–286.

Hayes, M. P. and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylii*): implications for management. USDA Forest Service Rocky Mountain Forest and Range Experiment Station. General technical report. Holland, R. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Sacramento, CA.

Holland, R. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Sacramento, CA.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Inland Fisheries Division California Department of Fish and Game, Rancho Cordova, CA.

Jepson eFlora. Accessed October 2021. Jepson eFlora. Online version of Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, eds. 2012. The Jepson manual: Vascular plants of California, 2nd ed. University of California Press, Berkeley, CA. http://ucjeps.berkeley.edu/eflora/

Moyle, P. B. 2002. Inland fishes of California. University of California Press, Berkeley, CA.

Museum of Vertebrate Zoology. Accessed October 2021. Museum of vertebrate zoology data access; data query for *Rana draytonii*. University of California, Berkeley, CA. http://arctos.database.museum/SpecimenSearch.cfm?collection_id=30

National Marine Fisheries Service (NMFS). Accessed October 2021 (2021a). Essential Fish Habitat Mapper. https://www.habitat.noaa.gov/apps/efhmapper/

National Marine Fisheries Service (NMFS). Accessed October 2021 (2021b). KMZ of NMFS resources in California. California Species List Tools, NMFS West Coast Region, NOAA Fisheries Service. https://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html

Natural Resources Conservation Service (NRCS). Accessed 28 October 2021 (2021). Official soil series descriptions. Soil Survey Staff, United States Department of Agriculture. http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/survey/class/data/?cid=nrcs142p2_053587

Reese, D. A., and Welsh, H. H. 1997. Use of Terrestrial Habitat by Western Pond Turtles, Clemmys marmorata: Implication for Management. Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles. An International Conference, pp. 352-357. New York Turtle and Tortoise Society.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California vegetation, 2nd ed. California Native Plant Society, Sacramento, CA.

Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Houghton Mifflin Company, Boston, MA.

U.S. Army Corps of Engineers (Corps). 1 July 2012. Title 33 - Navigation and navigable waters. CFR 328.3 – Definitions of Waters of the United States. Corps of Engineers, Department of the Army, Department of Defense.

U.S. Fish and Wildlife Service (USFWS). 23 May 1996. Endangered and threatened wildlife and plants; determination of threatened status for the California red-legged frog. Final Rule; Federal Register 61(101):25813-25833, 50 CFR Part 17.

U.S. Fish and Wildlife Service (USFWS). 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, OR.

U.S. Fish and Wildlife Service (USFWS). 15 December 2005 (2005). Recovery plan for vernal pool ecosystems of California and Southern Oregon. http://ecos.fws.gov/docs/recovery_plan/060614.pdf

U.S. Fish and Wildlife Service (USFWS). 13 April 2006. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Red-Legged Frog, and Special Rule Exemption Associated With Final Listing for Existing Routine Ranching Activities. Final rule. Federal Register 71(71): 19244-19346, 50 CFR Part 17.

U.S. Fish and Wildlife Service (USFWS). 17 March 2010. Endangered and threatened wildlife and plants: revised designation of critical habitat for California red-legged frog. Final rule; Federal

Register 75(51): 12816-12959; 50 CFR Part 17. U.S. Fish and Wildlife Service, Sacramento, CA.

U.S. Fish and Wildlife Service (USFWS). May 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service, Sacramento, CA. 28pp.

VIII. PREPARERS

Jeffery Little, Director., Director with over 28 years of experience working with environmental review, permitting, biological, and cultural issues. Mr. Little evaluates environmental and regulatory constraints to generate effective approaches for project permits and approvals. He prepares and manages CEQA/ NEPA documents and technical studies. He develops project design recommendations to achieve regulatory compliance with local, state, and federal environmental laws and regulations.
Responsibilities: Director of the Sacramento Office, QA/QC

Monica E. Coll, B.A., Environmental Science and Conservation Biology, Clark University, Worcester, MA. Two years of experience as a biologist. Her background is in conservation biology, and she has accumulated a range of knowledge including project management skills and wildlife survey experience. Ms. Coll serves as both field biologist and technical report writer. She conducts construction monitoring and wildlife surveys, writes biological resource evaluations, and assists with plant surveys and wetland delineations.
Responsibilities: Fieldwork, report preparation

Alex V. Jamal, B.S., Wildlife Conservation and Management, Humboldt State University, Arcata, CA. Two years of experience as a biologist. He serves as both field biologist and technical report writer. He conducts plant and wildlife surveys, performs preconstruction and construction monitoring, and prepares environmental documents such as, biological resource reports and preconstruction reports. His background is in wildlife biology and biological surveys and has accumulated a range of knowledge and skills in wildlife surveys.
Responsibilities: Fieldwork, report preparation

Aramis Respall, GIS Analyst/ CAD Operator. Over 25 years of experience in drafting and spatial analysis using AutoCAD map and ArcGIS for public and private projects. He prepares figures for biological and permitting documents such as project location maps, aerial photograph exhibits, biological resource maps, wetlands/waters delineation maps, project impact maps, and other supporting graphics. Mr. Respall provides geospatial analysis and support for projects involving geodesy, hydrology, watershed studies, project impact and mitigation analyses, listed species, and designated critical habitat. Primary experience evolved from conventional surveying and civil engineering practices to advanced GPS and GIS based technology.
Responsibilities: Figure preparation and spatial analysis

APPENDIX A.

USFWS List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Calaveras County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Ione Manzanita Arctostaphylos myrtifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1806	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

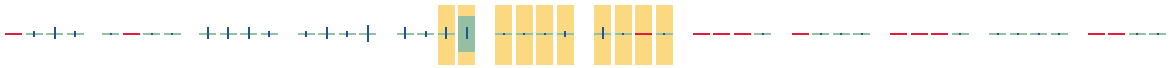
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

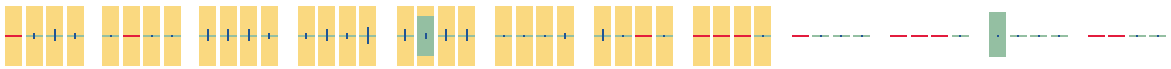
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

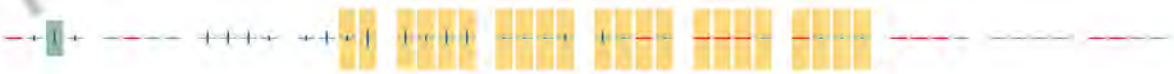


Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

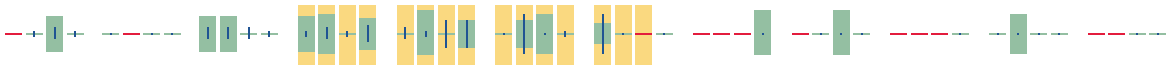


Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

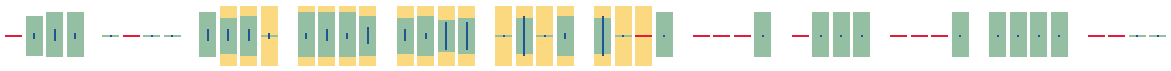
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

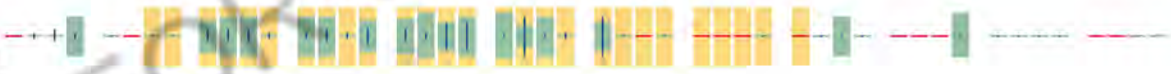


Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

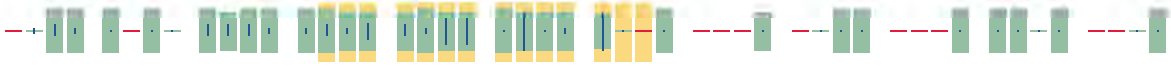


Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

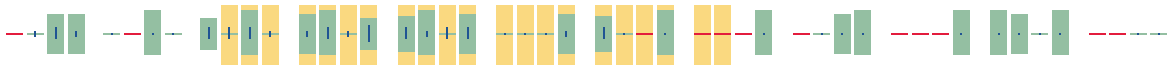
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

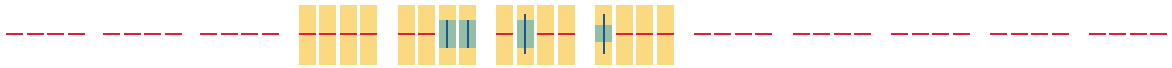


Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Calaveras County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Ione Manzanita Arctostaphylos myrtifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1806	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

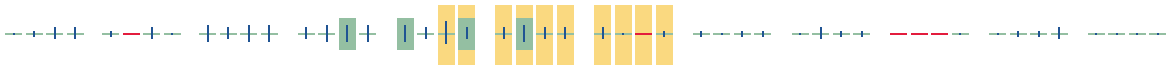
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

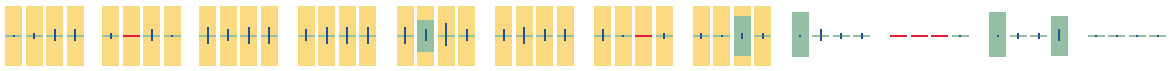
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

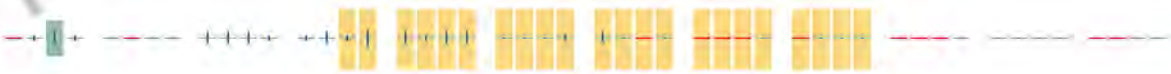


Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

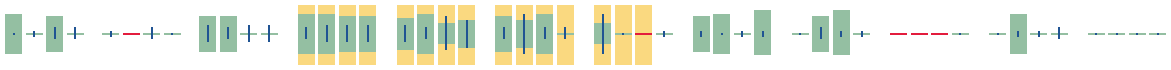


Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

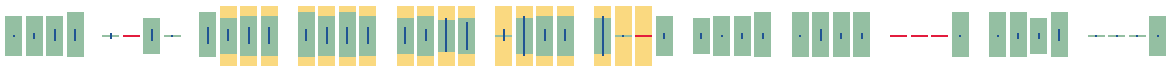
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



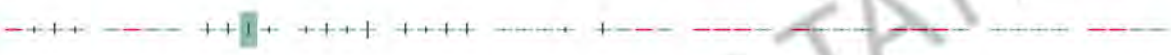
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



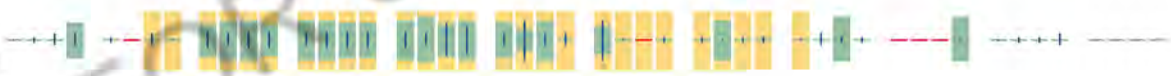
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



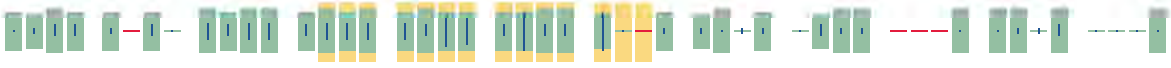
Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

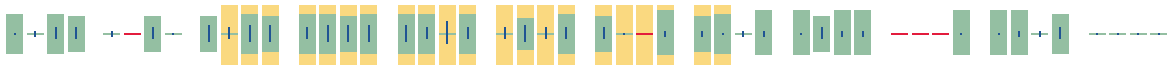


Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

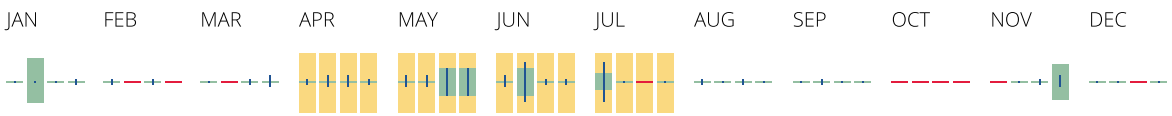


Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)





Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1C

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Calaveras County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Ione Manzanita Arctostaphylos myrtifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1806	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

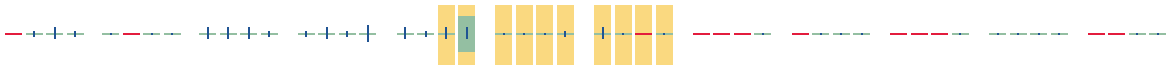
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

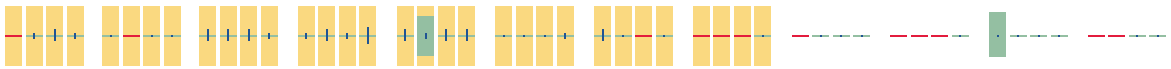
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

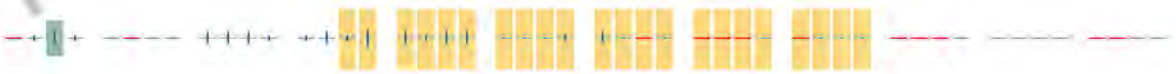


Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

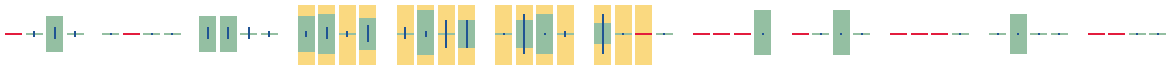


Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

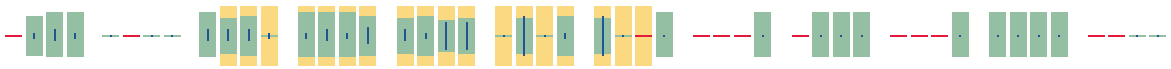
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



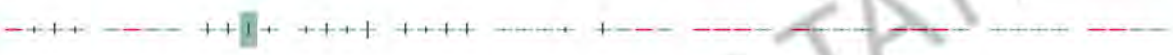
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



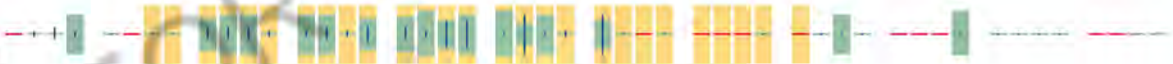
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



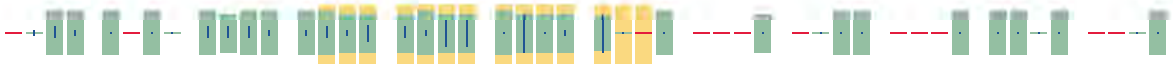
Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

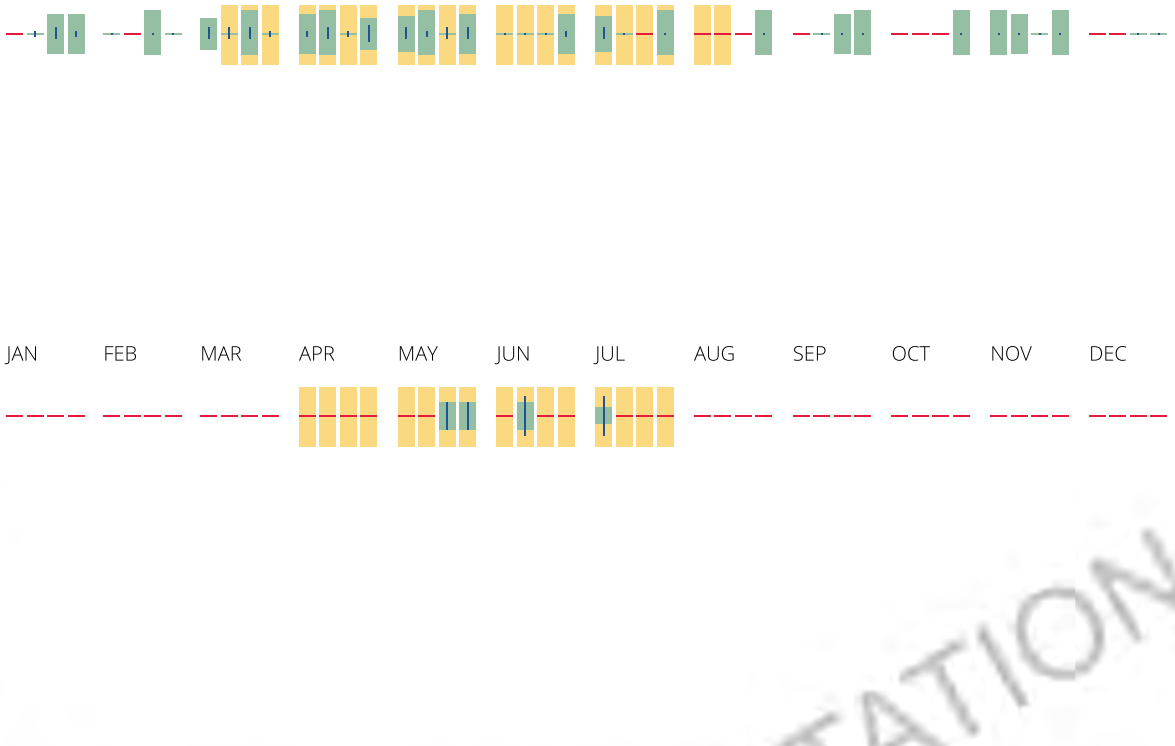


Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Calaveras County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Ione Manzanita Arctostaphylos myrtifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1806	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

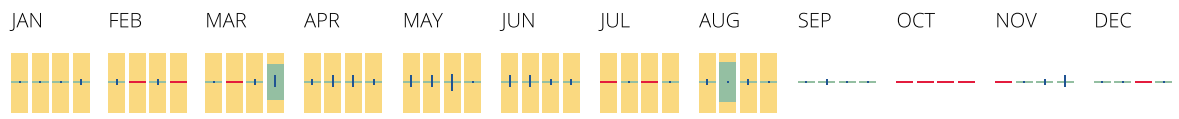
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data



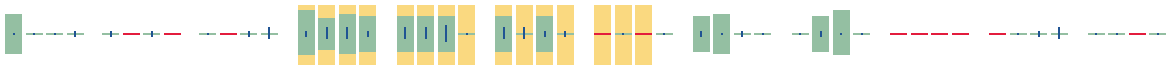
Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

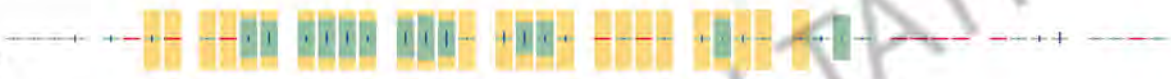
Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

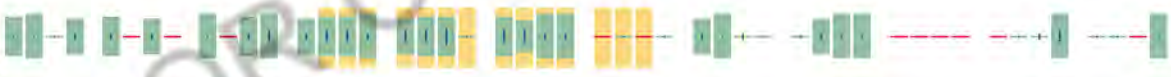


Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

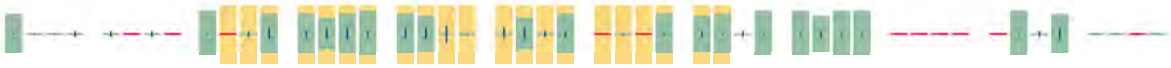
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



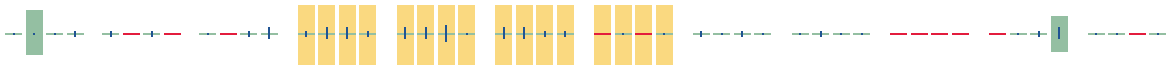
Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND
PABHx

RIVERINE
R4SBA

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX B.

NMFS List

Quad Name **Mokelumne Hill**
Quad Number **38120-C6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

APPENDIX C.

CNDDB and CNPS Query Results

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Mokelumne Hill (3812036) OR Rail Road Flat (3812035) OR West Point (3812045) OR Pine Grove (3812046) OR Amador City (3812047) OR Jackson (3812037) OR Valley Springs (3812027) OR San Andreas (3812026) OR Calaveritas (3812025))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	645 704	955 S:3	0	0	0	0	0	3	1	2	3	0	0
Ambystoma californiense California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	480 1,115	1335 S:4	1	1	1	0	0	1	1	3	4	0	0
Ammonitella yatesii tight coin (=Yates' snail)	G1 S1	None None	IUCN_VU-Vulnerable	1,640 1,640	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Arctostaphylos myrtifolia Ione manzanita	G1 S1	Threatened None	Rare Plant Rank - 1B.2 SB_UCBG-UC Botanical Garden at Berkeley	900 1,840	11 S:4	0	1	0	0	0	3	2	2	4	0	0
Balsamorhiza macrolepis big-scale balsamroot	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,000 1,000	51 S:1	0	0	0	0	0	1	1	0	1	0	0
Banksula grubbsi Grubbs' cave harvestman	G1 S1	None None		2,100 2,100	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Banksula rudolphi Rudolph's cave harvestman	G1 S1	None None		800 800	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Banksula tutankhamen King Tut Cave harvestman	G1 S1	None None		1,650 1,650	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus caliginosus obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	2,700 2,700	181 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		1,553 1,553	437 S:1	0	0	0	0	0	1	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	750 750	791 S:1	1	0	0	0	0	0	0	1	1	0	0
Brasenia schreberi watershield	G5 S3	None None	Rare Plant Rank - 2B.3	2,590 2,590	43 S:1	0	0	0	0	0	1	0	1	1	0	0
Chlorogalum grandiflorum Red Hills soaproot	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	2,000 3,475	137 S:7	0	3	3	0	0	1	2	5	7	0	0
Chrysis tularensis Tulare cuckoo wasp	G1G2 S1S2	None None		1,075 1,075	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	820 2,460	635 S:2	0	0	0	0	0	2	2	0	2	0	0
Crocanthemum suffrutescens Bisbee Peak rush-rose	G2?Q S2?	None None	Rare Plant Rank - 3.2	1,600 1,840	31 S:2	0	0	0	0	0	2	2	0	2	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		1,305 1,305	271 S:1	0	1	0	0	0	0	0	1	1	0	0
Diplacus pulchellus yellow-lip pansy monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,490 2,600	78 S:2	0	0	0	0	0	2	1	1	2	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	960 2,410	1398 S:9	0	6	1	0	1	1	3	6	8	0	1
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	1,541 2,587	523 S:4	0	0	0	0	0	4	0	4	4	0	0
Eryngium pinnatisectum Tuolumne button-celery	G2 S2	None None	Rare Plant Rank - 1B.2	1,050 2,550	30 S:2	0	0	0	0	0	2	2	0	2	0	0
Erythranthe marmorata Stanislaus monkeyflower	G2? S2?	None None	Rare Plant Rank - 1B.1	1,200 1,200	10 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	650 650	329 S:1	0	0	0	0	0	1	1	0	1	0	0
Horkelia parryi Parry's horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,940 2,500	44 S:8	0	0	0	0	0	8	7	1	8	0	0
Hydroporus leechi Leech's skyline diving beetle	G1? S1?	None None		1,475 1,475	13 S:1	0	0	0	0	0	1	1	0	1	0	0
Ione Chaparral Ione Chaparral	G1 S1.1	None None		900 1,840	12 S:3	0	0	0	0	0	3	3	0	3	0	0
Lasionycteris noctivagans silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		139 S:1	0	0	0	0	0	1	1	0	1	0	0
Lathyrus sulphureus var. argillaceus dubious pea	G5T1T2Q S1S2	None None	Rare Plant Rank - 3	2,000 2,000	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Navarretia paradoxiclara Patterson's navarretia	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	685 750	11 S:3	0	0	0	0	0	3	0	3	3	0	0
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:1	0	0	0	0	0	1	0	1	1	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	886 2,323	2468 S:11	0	0	1	0	7	3	9	2	4	0	7
Rana draytonii California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	800 800	1645 S:1	0	0	1	0	0	0	0	1	1	0	0
Sphenopholis obtusata prairie wedge grass	G5 S2	None None	Rare Plant Rank - 2B.2	1,200 2,360	19 S:4	0	1	0	0	0	3	4	0	4	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Stygobromus gradyi	G1	None	IUCN_VU-Vulnerable	2,066	5	0	0	0	0	0	3	2	1	3	0	0
Grady's Cave amphipod	S1	None		2,432	S:3											
Stygobromus grahami	G2	None		1,982	6	0	0	0	0	0	4	4	0	4	0	0
Graham's Cave amphipod	S2	None		2,134	S:4											

APPENDIX D.

Species Evaluated Table

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Invertebrates						
Branchinecta lynchi	Vernal pool fairy shrimp	T, CH	--	Inhabits a wide variety of vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Most commonly found in small (< 0.05 ac), clear to tea-colored vernal pools with mud, grass, or basalt bottoms in unplowed grasslands (USFWS 2005).	Absent	There are no vernal pools in the BSA. Critical habitat for this species does not occur in the BSA (USFWS 2019).
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	T, CH	--	Requires an elderberry shrub (*Sambucus* spp.) as a host plant (USFWS May 2017).	Absent	There are no elderberry shrubs in the BSA.
Fish						
Oncorhynchus mykiss	Steelhead, California Central Valley distinct population segment (DPS)	T, CH	--	Anadromous salmonid historically distributed throughout the Sacramento and San Joaquin river drainages. With the possible exception of a small population in the lower Stanislaus River, steelhead appear to have been extirpated from the San Joaquin basin (Moyle 2002). Spawning occurs in small tributaries on coarse gravel beds in riffle areas (Busby et al. 1996). Federal listing includes all runs in the Sacramento and San Joaquin Rivers and their tributaries (CDFW 2021b).	Absent	There are no suitable streams in the BSA. The BSA is outside the current range. Critical habitat for this species does not occur in the BSA (USFWS 2019).
Hypomesus transpacificus	Delta smelt	T, CH	E	Euryhaline (tolerant of a wide salinity range) species that is confined to the San Francisco Estuary, principally in the Delta and Suisun Bay. Currently found only from the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo cos. Can be washed into San Pablo Bay during high-outflow periods, but do not establish permanent populations there (Moyle 2002).	Absent	The BSA is outside the geographic range of this species. Critical habitat for this species does not occur in the BSA (USFWS 2018).
Amphibians						

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Ambystoma californiense	California tiger salamander, central population	T, CH	T	Frequents grassland, oak savannah, and edges of mixed woodland and lower elevation coniferous forest. Spends much time underground in mammal burrows. Usually breeds in temporary ponds such as vernal pools but may also breed in slower parts of streams and some permanent waters (Stebbins 2003). Larvae of this species are rarely found in ponds with predatory fish (CWHR 2021). Requires long-lasting vernal pools to complete larval development requiring ± 10 weeks (Jennings and Hayes 1994).	Absent	The BSA is outside the geographic range of this species. Critical habitat for this species does not occur in the BSA (USFWS 2014).
Rana boylii	Foothill yellow-legged frog	--	CT/ SSC	Found in or near rocky streams in a variety of habitats, including valley-foothills hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. Egg clusters are attached to gravel or rocks in moving water near stream margins. This species is rarely encountered (even on rainy nights) far from permanent water. Its elevation range extends from near sea level to 6,370 ft in the Sierra (CWHR 2021).	Absent	There is no habitat for this species in the BSA. There are no rocky streams or any moving water within the BSA.
Rana draytonii	California red-legged frog	T, CH	SSC	Inhabits quiet pools of streams, marshes, and occasionally ponds with dense, shrubby, or emergent vegetation. Requires permanent or nearly permanent pools for larval development (CWHR 2021; USFWS 17 March 2010). Known from near sea level to approximately 5,200 ft, though nearly all sightings have occurred below 3,500 ft. Probably extirpated from the floor of the Central Valley before 1960 (USFWS 2002).	Present	Marginal habitat present. See text.
Reptiles						
Emys marmorata	Western pond turtle	--	SSC	Requires exposed basking sites such as logs, rocks, floating vegetation, or mud banks. Associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams, from sea level to 4,690 ft (CWHR 2021). Nesting sites for *C. marmorata* can be as far as 400 m from water (Reese et al 1997).	Present	See text.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Birds						
Agelaius tricolor	Tricolored blackbird	--	CE/ SSC	Common throughout Central Valley and in coastal districts from Sonoma Co. south. Forages on ground in cropland, grassy fields, flooded land, and on pond edges. Nests near freshwater, preferably in emergent marsh densely vegetated with cattails or tules, but also in thickets of willow, blackberry, wild rose or tall herbs. Feeds in grassland and cropland habitats. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs. Highly gregarious in all seasons (CWHR 2021). Nesting colonies are of concern to CDFW (2018).	Absent	There is no suitable habitat in the BSA.
Haliaeetus leucocephalus	Bald eagle		E, FP	Occurs along coasts, rivers, and large, deep lakes and reservoirs in CA. Nests mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity cos. About half the wintering population is in Klamath Basin. More common at lower elevations; not found in the high Sierra Nevada. Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork, especially Ponderosa pine (CWHR 2021). Nesting and wintering sites are of concern to (CDFW 2018).	Absent	The BSA does not provide habitat for this species. There is no deep, permanent water in the BSA.
Mammals						
Corynorhinus townsendii	Townsend's big-eared bat	--	SSC	Found throughout CA in all but subalpine and alpine habitats, and may be found at any season throughout its range. Most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. Hibernation sites are cold but not below freezing. Maternity roosts are warm, found in caves, tunnels, mines and buildings (CWHR 2021).	Absent	The BSA does not provide habitat for this species.
Plants			**/CNPS [b]**			
Arctostaphylos myrtifolia	Ione manzanita	T	--/ 1B.2	Perennial evergreen shrub found on clay, sandy, acidic and Ione soils in chaparral and cismontane woodland from 196 to 1,903 ft. Known from Amador and Calaveras cos. Blooms November through March (CNPS 2021).	Absent	There are no clay or Ione soils in the BSA.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Balsamorhiza macrolepis	Big-scale balsamroot	--	--/ 1B.2	Perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils, from 295 to 5,102 ft. Occurs on open grassy or rocky slopes. Known from the Bay Area, Sacramento Valley, and Sierra foothills. Blooms March through July (Jepson eFlora 2021; CNPS 2021).	Present	See text.
Brasenia schreberi	Watershield	--	--/ 2B.3	Aquatic perennial rhizomatous herb found in freshwater marshes and swamps from 100 to 7,200 ft. Known from the Klamath Range, north Coast Range, high Cascade and Sierra Nevada, Sacramento Valley, and Modoc Plateau. Baldwin et al. (2012) describe the habitat as ponds and slow streams. Blooms June through September (CNPS 2021).	Absent	There is no habitat for this species in BSA.
Chlorogalum grandiflorum	Red Hills soaproot	--	--/ 1B.2	Perennial bulbiferous herb found in serpentine, gabbroic, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 804 to 4,068 ft. Known from Amador, Butte, Calaveras, El Dorado, Placer, and Tuolumne cos. Blooms May through June (CNPS 2021).	Absent	There are no serpentine or gabbroic soils in the BSA.
Diplacus pulchellus	Yellow-lip pansy monkeyflower	--	--/ 1B.2	Annual herb found in vernally mesic, often disturbed areas within lower montane coniferous forest or meadows and seeps from 1,970 to 6,560 ft. Known from Calaveras, Mariposa, and Tuolumne cos. Blooms April through July (CNPS 2021).	Absent	The BSA is outside the elevation range. There are no montane coniferous forests or meadows and seeps.
Eryngium jepsonii	Jepson's coyote thistle	--	--/ 1B.2	Perennial herb found on clay soils in Valley and foothill grasslands and vernal pools from 9 to 985 ft. Known from Alameda, Amador, Calaveras, Contra Costa, Fresno, Napa, San Mateo, Solano, Stanislaus, Tuolumne and Yolo cos. Blooms April through August (CNPS 2021).	Absent	There is no habitat for this species in the BSA. The BSA is outside the elevation range.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Eryngium pinnatisectum	Tuolumne button-celery	--	--/ 1B.2	Annual/perennial herb found on mesic substrates in cismontane woodland, lower montane coniferous forest, and vernal pools from 230 to 3,000 ft. Known from Amador, Calaveras, Sacramento, Sonoma, and Tuolumne cos. Blooms May through August (CNPS 2021).	Absent	The only mesic habitat present in the BSA is the fringe of the sewage treatment pongs. This fringe does not provide habitat for this species. There are no swales, venal pools or intermittent streams in the BSA.
Erythranthe marmorata	Stanislaus monkeyflower	--	--/ 1B.1	Annual herb found in cismontane woodland and lower coniferous forest from 330 to 2,950 ft. Known from Calaveras and Fresno cos. Presumed extirpated from Amador, Stanislaus, and Tuolumne cos. Blooms from March through May (CNPS 2021).	Present	See text.
Horkelia parryi	Parry's horkelia	--	--/ 1B.2	Perennial herb found on Ione formations and other soils in chaparral and cismontane woodland from 260 to 3,510 ft in elevation. Blooms April through September. Known from Amador, Calaveras, El Dorado, Mariposa and Tuolumne cos. (CNPS 2021).	Present	See text.
Navarretia paradoxiclara	Patterson's navarretia	--	--/ 1B.3	Annual herb found on serpentinite, openings, vernally mesic, often drainages in meadows and seeps from 492 to 1,411 ft. Known from Calaveras and Tuolumne cos. Blooms May through July (CNPS 2021).	Absent	The only mesic habitat present in the BSA is the fringe of the sewage treatment pongs. This fringe does not provide habitat for this species. There are no seasonally wet areas, meadows, or serpentine soils in the BSA.
Sphenopholis obtusata	Prairie wedge grass	--	--/ 2B.2	Perennial herb found in mesic cismontane woodland, meadows and seeps from 980 to 6,560 ft. Known from Amador, Fresno, Inyo, Mono, Riverside, San Bernardino, Stanislaus, and Tulare cos. Distribution uncertain in San Diego co. Blooms April through July (CNPS 2021).	Present	See text.

Scientific Name	Common Name	Federal Status [a]	State Status [a]	General Habitat Description	Habitat Present/ Absent [c]	Rationale
Natural Communities						
Ione chaparral		--	--	A chaparral community of low shrubs and scattered herbs dominated by Ione manzanita (*Arctostaphylos myrtifolia*). Shrub cover in mature stands usually exceeds 50%. Edaphically restricted to acidic, nutrient-poor, and coarse soils. This community occurs across the Central Valley directly east of the Golden Gate. This creates milder summer high temperatures and higher relative humidities than elsewhere in the Sierran foothills. Additional characteristic species include: *Adenostoma fasciculatum, Ceanothus tomentosus, Eridoicyton californicum, Erigonum apricum, Pinus* spp., and *Quercus* spp. Occurs in western Amador and northern Calaveras counties (Holland 1986).	Absent	*A. myrtifolia* does not occur in the BSA. This community does not occur in the BSA.

[a] **Status**: Endangered (E); Threatened (T); Proposed (P); Candidate (C), Delisted (D), Fully Protected (FP); Rare (R); State Species of Special Concern (SSC); Proposed Critical Habitat (PCH); Critical Habitat (CH) – Critical habitat has been designated for this species.

[b] **CNPS Rare Plant Rank**: 1A = Presumed Extinct in CA; 1B = Rare or Endangered in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = More information is needed about this plant species (review list); 4 = Limited distribution (watch list).

CNPS Decimal Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in California (20-80% occurrences threatened); .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known).

[c] Absent [A] = No habitat present and no further work needed. Habitat Present [HP] = Habitat is, or may be present. The species may be present. Present [P] = The species is present. Critical Habitat [CH] = The project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

11 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3812047, 3812046, 3812045, 3812037, 3812036, 3812035, 3812027 3812026 and 3812025;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Arctostaphylos myrtifolia	Ione manzanita	Ericaceae	perennial evergreen shrub	Nov-Mar	1B.2	S1	G1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	1B.2	S3	G3
Diplacus pulchellus	yellow-lip pansy monkeyflower	Phrymaceae	annual herb	Apr-Jul	1B.2	S2	G2
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual / perennial herb	May-Aug	1B.2	S2	G2
Erythranthe marmorata	Stanislaus monkeyflower	Phrymaceae	annual herb	Mar-May	1B.1	SX	GXQ
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.2	S2	G2
Navarretia paradoxiclara	Patterson's navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	1B.3	S2	G2
Sphenopholis obtusata	prairie wedge grass	Poaceae	perennial herb	Apr-Jul	2B.2	S2	G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 13 May 2021].

Search the Inventory
Simple Search

Information
About the Inventory

Contributors
The Calflora Database

Advanced Search
Glossary

About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments

rareplants@cnps.org

APPENDIX E.

Plant and Wildlife Species Observed

Plant Species Observed .

Family	Scientific Name	Common Name	N/I[1]	CAL-IPC[2]
GYMNOSPERM				
Pinaceae	*Pinus sabiniana*	Gray, or foothill pine	N	
FERNS				
Pteridaceae	*Pentagramma triangularis*	Goldback fern	N	
EUDICOTS				
Anacardiaceae	*Toxicodendron diversilobum*	Western poison oak	N	
Asteraceae	*Anaphalis margaritacea*	Pearly everlasting	N	
	Artemisia douglasiana	Mugwort	N	
	Erigeron bonariensis	Flax-leaved horseweed	I	
	Deinandra sp.	Tarweed, tarplant	N	
	Grindelia sp..	Gumplant	--	
	Helianthus sp.	Sunflower	--	
	Lactuca serriola	Prickly lettuce	I	
	Madia elegans	Common madia	N	
	Silybum marianum	Milk thistle	I	Limited
	Xanthium strumarium	Cocklebur	N	
Brassicaceae	*Hirschfeldia incana*	Summer mustard	I	Moderate
Caprifoliaceae	*Lonicera* sp.	Honeysuckle	--	
Euphorbiaceae	*Croton setigerus*	Turkey-mullein	N	
	Euphorbia sp.	Spurge	--	
Fabaceae	*Trifolium hirtum*	Rose clover	I	Moderate
Fagaceae	*Quercus* sp.	Oak	--	
	Quercus douglasii	Blue oak	N	
	Quercus wislizeni var. wislizeni	Interior live oak	N	
Juglandaceae	*Juglans regia*	Persian or English walnut	I	
Lamiaceae	*Marrubium vulgare*	Horehound	I	Limited
Moraceae	*Ficus carica*	Edible fig	I	Moderate
Plantaginaceae	*Plantago lanceolata*	English plantain	I	Limited
Polygonaceae	*Persicaria* sp.	Smartweed	--	
	Polygonum aviculare ssp. *depressum*	Knotweed, knotgrass	I	
	Rumex sp.	Dock	--	
	Rumex pulcher	Fiddle dock	I	
Rosaceae	*Heteromeles arbutifolia*	Toyon	N	
	Rubus armeniacus	Himalayan blackberry	I	High
Salicaceae	*Salix laevigata*	Red willow	N	
Scrophulariaceae	*Scrophularia* sp.	Figwort	--	
	Verbascum blattaria	Moth mullein	I	
Simaroubaceae	*Ailanthus altissima*	Tree of heaven	I	Moderate
MONOCOTS				
Araceae	*Lemna* sp..	Duckweed	N	
Cyperaceae	*Cyperus eragrostis*	Nutsedge	N	
Poaceae	*Avena* sp.	Oat	I	
	Bromus diandrus	Ripgut grass	I	Moderate

Family	Scientific Name	Common Name	N/I[1]	CAL-IPC[2]
	Cynosurus echinatus	Bristly dogtail grass	I	Moderate
	Festuca perennis	Rye grass	I	Moderate
	Hordeum murinum ssp. *leporinum*	Hare barley	I	Moderate
	Melica sp.	Oniongrass, melic	N	

[1] N = Native to CA; I = Introduced.
[2] Negative ecological impact according to the California Invasive Plant Council (Cal-IPC 2006).

Wildlife Species Observed

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Acorn woodpecker	*Melanerpes formicivorus*
American goldfinch	*Carduelis tristis*
Anna's hummingbird	*Calypte anna*
Black phoebe	*Sayornis nigricans*
Bushtit	*Psaltriparus minimus*
California towhee	*Melozone crissalis*
Canada goose	*Branta canadensis*
Killdeer	*Charadrius vociferus*
Mallard	*Anas platyrhynchos*
Mourning dove	*Zenaida macroura*
Phainopepla	*Phainopepla nitens*
Red-tailed hawk	*Buteo jamaicensis*
Spotted towhee	*Pipilo maculatus*
Turkey vulture	*Cathartes aura*
Western bluebird	*Sialia mexicana*
Western scrub-jay	*Aphelocoma californica*
White-breasted nuthatch	*Sitta carolinensis*
Wild turkey	*Meleagris gallopavo*
MAMMALS	
Domestic cat	Felis catus
Western gray squirrel	*Sciurus griseus*
REPTILES	
Red-eared slider	*Trachemys scripta elegans*

APPENDIX F.

Photographs
29 September 2021

Photo 1. View looking north towards the Mixed Oak Woodland community at the eastern portion of the BSA. An approximately 6-foot-wide path occurs from E Center Street to the northern portion of the Green Gravity Main BSA.

Photo 2. View looking southwest at the Mixed Oak Woodland community. The path (Photo 1) does not persist beyond the northernmost portion of the Green Gravity Main BSA.

Photo 3. View looking north at the Developed/Disturbed area located at the center of the BSA, north of Center Street.

Photo 4. View looking north towards the existing wastewater treatment lagoons.

Photo 5. View looking south within the Lagoons Office/Lab Sprayfields BSA. California Annual Grassland occurs west of the access road.

Photo 6. View looking northwest within the Easy Bird BSA. California Annual Grassland occurs to the east (right).

Photo 7. View looking east towards an ephemeral channel on Milano Rd.

Photo 8. View looking south towards the Maretta Lane BSA. A small area of California Annual Grassland occurs in the background.

Photo 9. View looking southeast at ephemeral drain within the Garden Lane BSA. Water flows through the seasonal wetland via the ephemeral drainage.

APPENDIX G.

CRLF Site Assessment Data Sheets

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 9/29/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	(first name)	(Last name)	(first name)
Jamal	Alex		
(Last name)	(first name)	(Last name)	(first name)

Site Location: Calaveras, Mokelumne Hill, SD ponds
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project
Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 80 x 60 Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by			
	(FWS Field Office)	**(date)**	**(biologist)**

Date of Site Assessment: 10/12/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	**(first name)**	**(Last name)**	**(first name)**
Jamal	**Alex**		
(Last name)	**(first name)**	**(Last name)**	**(first name)**

Site Location: Calaveras, Mokelumne Hill, SD Pond 1, 38.18.09.13 N, 120.43.00.72 W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 30 x 30 meters Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: **10/19/2021**

Site Assessment Biologists:

Coll	**Monica**		
(Last name)	**(first name)**	**(Last name)**	**(first name)**
Jamal	**Alex**		
(Last name)	**(first name)**	**(Last name)**	**(first name)**

Site Location: **Calaveras, Mokelumne Hill, SD Pond 1, 38.18.09.13 N, 120.43.00.72 W**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)****

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 30 x 30 meters Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 9/29/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	(first name)	(Last name)	(first name)
Jamal	Alex		
(Last name)	(first name)	(Last name)	(first name)

Site Location: Calaveras, Mokelumne Hill, SD Pond 2
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project
Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 30 x 30 meters Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☐ **or Ephemeral** ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by			
	(FWS Field Office)	**(date)**	**(biologist)**

Date of Site Assessment: 10/12/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	**(first name)**	**(Last name)**	**(first name)**
Jamal	Alex		
(Last name)	**(first name)**	**(Last name)**	**(first name)**

Site Location: Calaveras, Mokelumne Hill, SD Pond 2, 38.18.09.13 N, 120.43.00.72 W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 30 x 30 meters Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by			
	(FWS Field Office)	**(date)**	**(biologist)**

Date of Site Assessment: 10/19/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	**(first name)**	**(Last name)**	**(first name)**
Jamal	Alex		
(Last name)	**(first name)**	**(Last name)**	**(first name)**

Site Location: Calaveras, Mokelumne Hill, SD Pond 2, 38.18.09.13 N, 120.43.00.72 W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 30 x 30 meters Maximum depth: 4 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 9/29/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	(first name)	(Last name)	(first name)
Jamal	Alex		
(Last name)	(first name)	(Last name)	(first name)

Site Location: Calaveras, Mokelumne Hill, SD Pond 3
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project
Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 120 x 90 meters Maximum depth: 8 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☐ **or Ephemeral** ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by			
	(FWS Field Office)	**(date)**	**(biologist)**

Date of Site Assessment: 10/12/2021

Site Assessment Biologists:

Coll	Monica		
(Last name)	**(first name)**	**(Last name)**	**(first name)**
Jamal	Alex		
(Last name)	**(first name)**	**(Last name)**	**(first name)**

Site Location: Calaveras, Mokelumne Hill, SD Pond 3, 38.18.09.13 N, 120.43.00.72 W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 120 x 90 meters Maximum depth: 8 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: **10/19/2021**

Site Assessment Biologists: **Coll** (Last name) **Monica** (first name) _____ (Last name) _____ (first name)

Jamal (Last name) **Alex** (first name) _____ (Last name) _____ (first name)

Site Location: **Calaveras, Mokelumne Hill, SD Pond 3, 38.18.09.13 N, 120.43.00.72 W**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

1) Is this site within the current or historic range of the CRF (mark one)? ☒YES ☐NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (mark one)? ☐YES ☒NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 120 x 90 meters Maximum depth: 8 ft

Vegetation: emergent, overhanging, dominant species: Duckweed (floating), no emergent or overhanging, maintained grasses @ edges.

Substrate: Earthen

Perennial ☒ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Appendix E.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (mark one)? ☐YES ☐NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial ☐ or Ephemeral ☐ *(mark one)* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

APPENDIX H.

CRLF Field Survey Data Sheets

Appendix F.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Survey: 09/29/21 **(mm/dd/yyyy)**

Survey Biologist: Coll **(Last name)** Monica **(first name)**

Survey Biologist: Jamal **(Last name)** Alex **(first name)**

Site Location: **Calaveras, Mokelumne Hill,**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

Type of Survey (circle one): **(DAY)** **NIGHT** **BREEDING** **(NON BREEDING)**

Survey number (circle one): **(1)** **2** **3** **4** **5** **6** **7** **8**

Begin Time: 9:15 am **End Time** 3:30 pm

Cloud cover: 5% **Precipitation:** 0

Air Temperature: 59°F-79°F **Water Temperature:**

Wind Speed: <3 mph **Visibility Conditions:** good

Moon phase: Waning crescent **Humidity:** low

Description of weather conditions: Sunny, warm, with little cloud cover

Brand name and model of light used to conduct surveys:

Were binoculars used for the surveys (circle one)**?** **(YES)** **NO**
Brand, model, and power of binoculars: Eagle optics

Appendix F.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix F.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Survey: 10/12/21 **(mm/dd/yyyy)**

Survey Biologist: Coll **(Last name)** Monica **(first name)**

Survey Biologist: Jamal **(Last name)** Alex **(first name)**

Site Location: **Calaveras, Mokelumne Hill, SD Ponds, 38.18.09.13 N, 120.43.00.72 W**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

Type of Survey (circle one): **DAY** **(NIGHT)** **BREEDING** **(NON BREEDING)**

Survey number (circle one): **1** **(2)** **3** **4** **5** **6** **7** **8**

Begin Time: 7:45 pm **End Time** 8:45 pm

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 57°F **Water Temperature:**

Wind Speed: <3 mph **Visibility Conditions:** good

Moon phase: Half moon **Humidity:** low

Description of weather conditions: Calm, cool

Brand name and model of light used to conduct surveys: Niteize mag-lite

Were binoculars used for the surveys (circle one)**?** **(YES)** **NO**
Brand, model, and power of binoculars: Eagle optics

Appendix F.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix F.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Survey: 10/19/21 **(mm/dd/yyyy)**

Survey Biologist: Coll **(Last name)** Monica **(first name)**

Survey Biologist: Jamal **(Last name)** Alex **(first name)**

Site Location: **Calaveras, Mokelumne Hill, SD Ponds, 38.18.09.13 N, 120.43.00.72 W**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Mokelumne Hill Sanitary District–Wastewater System Improvements Project

Brief description of proposed action:
Replace and install sewer line located throughout town, replace lining of existing treatment ponds, replacement of lab/office, and upgrade existing sanitary sewer sprayfields to SCADA systems.

Type of Survey (circle one): **DAY** **(NIGHT)** **BREEDING** **(NON BREEDING)**

Survey number (circle one): **1** **(2)** **3** **4** **5** **6** **7** **8**

Begin Time: 7:30 pm **End Time** 8:50 pm

Cloud cover: 60% **Precipitation:** 0%

Air Temperature: 57°F **Water Temperature:** N/A

Wind Speed: <5 mph **Visibility Conditions:** Clear

Moon phase: Waxing gibbous **Humidity:** Moderate

Description of weather conditions: Calm, cool, humid, cloudy

Brand name and model of light used to conduct surveys: Niteize mag-lite

Were binoculars used for the surveys (circle one)**?** **(YES)** **NO**
Brand, model, and power of binoculars: Eagle optics

Appendix F.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification

Describe potential threats to California red legged frogs observed, including non native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations