

# Biological Resources Evaluation for the Pilarcitos Avenue Outfall Repair Project at Kehoe Watercourse, Half Moon Bay, San Mateo County, California

OCTOBER 2021

PREPARED FOR

**City of Half Moon Bay**

PREPARED BY

**SWCA Environmental Consultants**



**BIOLOGICAL RESOURCES EVALUATION FOR THE  
PILARCITOS AVENUE OUTFALL REPAIR PROJECT AT  
KEHOE WATERCOURSE,  
HALF MOON BAY, SAN MATEO COUNTY, CALIFORNIA**

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## EXECUTIVE SUMMARY

The City of Half Moon Bay (City) is proposing the Pilarcitos Avenue Outfall Repair Project at Kehoe Watercourse (Project), which includes removing and replacing a portion of the existing concrete culvert outlet that is in need of repair; trimming and removing vegetation, including willows, to access and conduct culvert repair and for future maintenance access in Kehoe drainage; and removing and replacing the existing damaged chain-link fence to include an access gate at the southern terminus of Pilarcitos Avenue in the City of Half Moon Bay, San Mateo County, California.

The City retained SWCA Environmental Consultants (SWCA) to provide environmental support services, including conducting a biological resources survey and preparing a Biological Resources Evaluation (BRE), in support of the Project. The purpose of this BRE is to document the biological resources within the Project biological study area (BSA). For the purposes of this BRE, the BSA consists of the Project footprint (Project area) and an adjacent 200-foot buffer. SWCA conducted a literature review of existing sources of information regarding occurrences of special-status species and sensitive resources near the BSA. One field survey was conducted within the BSA to document biological resources, including special-status plant and wildlife species, potentially jurisdictional wetlands and other waters, Coastal Resource Areas (CRAs), and Environmentally Sensitive Habitat Areas (ESHAs) as defined by the City of Half Moon Bay Zoning Code (City Code) and Local Coastal Land Use Plan (LCLUP).

Based on the results of the literature review and field surveys, the BSA consists of asphalted roadways, residential communities, and undeveloped land with various vegetation communities, including poison hemlock (*Conium maculatum*) or fennel (*Foeniculum vulgare*) patches, coyote brush (*Baccharis pilularis*) scrub, ice plant (*Carpobrotus edulis*) mats, and arroyo willow (*Salix lasiolepis*) thickets—which would be considered jurisdictional under the California Coastal Commission (CCC) and sensitive CRAs/ESHAs.

The Project area occurs adjacent to and within a feature that is commonly known locally as the Kehoe Ditch or in some cases the Kehoe Watercourse. The LCLUP, which was recently updated and certified by the Coastal Commission on April 15, 2021, refers to it as the Kehoe Watercourse. For consistency, this naming convention will be used in this report. The Kehoe Watercourse is an intermittent drainage located on the west side of Highway 1 that receives water discharge from the surrounding residential areas and likely run-off from other drainage features on the east side of the highway that travels beneath the road. The drainage extends west beyond the northern side of the Sewer Authority Mid-Coastside (SAM) treatment plant located approximately 250 feet southwest of the Project site, where it drains into the mouth of Pilarcitos Creek at Francis State Beach. The LCLUP also combines Kehoe Watercourse with the Greenbelt Stream Corridor Overlay land use designation that incorporates additional protections in accordance with relevant policies such as riparian vegetation buffers. The portion of Kehoe Watercourse covered by this BRE is limited to the BSA and Project work area at the southern terminus of Pilarcitos Avenue. Due to the presence of definable bed, banks, and ordinary high water marks (OHWM); riparian vegetation; and connectivity to Pilarcitos Creek, which is a tributary to the Pacific Ocean, this watercourse may be considered jurisdictional under the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). Additionally, the Project occurs within the CCC boundary and would require a Coastal Development Permit (CDP).

The BSA has the potential to support four special-status plant species—Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), Oregon polemonium (*Polemonium carneum*), and perennial goldfields (*Lasthenia californica* ssp. *macrantha*)—and four special-status wildlife species—white-tailed kite (*Elanus leucurus*), California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). There is no U.S. Fish and

Wildlife Service (USFWS)-designated critical habitat within the Project area or BSA. However, federally designated critical habitat for three species occurs within 1 mile of the Project area—California red-legged frog (*Rana draytonii*) critical habitat is approximately 1 mile east of the Project area, western snowy plover (*Charadrius alexandrinus nivosus*) critical habitat is located approximately 0.25 mile west of the Project area, and steelhead (*Oncorhynchus mykiss*) critical habitat is located in Frenchman’s Creek approximately 0.70 mile north and in Pilarcitos Creek approximately 0.15 mile west–southwest of the Project area. Vegetation areas observed in the BSA also provide suitable nesting and foraging habitat for nesting birds covered under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGF).

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# 1 INTRODUCTION

## 1.1 Purpose of Biological Resources Evaluation

This Biological Resources Evaluation (BRE) has been prepared by SWCA Environmental Consultants (SWCA) at the request of the City of Half Moon Bay (City). The intent of this report is to identify sensitive biological resources and Coastal Resource Areas (CRAs), as defined by the City of Half Moon Bay Zoning Code (City Code; City of Half Moon Bay 2020b) and Environmentally Sensitive Habitat Areas (ESHAs) as defined in the *City of Half Moon Bay Local Coastal Land Use Plan* (LCLUP; City of Half Moon Bay 2020a), that may be impacted by the Pilarcitos Avenue Outfall Repair Project at Kehoe Watercourse (Project). This report includes the results from a desktop review, literature search, and field survey of the Project area, including areas within a 200-foot buffer, referred to hereafter as the biological study area (BSA).

## 1.2 Project Location and Description

The Project is located at approximately Latitude 37.473866° and Longitude -122.443347° in Half Moon Bay, San Mateo County, California (Figure 1) within the Half Moon Bay, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map. Specifically, the Project is located at the southern terminus of Pilarcitos Avenue and approximately 1,500 feet west of Highway 1 and 1,200 feet east of the Pacific Ocean in the western portion of Half Moon Bay (see Figures 1 and 2). The surrounding area is located within the Coastal Zone, and the Project is located within the California Coastal Commission (CCC) appeals jurisdiction.

The Project involves removing and replacing a portion of the 24-inch concrete storm drain that needs repair at the terminus of Pilarcitos Avenue in Kehoe Watercourse. Approximately 3 feet of the culvert outlet has detached with its southern end lying in the water flow of the watercourse. Anticipated repairs with possible design alternatives include:

- Replace fallen culvert piece with a new 4-foot concrete or polyvinyl chloride (PVC) culvert extension of the same size with a 3-foot by 3-foot cast-in-place concrete splash pad and 3-foot by 2-foot rock dissipator at the new terminus. Backfill and provide local stabilization with soft treatments on each side of the flared end section continuing up-bank.
- Conduct minor excavation around/under the remaining existing culvert end and place an approximately 1-foot-thick cast-in-place concrete headwall support extending approximately 2 feet on each side and the top of the remaining culvert end with cast-in-place concrete foundation extending about 3 feet below the remaining culvert end. Provide a 3-foot by 3-foot cast-in-place concrete splash pad with a 3- by 2-foot rock dissipator at the new culvert discharge point and install “soft treatment” stabilization approximately 5 feet on each side of the new concrete headwall extending up-bank.
- Place a headwall the same as above with the addition of approximately 3-foot cast-in-place concrete wing walls (approximately 1-foot thick) on each side of headwall followed by 3 feet soft treatment on each side of the wing wall extending up-bank. Install a 3-foot by 3-foot cast-in-place concrete splash pad and 3-foot by 2-foot rock dissipator at the culvert discharge point.
- Implement other repairs as proposed by design engineer.

Vegetation clearance and removal of fallen/broken tree limbs within the Project work area are required for construction equipment staging and for crew to safely access the site, perform culvert replacement

activities, and establish a pathway for future maintenance access. The Project work area in the drainage will be accessed on foot and culvert replacement work will be performed by hand. Work will occur within

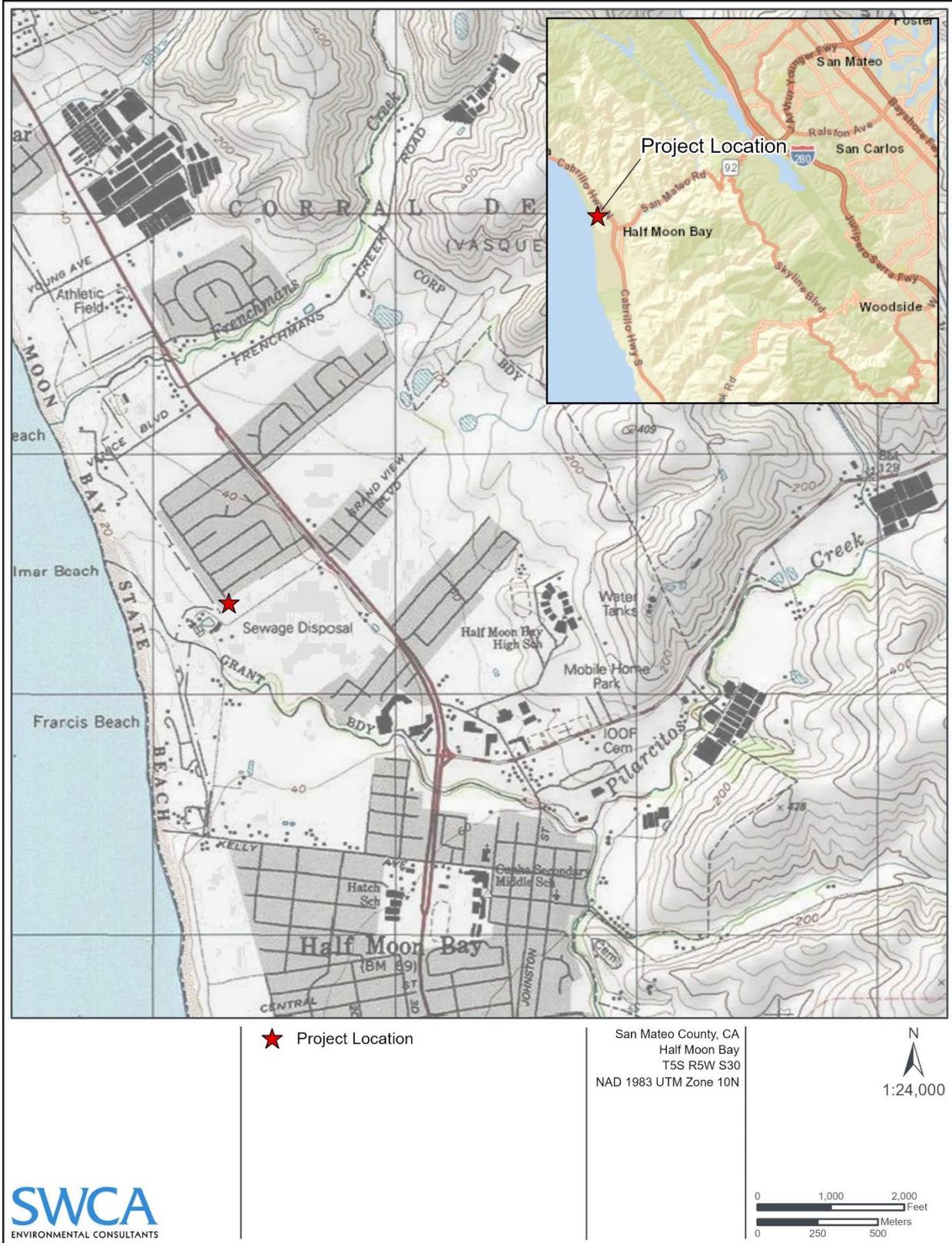


Figure 1. Project vicinity map.

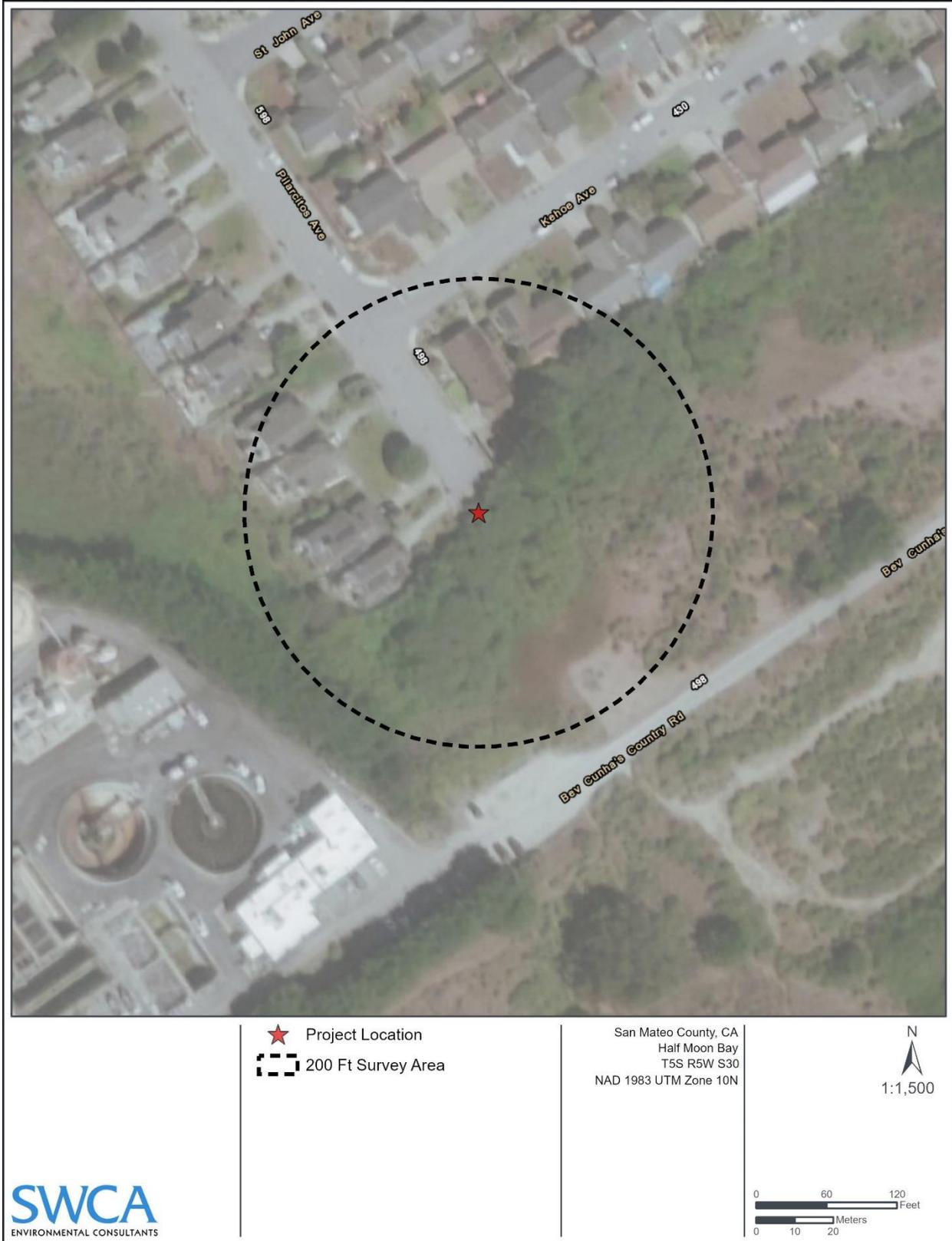


Figure 2. Project location map.

the drainage beneath the culvert. To access the culvert outlet, the contractor will cut surface vegetation, including willows (*Salix* sp.), as needed for access and maintenance only, and will minimize, to the greatest extent practicable, any disturbance to possible soil-stabilizing vegetation and roots. The area of willows to be trimmed will be determined once the construction plans are further developed by the City.

Hand thinning of vegetation is expected to include the use of chainsaws, pruners, loppers, pull saws, and other hand equipment necessary to thin and remove vegetation. Vegetation will be removed from the area for offsite disposal. The Project also includes removing an existing chain-link fence that extends along the southern extent of Pilarcitos Avenue and replacing the fence after Project completion to include a gate for future maintenance access. For the purpose of staging equipment and parking during construction, the Project will require an approximately 20- by 40-foot staging area on the existing paved surface at the southern end of Pilarcitos Avenue, located upland of Kehoe Watercourse. Mechanized equipment will access the existing storm drain pipeline from the upland paved area only. No ground disturbance will occur within the staging area. The Project will take approximately 2 months to complete and will be performed during the dry season (June 1–October 15).

## **2 REGULATORY SETTING**

### **2.1 Federal**

#### **2.1.1 *Clean Water Act***

The purpose of the Clean Water Act (CWA) (33 United States Code [USC] 1251 et seq.) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The U.S. Army Corps of Engineers (USACE) has the authority to permit the discharge of dredged or fill material in “waters of the U.S.” (WOTUS) under Section 404 of the CWA and to permit work and the placement of structures in navigable WOTUS under Sections 9 and 10 of the Rivers and Harbors Act (33 Code of Federal Regulations [CFR] 320–332).

On June 22, 2015, the USACE and the U.S. Environmental Protection Agency (USEPA) published the Clean Water Rule: Definition of “Waters of the United States;” Final Rule (40 CFR 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401). This rule was intended to clarify which waters are considered WOTUS and are therefore subject to jurisdiction. In February 2019, the USEPA and USACE issued a new draft rule, now the Navigable Waters Protection Rule (NWPR), providing a revised definition of WOTUS (USACE and USEPA 2020). This final rule was published April 21, 2020 (*Federal Register* Vol. 85, No. 77) and became effective June 22, 2020. Accordingly, all approved jurisdictional determinations (AJDs) will be processed by the USACE using the NWPR’s criteria and guidelines. The most significant change in the new rule is the exclusion of all ephemeral waters, and a new set of criteria for which wetland and non-wetland waters are considered “adjacent” to other waters of the U.S. (and therefore jurisdictional).

The new NWPR defines four categories of federally regulated waters and wetlands (and 12 categories of exclusions that are not subject to regulation under the CWA). The four categories of WOTUS and wetlands are: (1) the territorial seas and traditional navigable waters; (2) perennial and intermittent tributaries to those waters; (3) certain lakes, ponds, and impoundments; and (4) wetlands adjacent to jurisdictional waters.

The USACE delineates non-wetland waters in the Arid West Region based on the extent of the Ordinary High Water Mark (OHWM) in ephemeral and intermittent channels, following guidance published in A

*Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a).

Section 401 of the CWA requires all Section 404 permit actions to obtain a state Water Quality Certification or waiver. Section 401 Water Quality Certification is issued by the state's nine Regional Water Quality Control Boards (RWQCBs).

### **2.1.2 Endangered Species Act**

The Federal Endangered Species Act (FESA) of 1973 is administered by the U.S. Fish and Wildlife Service (USFWS) and prevents the unlawful “take” of listed fish, wildlife, and plant species. Section 9(a)(1)(B) specifically states take of species listed as threatened or endangered is unlawful. Take is defined as any action that would harass, harm, pursue, hunt, wound, shoot, kill, trap, capture, or collect any threatened or endangered species. Section 10 of the FESA allows the USFWS to issue incidental take permits if take of a listed species may occur during otherwise lawful activities. Section 10(a)(1)(B) requires a Habitat Conservation Plan for an incidental take permit on non-federal lands.

### **2.1.3 Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703–711) prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the U.S. Department of the Interior. As used in the MBTA, the term “take” is defined as meaning, “to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires.” An April 11, 2018, memorandum from the USFWS, which enforces the MBTA, provided guidance to “clarify what constitutes prohibited take” (USFWS 2018). The USFWS memo stated that the “take of birds, eggs or nests” was prohibited only when the purpose of the activity was to conduct take but was not prohibited when the purpose of the activity was not to conduct take. On January 7, 2021, the USFWS published the final rule formalizing this interpretation of the MBTA (USFWS 2021d). As a result, the MBTA is currently limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching and not to actions resulting in incidental take. However, on May 7, 2021, the USFWS proposed to revoke that rule and return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent (USFWS 2021e).

## **2.2 State**

### **2.2.1 California Endangered Species Act**

The California Endangered Species Act (CESA) of 1970 generally parallels the main provisions of the FESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called “candidates” by the state). Section 2080 of the California Fish and Game Code (CFGC) prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in CFGC Section 86 as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CESA allows for take incidental to otherwise lawful activities under CFGC Section 2081. Project proponents wishing to obtain incidental take permits are able to do so through a permitting process outlined in California Code of Regulations (CCR) Section 783.

## **2.2.2 California Fish and Game Code**

### **2.2.2.1 FULLY PROTECTED SPECIES**

The State of California first began to designate species as “Fully Protected” before the creation of the FESA and CESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians, reptiles, and birds. Most fully protected species have since been listed as threatened or endangered under the FESA and/or CESA. The Fully Protected Species Statute (CFGF Section 4700) provides that fully protected species may not be taken or possessed at any time. Furthermore, the California Department of Fish and Wildlife (CDFW) may authorize take of fully protected species only in very limited circumstances, such as for necessary scientific research.

### **2.2.2.2 PROTECTION FOR BIRDS**

According to CFGF Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (with limited exceptions). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds of prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW.

### **2.2.2.3 PROTECTION FOR PLANTS**

The Native Plant Protection Act (NPPA) of 1977 (CFGF Sections 1900–1913) includes provisions that prohibit the take of endangered or rare native plants. CDFW administers the NPPA and generally regards as rare many plant species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). In addition, sometimes CRPR 3 and 4 plants are considered if the population has local significance in the area and is impacted by the Project. CFGF Section 191(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a right-of-way to allow a public utility to fulfill its obligation to provide service to the public.

### **2.2.2.4 LAKE AND STREAMBED ALTERATION AGREEMENT**

Section 1602 of the CFGF requires that a Lake and Streambed Alteration Application be submitted to CDFW for “An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.” Evaluation of CDFW jurisdiction followed guidance in the CFGF and *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFW 2010). In general, under CFGF Section 1602, CDFW jurisdiction extends to the maximum extent or expression of a stream on the landscape (CDFW 2010).

## **2.2.3 California Species of Special Concern**

Species of Special Concern (SSC) is a category conferred by CDFW to fish and wildlife species that meet the state definition of threatened or endangered, but have not been formally listed (e.g., federally or state-listed species), or are considered at risk of qualifying for threatened or endangered status in the future based on known threats. SSC is an administrative classification only, but these species should be considered “special-status” for the purposes of the California Environmental Quality Act (CEQA)

analysis (see Section 3.1.1, *Special-Status Plant Species*, and Section 3.1.2, *Special-Status Animal Species*).

## **2.2.4 Porter-Cologne Water Quality Control Act**

The RWQCB regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity, including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Through the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the RWQCB asserts jurisdiction over “Waters of the State” (WOTS), which are generally identical in extent to WOTUS, but may also include waterbodies not currently under federal jurisdiction, such as isolated, intrastate waters. The Porter-Cologne Act defines WOTS as “surface water or ground water, including saline waters, within the boundaries of the state.”

## **2.3 Local**

### **2.3.1 California Coastal Act and City of Half Moon Bay Local Coastal Program**

The California Coastal Act (CCA) of 1976 governs the decisions made by the CCC regarding coastal issues, such as shoreline public access and recreation, terrestrial and marine habitat protection, water quality, commercial fisheries, and development within the California coastal zone. Development within the coastal zone would require either a Coastal Development Permit (CDP) or CDP Exemption from the CCC or from a local government with a CCC-certified LCLUP.

The LCLUP has been developed and certified in compliance with the CCA on April 15, 2021 (LCP Amendment Number LCP-2-HMB-20-0081-2) and includes the LCLUP (City of Half Moon Bay 2020a) and City Code (City of Half Moon Bay 2020b). In accordance with City Code Section 18.38, *Coastal Resource Conservation Standards*, SWCA conducted the biological resource survey and prepared this BRE to assess whether the Project would impact a Coastal Resources Areas (CRAs) or ESHAs. As defined by City Code Section 18.38.020<sup>1</sup>, CRAs may include the following resources: sand dunes; marine habitats; sea cliffs; riparian areas; wetlands, coastal tidelands and marshes, lakes, ponds, and adjacent shore habitats; coastal and off-shore areas containing breeding and/or nesting sites or used by migratory and resident water-associated birds for resting and feeding; areas used for scientific study and research concerning fish and wildlife, existing game, or wildlife refuges and reserves; habitats containing or supporting unique species or any rare and endangered species defined by the California Fish and Game Commission; rocky intertidal zones; and coastal scrub community associated with coastal bluffs and gullies.

The City regulates activities in wetlands and other ESHAs through its LCLUP as consistent with Coastal Act Section 30121. Unlike the federal government, the Coastal Act uses the one-parameter Cowardin et al. (1979) definition of wetlands:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land or is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three

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<sup>1</sup> The City of Half Moon Bay is currently in the process of updating Municipal Code Title 18 Zoning to ensure consistency with the updated LCLUP. This report was written prior to the updates being published. Definitions, requirements, and standards used in this report reflect the Municipal Code in its current version available at: <https://www.half-moon-bay.ca.us/384/Municipal-Code>. Where inconsistencies exist, the updated LCLUP takes precedence and is also incorporated in this report.

attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50 percent of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

However, the Project is located within the intermittent drainage known as Kehoe Watercourse that receives water discharge and stormwater run-off from the surrounding residential and developed areas and is not classified as a wetland.

The LCLUP establishes a method for identifying and designating ESHAs and provides policies to preserve and protect the resources in these areas as consistent with the Coastal Act. ESHAs are categorized into three types: terrestrial, wetlands, and watercourses.

Chapter 6, Policy 6-1 of the LCLUP defines ESHAs as follows:

**ESHA Definition.** An Environmentally Sensitive Habitat Area (ESHA) is any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments, including the following:

- a. Any habitat area that is rare or especially valuable from a local, regional, or statewide basis.
- b. Areas that contribute to the viability of plant or animal species designated as rare, threatened, or endangered under State or Federal law.
- c. Areas that contribute to the viability of species designated as Fully Protected or Species of Special Concern under State law or regulations.
- d. Areas that contribute to the viability of plant species for which there is compelling evidence of rarity, for example, those designated 1b (Rare or endangered in California and elsewhere) or 2 (rare, threatened or endangered in California but more common elsewhere) by the California Native Plant Society.

In Half Moon Bay, these areas include, but are not limited to terrestrial ESHAs (marine environment, sea cliffs, dunes, coastal terrace prairie, and non-aquatic habitat for special status or unique species), wetlands, and watercourses similar to those described in the City Code *Title 18*.

The Project would be subject to permitted uses, buffer zones, and standards for terrestrial, wetland, and watercourse ESHAs as defined in the LCLUP.

## **3 METHODOLOGY**

### **3.1 Literature and Records Review**

SWCA performed an extensive literature review, including nearby biological reports, to gain familiarity with the Project and to identify potential sensitive biological features, including CRAs, ESHAs, target flora and fauna species, and wetlands or other waters that have the potential to occur in the BSA (Figure 3). The review consisted of a record search of current versions of the USFWS online Information for Planning and Consultation (IPaC) species list system (USFWS 2021b) (Appendix A), CDFW California Natural Diversity Database (CNDDDB 2021) (Appendix B), and CNPS online Inventory of Rare and Endangered Plants (CNPS 2021) within the Half Moon Bay, California USGS topographic quadrangle (USGS 2021b). The CNDDDB search was further refined to a 2-mile search surrounding the

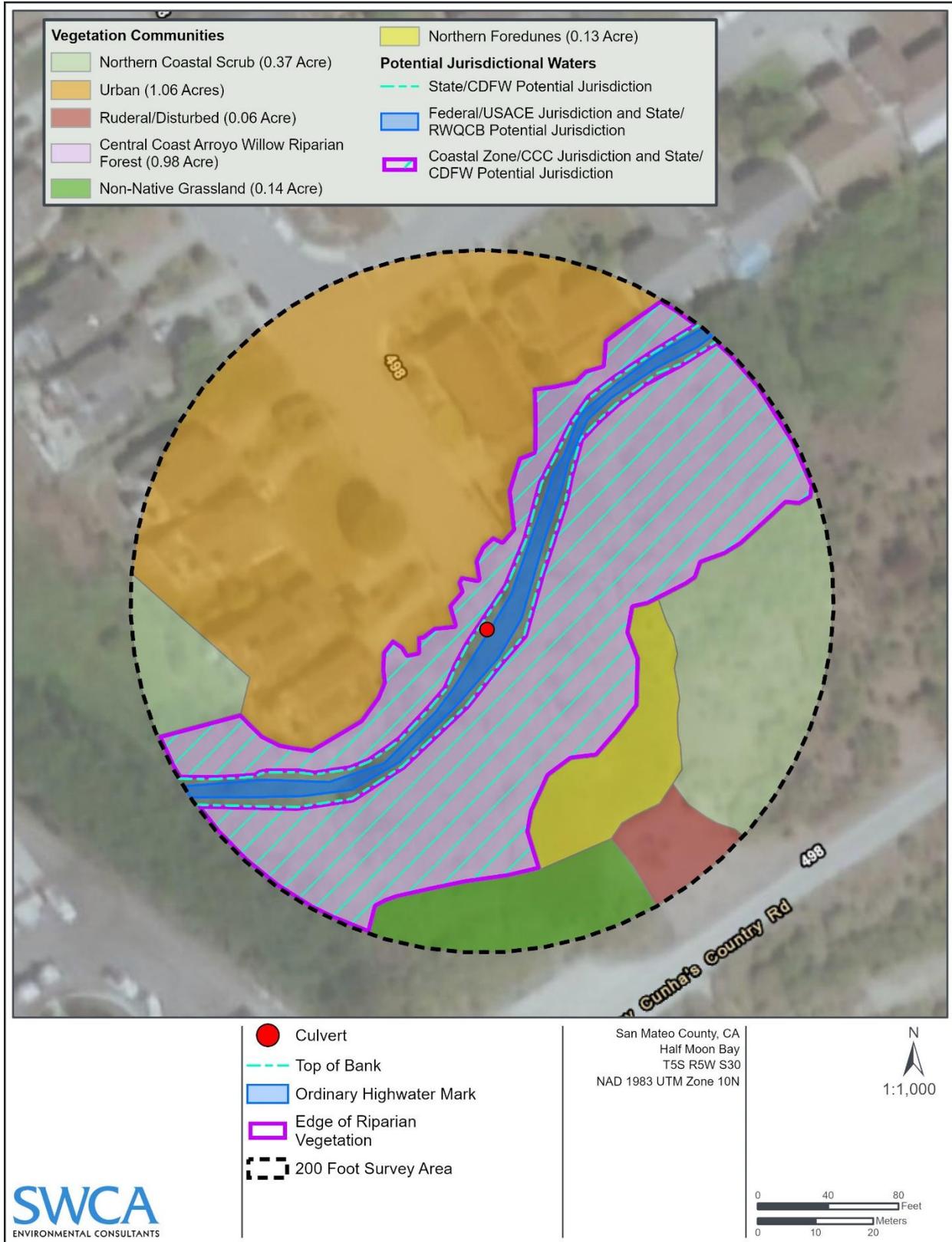


Figure 3. Biological resources map.

Project area (see Appendix B). The USFWS Critical Habitat Mapper (USFWS 2021a) was queried to identify critical habitat for terrestrial and aquatic species near the BSA (Appendix C). All of the special-status species and sensitive habitats found in the literature review also included those shown in Figure 6-3, Special Status Species of ESHAs from the LCLUP (City of Half Moon Bay 2020a). Plant and animal species were then compiled into a table for use during the field survey and facilitate potential to occur status, as described in Section 3.2, *Field Survey*, below (Appendix D).

The National Wetlands Inventory (NWI) Database (USFWS 2021c) and USGS National Hydrography Dataset (NHD) (USGS 2021a) (Appendix E), U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey for San Mateo County (NRCS 2021) (Appendix F), and aerial imagery were also reviewed to provide additional information for soils and potential wetland features known to occur in the BSA.

### **3.1.1 Special-Status Plant Species**

For the purposes of this report, special-status plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 for listed plants and various notices in the *Federal Register* for proposed species)
- Plants that are candidates for possible future listing as threatened or endangered under the FESA
- Plants considered by the CNPS to be “rare, threatened, or endangered” in California (CRPR 1A, 1B, 2A, and 2B in CNPS 2021b)
- Plants listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 CCR Section 670.5)
- Plants listed under the California NPPA (CFGF Section 1900 et seq.)
- Plants considered sensitive by other federal agencies (e.g., U.S. Forest Service, U.S. Bureau of Land Management), state and local agencies, or jurisdictions

### **3.1.2 Special-Status Animal Species**

For the purposes of this report, special-status animal species are defined as the following:

- Animals listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed animals and various notices in the *Federal Register* for proposed species)
- Animals that are candidates for possible future listing as threatened or endangered under the FESA
- Animals listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5)
- Animals considered SSC to the CDFW
- Animal species that are fully protected in California (CFGF Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians])

## **3.2 Field Survey**

On July 6, 2021, SWCA biologist Erich Schickenberg conducted a reconnaissance-level survey of the BSA. The purpose of the field survey was to evaluate the presence or absence of suitable habitat for special-status species determined to have the potential to occur in the BSA, sensitive habitats with

potential to occur, potentially jurisdictional wetland features, and other ESHA's as defined by the LCLUP. In addition, the surveyor identified and mapped vegetation communities using *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). No formal wetland delineations were conducted during the field survey. The survey included walking meandering transects throughout the Project area and the surrounding 200-foot BSA (Figure 3).

A complete list of plant and wildlife species observed within the BSA during the field survey is included in Appendix G. When necessary, the biologist referred to *The Jepson Manual* (Baldwin et al. 2012) to identify plant species. Representative photographs depicting existing conditions are included in Appendix H.

Determination of wetland areas in the BSA were based on a review of pertinent literature and the onsite investigation conducted on July 6, 2021. The biologist utilized the routine wetland determination methodology as described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008b) to determine areas that could potentially meet a one-parameter wetland definition per the CCC (CCC 2011) and/or the three-parameter criteria required by the USACE. However, no soil or core samples were taken during the survey.

During the field survey, the biologist also investigated upland areas beyond the extent of the Project work area located within the BSA for potential USACE and CDFW jurisdictional features, including resources classified as CRAs as defined by Section 18.38.020<sup>2</sup> of the City Code and ESHAs defined by Chapter 6, Policy 6-1 of the LCLUP<sup>3</sup>.

## 4 RESULTS

### 4.1 Soils, Topography, and Elevation

The topography within the BSA is generally flat and gently slopes westward towards the Pacific Ocean. The banks of Kehoe Watercourse within the riparian canopy are steep with loose soil and erosion, and the elevation is approximately 27 feet above mean sea level. According to the NRCS Web Soil Survey (NRCS 2021), soils in the BSA consist of one soil type, Denison clay loam. The Denison soils occur on low terraces adjacent to the coast in central California and are moderately well drained with slow to medium runoff and slow permeability (see Appendix F).

### 4.2 Vegetation Communities

The BSA consists of asphalted roadways, a residential community, and undeveloped land with various vegetation communities. In total, six habitat types were mapped in the BSA and were classified using the naming conventions of *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Vegetation communities present in the BSA include poison hemlock (*Conium maculatum*) or fennel (*Foeniculum vulgare*) patches, coyote brush (*Baccharis pilularis*) scrub, arroyo willow (*Salix lasiolepis*) thickets, ice plant (*Carpobrotus edulis*) mats, ruderal/disturbed areas, and urban development.

Photographs (see Appendix H) and mapping (see Figure 3) depict the characteristics and locations of vegetation communities within the BSA.

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<sup>2</sup> Municipal Code in its current version available at: <https://www.half-moon-bay.ca.us/384/Municipal-Code>.

<sup>3</sup> City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update, Chapter 6. Natural Resources.

#### **4.2.1 Poison Hemlock or Fennel Patches**

Poison hemlock or fennel patches are characterized by a dominance or co-dominance of poison hemlock, fennel, or another non-native invasive plant of the carrot family (*Apiaceae*) with other non-native plants in the herbaceous layer. Emergent trees or shrubs may be present at low cover. This vegetation community can be found in all topographic settings, including wetlands (Sawyer et al. 2009).

The BSA contains approximately 0.14 acre of poison hemlock or fennel patches. This vegetation community occurs on the outer reaches of the riparian corridor at the southern portion of the BSA parallel to Bev Cunha's County Road. This portion of the BSA is dominated primarily by fennel, with poison hemlock occurring at lower cover. This community has the potential to serve as upland habitat for California red-legged frog (*Rana draytonii*) and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). In addition, this community provides foraging habitat for a variety of wildlife species, such as red-tailed hawk (*Buteo jamaicensis*) and white-tailed kite (*Elanus leucurus*) and has the potential to support nesting and foraging birds protected under the MBTA. This habitat occurs outside the Project area and will not be impacted by construction activities.

#### **4.2.2 Coyote Brush Scrub**

Coyote brush scrub is characterized by coyote brush as the dominant or co-dominant in the shrub canopy along with coastal sage brush (*Artemisia californica*), blueblossom (*Ceanothus thyrsiflorus*), beaked hazelnut (*Corylus cornuta*), sticky monkeyflower (*Diplacus aurantiacus*), California buckwheat (*Eriogonum fasciculatum*), lizard tail (*Eriophyllum staechadifolium*), California coffeeberry (*Frangula californica*), coast silk tassel (*Garrya elliptica*), salal (*Gaultheria shallon*), oceanspray (*Holodiscus discolor*), deerweed (*Acmispon glaber*), coastal bush lupine (*Lupinus arboreus*), California way myrtle (*Morella californica*), California blackberry (*Rubus ursinus*), white sage (*Salvia apiana*), purple sage (*Salvia leucophylla*), and poison oak (*Toxicodendron diversilobum*). Emergent trees may be present at low cover, including Bishop pine (*Pinus muricata*), Douglas fir (*Pseudotsuga menziesii*), coast live oak (*Quercus agrifolia*), or California bay (*Umbellularia californica*). This vegetation community occurs on river mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, and ridges with variable soils ranging from sandy to relatively heavy clay (Sawyer et al. 2009).

The BSA contains approximately 0.37 acre of coyote brush scrub. This habitat occurs on the outer reaches of the riparian corridor at the northwest and southeast portion of the BSA. Common species observed during the field survey included, but are not limited to, coyote brush, foxtail barley (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), blue wildrye (*Elymus glaucus*), and California blackberry. Coyote brush scrub habitat in the BSA has the potential to serve as upland habitat for California red-legged frog and San Francisco garter snake. In addition, this community has the potential to support nesting and foraging birds protected under the MBTA, including the saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). This habitat occurs outside the Project area and will not be impacted by construction activities.

#### **4.2.3 Arroyo Willow Thickets**

Arroyo willow thickets are characterized by a dense, low, closed-canopy broadleaved winter-deciduous riparian forest, with arroyo willows dominant or co-dominant in the tall shrub or low tree canopy. Species characteristic of this vegetation alliance include bigleaf maple (*Acer macrophyllum*), coyote brush, mule fat (*Baccharis salicifolia*), common buttonbush (*Cephalanthus occidentalis*), American dogwood (*Cornus sericea*), California wax myrtle (*Morella californica*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), willows (*Salix* spp.), and black

elderberry (*Sambucus nigra*). As a shrubland, emergent trees may be present at low cover. Arroyo willow thickets typically occur on stream banks, slope seeps, and stringers along drainages (Sawyer et al. 2009).

The BSA contains approximately 0.98 acre of arroyo willow thickets with dense canopy coverage. This habitat occurs along the entire length of the BSA extending to the north and south side of Kehoe Watercourse and encompasses the Project area and staging area. Common species observed during the field survey include arroyo willows in the tree and shrub canopy with an understory dominated by cape ivy (*Delairea odorata*), common horsetail (*Equisetum arvense*), blue gum (*Eucalyptus globulus*), silver dollar gum (*Eucalyptus polyanthemos*), rush (*Juncus patens*), watercress (*Nasturtium officinale*), water parsley (*Oenanthe sarmentosa*), Himalayan blackberry (*Rubus armeniacus*), and arroyo willow. The arroyo willow riparian habitat may serve as suitable non-breeding, foraging, and dispersal habitat for California red-legged frog and San Francisco garter snake. In addition, this community has the potential to support nesting and foraging birds protected under the MBTA, including the saltmarsh common yellowthroat. Arroyo willow thickets are a CDFW sensitive community and are identified as having multiple CRA designations as defined by Section 18.38.020 of the City Code<sup>4</sup> and are generally the dominate vegetation within riparian corridors, which is designated as ESHA by LCLUP<sup>5</sup>. Up to 0.01 acre of this vegetation community may be temporarily impacted during Project activities due to construction foot traffic and culvert repair. Surface vegetation, including willow and other riparian vegetation, will need to be trimmed by hand in order to access the Project areas.

#### **4.2.4 Ice Plant Mats**

Ice plant mats are dominated by sea fig (*Carpobrotus chilensis*), ice plant, crystalline ice plant (*Mesembryanthemum crystallinum*), or other ice plant taxa in the herbaceous layer. Emergent trees and shrubs may be present at low cover. This vegetation community typically occurs on bluffs, disturbed land, or sand dunes of the immediate coastline with a height of less than 50 centimeters and intermittent to continuous cover.

The BSA contains approximately 0.13 acre of ice plant mats. This habitat occurs between the outer extent of the riparian corridor and the coyote brush scrub, ruderal/disturbed areas, and non-native grassland habitats at the southeast portion of the BSA. This area is comprised entirely of sea fig. This ice plant habitat has the potential to serve as upland habitat for California red-legged frog and San Francisco garter snake. In addition, this community has the potential to support nesting and foraging birds protected under the MBTA. This habitat occurs outside the Project area and will not be impacted by construction activities.

#### **4.2.5 Ruderal/Disturbed**

Ruderal vegetation is typically found in disturbed areas that have been significantly altered by construction, landscaping, or other types of land-clearing activities. Ruderal habitat often occurs along roadsides and fence lines, near developments, and in other areas experiencing severe surface disturbance. Plants found within this habitat type are typically introduced and/or weedy species that exhibit specific characteristics that assist in their invasion and colonization of disturbed lands.

The BSA contains approximately 0.06 acre of ruderal vegetation. This habitat occurs in a small patch in the southeastern portion of the BSA parallel to Bev Cunha's County Road. Common species observed during the field survey include, but are not limited to, bristly ox-tongue (*Helminthotheca echioides*), short-podded mustard (*Hirschfeldia incana*), curly dock (*Rumex crispus*), and sow thistle (*Sonchus oleraceus*). While these areas do not typically support nesting birds and special-status species due to the

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<sup>4</sup> Municipal Code in its current version available at: <https://www.half-moon-bay.ca.us/384/Municipal-Code>.

<sup>5</sup> City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update, Chapter 6. Natural Resources.

high level of disturbance and human activity, they may serve as a migration corridor and refugia for California red-legged frog and San Francisco garter snake due to the proximity of the arroyo willow riparian corridor. This habitat occurs outside the Project area and will not be impacted by construction activities.

#### **4.2.6 Urban/Developed**

Urban/developed areas are generally characterized by residential or commercial development dominated by a mix of exotic ornamental and native plant species. Vegetation density, canopy cover, and species composition will vary based on purpose and/or design.

The BSA contains approximately 1.06 acres of urban/developed areas. This habitat type occurs on the north side of Kehoe Watercourse and includes Pilarcitos Avenue and surrounding single-family homes. These areas are characterized by residential areas and public roadways that intersect the Project area. Vegetation types in these areas include, but are not limited to, manicured lawns and ornamental trees and shrubs. These areas are not likely to support special-status species due to the high level of disturbance and human activity; however, residential structures and ornamental trees have the potential to support nesting birds protected under the MBTA.

### **4.3 Critical Habitat**

There is no federally listed critical habitat within the Project area or BSA. However, there is federally designated critical habitat for three species within 1-mile of the Project area: California red-legged frog (*Rana draytonii*; a federally threatened species and CDFW SSC) critical habitat is approximately 1 mile east of the Project area, western snowy plover (*Charadrius alexandrinus nivosus*; a federally threatened species and CDFW SSC) critical habitat is located approximately 0.25 mile west of the Project area, and steelhead (*Oncorhynchus mykiss*; a federally threatened species and CDFW SSC) critical habitat is located in Frenchman Creek approximately 0.70 mile north and in Pilarcitos Creek approximately 0.15 mile west–southwest of the Project area. Neither California red-legged frog, western snowy plover, nor steelhead critical habitat will be affected by the Project (see Appendix C).

### **4.4 Special-Status Species with Potential to Occur**

Based on the existing biological conditions in and adjacent to the BSA, a review of relevant literature, the known occurrences of special-status species in the area, and SWCA biologists' local knowledge of the region, four special-status plants and five special-status animal species with potential to occur onsite were identified within the Half Moon Bay, California USGS 7.5-minute topographic quadrangle. Summary descriptions are provided below for these species. Descriptions of other plants and wildlife species that were evaluated for potential occurrence are provided in Appendix D.

#### **4.4.1 Special-Status Plant Species**

Based on a CNDDDB and CNPS query, seven special-status plant species were identified with potential to occur in the Half Moon Bay, California USGS 7.5-minute topographic quadrangle. SWCA further evaluated the species and their habitat requirements to identify which special-status plant species have the potential to occur within the BSA. This analysis compared the known habitat requirements of the seven species to the BSA's existing conditions, elevation, and soils. The evaluation also took into consideration which species were known to occur within 2 miles of the BSA (see Appendix B).

No special-status plant species identified during the desktop review were observed during the field survey which was conducted during the appropriate bloom periods for the species; however, the single survey was conducted during a drought year so there is potential that a given plant species may be detected during non-drought conditions in the appropriate blooming period. No known populations of rare plant occurrences have been documented in CNDDDB within the BSA (CNDDDB 2021). Of the seven species considered for potential occurrence (See Appendix D, Table D-1), two were determined to have no potential to occur due to lack of suitable habitat, soils, or elevation requirements. The San Mateo tree lupine (*Lupinus arboreus* var. *eximius*; CRPR 3.2) was determined low potential to occur onsite; additionally, because this species is a CRPR rank of 3.2, it is not considered further in this report. The following four special-status plant species were determined to have low potential to occur within the BSA:

- Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*): CRPR 1B.2 (low potential)
- Kellogg's horkelia (*Horkelia cuneata* var. *sericea*): CRPR 1B.1 (low potential)
- Oregon polemonium (*Polemonium carneum*); CRPR 2B.2 (low potential)
- perennial goldfields (*Lasthenia californica* ssp. *macrantha*): CRPR 1B.2 (low potential)

Special-status plant species habitat descriptions and rationale for potential to occur in the BSA are provided in Appendix D. The only habitat within the BSA that could potentially support these species occurs outside the Project work area and within areas that will be avoided by the Project. Given the above information, in addition to the implementation of avoidance and minimization measures provided in Section 5, *Avoidance and Minimization Measures*, of this report, no impacts to special-status plants are anticipated.

#### **4.4.2 Special-Status Animal Species**

Based on a CNDDDB query and a review of existing literature, 13 special-status animal species were identified in the Half Moon Bay, California USGS 7.5-minute topographic quadrangle. None of the 13 special-status wildlife species identified during desktop review were observed during the field survey; however, one special-status animal not returned in the records search—white-tailed kite (a state fully protected species)—was observed flying overhead near the BSA. Thus, the total number of special-status animal species identified was a total of 14.

SWCA evaluated the 14 species to identify which special-status animal species have the potential to occur within the BSA. This analysis compared the known habitat requirements of those species to the BSA's existing conditions. The evaluation also took into consideration which species have been recorded in the CNDDDB within 2 miles of the BSA (see Appendix B).

Of the 14 species considered for potential occurrence, one was present (i.e., white-tailed kite), three were determined to have moderate to high potential to occur within the BSA, two were determined to have low potential to occur in the BSA, and the remaining eight species were determined to have no potential to occur or be absent from the BSA due to a lack of suitable foraging and/or breeding habitat, aestivating habitat, life history, and/or other biotic considerations.

The following two special-status animal species have low potential to occur within the BSA:

- Western bumble bee (*Bombus occidentalis*): CDFW SSC (low potential)
- Monarch butterfly (*Danaus plexippus*): federal candidate species (low potential)

The following three special-status animal species have moderate to high potential to occur within the BSA:

- California red-legged frog (*Rana draytonii*): federally threatened, CDFW SSC (high potential)
- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*): federally and state endangered, CDFW fully protected species (moderate potential)
- saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*): CDFW SSC (moderate potential)

Special-status wildlife species that are present or have high potential to occur are discussed in the sections below. Species that were determined to have low potential to occur or absent from the BSA (see Appendix D, Table D-1) are not discussed further in this report. Special-status animal species habitat descriptions and rationale for potential to occur in the BSA are provided below and in Appendix D.

#### **4.4.2.1 CALIFORNIA RED-LEGGED FROG**

California red-legged frog, a federally threatened species and CDFW SSC, occurs in various habitat types depending on its life cycle stage. Breeding areas include aquatic habitats, such as lagoons, streams, and natural and human-made ponds. The species prefers aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to approximately 2 feet, and the presence of emergent vegetation (e.g., cattails and bulrush). During periods of wet weather, some individuals may make overland dispersals through adjacent upland habitats of distances up to 1 mile (USFWS 2002). Upland habitats, including small mammal burrows and woody debris, can also be used as refuge during the summer if water is scarce or unavailable (Jennings and Hayes 1994). California red-legged frogs typically travel between sites and are unaffected by topography and vegetation types during migration. Dispersal habitat makes it possible for California red-legged frogs to locate new breeding and non-breeding sites and is crucial for conservation of the species.

Seven California red-legged frog occurrences have been recorded within 2 miles of the BSA between 2004 and 2019 (CNDDDB 2021). The closest CNDDDB occurrence (2017) was recorded and photographed within the BSA. Other CNDDDB record indicates an adult California red-legged frog was observed approximately 0.10 mile north–northwest of the Project in 2017 in the vicinity of Pilarcitos Creek and the Casa Del Mar neighborhood (see Appendix B). Furthermore, marsh habitat is located at the lower reaches of Pilarcitos Creek approximately 600 feet west of the Project. Suitable non-breeding, foraging, and dispersal habitat for this species occurs within the BSA. The species was not observed onsite during the field survey.

Based on the above information and the number of known occurrences within 2 miles of the Project, there is high potential for California red-legged frog to occur in the BSA and Project area during the dry season (June 1–October 15) and wet season (October 15–May 31). However, with implementation of avoidance and minimization measures (including having a biological monitor present during all project activities and conducting preconstruction sweeps of the Project work area prior to work each day) provided in Section 5, *Avoidance and Minimization Measures*, California red-legged frog is not expected to be impacted by Project activities.

#### **4.4.2.2 SAN FRANCISCO GARTER SNAKE**

The federally and state endangered/fully protected San Francisco garter snake's historical range is entirely within San Mateo County. The two main components of San Francisco garter snake habitat are: (1) wetlands supporting its prey species (e.g., California red-legged frog and Pacific chorus frog [*Pseudacris regilla*]), and (2) surrounding uplands that are adjacent to waterways and that support small mammal burrows used by the snakes for escape cover (USFWS 2006). San Francisco garter snakes

inhabit various aquatic habitats, including reservoirs, freshwater marshes, creeks, drainage ditches, ponds, and lakes. Less ideal habitats can also be used by San Francisco garter snake, such as ditches and other waterways or floating algal or rush mats. Suitable breeding habitat includes shallow marshlands with an abundance of emergent vegetation. Grasslands and low ground cover are also an important upland habitat for this species, as they provide areas for thermoregulation and cover. Small mammal burrows are used by San Francisco garter snake during hibernation. During the warm days of summer, most activity occurs during the morning and afternoon. Preferred nocturnal retreats are thought to be holes, especially mammal burrows, crevices, and surface objects (USFWS 2007).

There are no CNDDDB records for San Francisco garter snake within 2 miles of the BSA (CNDDDB 2021), but the USFWS IPaC resource identified San Francisco garter snake as a species that is known or expected to be on or near the Project area (see Appendix A). While aquatic habitats with an abundance of dense vegetation typically associated with San Francisco garter snake (e.g., cattails [*Typha* spp.], bulrushes [*Scirpus* spp.]) are absent in the BSA, connectivity from the lower reaches of Pilarcitos Creek and its associated riparian corridor to the BSA may support dispersal and foraging activity. This habitat type may support breeding populations of their primary prey—California red-legged frog and Pacific chorus frog. Small mammal burrows were observed within the BSA, but were not observed within the willow thickets. Newborn and juvenile San Francisco garter snakes depend heavily upon Pacific tree frogs as prey (USFWS 2017). Additionally, the upland low ground cover that parallels the southern extent of the Project area could provide suitable foraging, dispersal and refuge habitat for San Francisco garter snake. This species was not observed onsite during the field survey.

Based on the above information, there is moderate potential for San Francisco garter snake to occur within the BSA and Project area during the dry season (June 1–October 15) and the wet season (October 15–May 31). However, with implementation of avoidance and minimization measures (including having a biological monitor present during all project activities and conducting preconstruction sweeps of the Project work area prior to work each day) provided in Section 5, *Avoidance and Minimization Measures*, San Francisco garter snake is not expected to be impacted by Project activities.

#### **4.4.2.3 SALT MARSH COMMON YELLOWTHROAT**

Saltmarsh common yellowthroat is a CDFW SSC and is protected under the MBTA. This species occurs year-round in most of its western California range. The current range includes four main areas: coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County (Shuford and Gardali 2008). Breeding habitat of this species falls into three broad types: woody swamp, brackish marsh, and freshwater marsh. Yellowthroats build open-cup nests that are well concealed, typically near the ground in grasses, herbaceous vegetation (e.g., poison hemlock), cattails, tules, and some shrubs (e.g., coyote brush). Yellowthroats forage on or near the ground, eating insects and spiders from leaves, bark, branches, flowers, or fruit in low vegetation.

Two CNDDDB occurrences have been recorded within 2 miles of the BSA, both dating back to 1990. The closest occurrence was documented at the mouth of Pilarcitos Creek between Elmar and Francis beaches in vicinity of sewage treatment plant. The habitat consists of coyote bush, anise, mustard, willow & annual grasses surrounding a brackish-water marsh (CNDDDB 2021). While the BSA lacks brackish water and marsh habitat, vegetated communities within and adjacent to the BSA include arroyo willow thickets, coyote brush scrub, and a riparian corridor that extends to the lower reaches of Pilarcitos Creek where marsh habitat is present. This habitat within the BSA may provide suitable foraging and nesting habitat. Species was not observed onsite during the field survey. Based on the above information, there is moderate potential for saltmarsh common yellowthroat to occur within the BSA and Project area. However, with implementation of avoidance and minimization measures (including conducting a

preconstruction nesting bird survey) provided in Section 5, *Avoidance and Minimization Measures*, saltmarsh common yellowthroat is not expected to be impacted by Project activities.

#### **4.4.2.4 WHITE-TAILED KITE**

White-tailed kite, a CDFW fully protected species, is a yearlong resident in coastal and valley lowlands. The species inhabits herbaceous and open stages of most habitats mostly in cismontane California. The white-tailed kite forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands on small mammals, birds, lizards, or insects. Individual nests are placed near the top of dense tree stands, usually 20–100 feet aboveground and near foraging habitat.

White-tailed kite was observed as being onsite during the site survey. Large nearby trees and other vegetated areas within the BSA may provide suitable nesting and foraging habitat for this species. One white-tailed kite was observed foraging over grassland habitat just north of the BSA and this species was therefore determined to be present within the BSA. This species would likely only be present foraging nearby the Project. The Project will produce noise during construction, but such noise would be temporary. The Project will also include crew presence during construction, but crew presence would be temporary. Additionally, the Project will not impact large trees that would be used by this species for nesting or perching, and the Project will not affect nearby grassland areas where foraging may take place. With implementation of avoidance and minimization measures (including preconstruction nesting bird and raptor surveys) provided in Section 5, *Avoidance and Minimization Measures*, white-tailed kite is not expected to be impacted by Project activities.

### **4.5 Nesting Migratory Passerine Birds and Raptors**

The BSA contains suitable nesting and foraging habitat for avian species protected under the MBTA and CFGC Sections 3503 and 3513 during the typical nesting season (February 15–September 15). Suitable nesting and foraging habitats would include the grassland areas, shrubs, and trees within and adjacent to the Project laydown area. Nesting is unlikely outside of the typical nesting season, although some avian species may forage year-round near the site. Avian species protected by the MBTA and CFGC observed in the BSA during the July 2021 field survey included Anna’s hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus cassinii*), song sparrow (*Melospiza melodia*), Savannah sparrow (*Passerculus sandwichensis*), American goldfinch (*Spinus tristis*), and violet-green swallow (*Tachycineta thalassina*). No nesting birds were observed during the field survey, which occurred just prior to the start of the typical nesting season.

The Project has the potential to impact nesting birds, including their eggs or young, covered under the MBTA and CFGC. However, with implementation of avoidance and minimization measures provided in Section 5, *Avoidance and Minimization Measures*, no impacts to these avian species or their nests are anticipated.

### **4.6 Wildlife Habitat and Movement Corridors**

The riparian corridor along Kehoe Watercourse provides suitable wildlife and migration habitat for amphibians, reptiles, birds and mammals.

However, the temporary and short duration of construction activities are unlikely to substantially disrupt the migration of animals through the above-described areas. Given the above, and with implementation of the avoidance and minimization measures in Section 5, *Avoidance and Minimization Measures*, the Project is not expected to interfere substantially with the movement of any native resident or migratory wildlife.

## 4.7 Environmentally Sensitive Habitat Areas

ESHA are defined in LCLUP Chapter 6: Natural Resources, Policy 6-1 (City of Half Moon Bay 2020a) as “. . . any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments . . .” (see Section 2.3.1, *California Coastal Act and City of Half Moon Bay Local Coastal Program*, for the complete definition).

Because the Project occurs within or adjacent to terrestrial, non-aquatic habitat for special status and unique species, and watercourse ESHAs, it may be subject to permitted uses, buffer zones, and standards for terrestrial and watercourse ESHAs, as defined in the LCLUP.

### 4.7.1 Terrestrial ESHA

Regarding terrestrial ESHAs, Policy 6-16 of the LCLUP states that non-aquatic habitat associated with special-status or unique species shall be protected against significant disruption of habitat values, which is discussed further below in Section 4.7.2. Regarding work within a terrestrial ESHA, Policy 6-16 also states “Temporary disruption (e.g., less than six months) for the construction, alteration, repair, and maintenance of existing or newly permitted facilities or structures is allowed if there are no feasible alternatives and the disruption is repaired and restored to at least an equivalent condition within one year.” While Policy 6-17 describes required buffer zones for work occurring next to a terrestrial ESHA, which “shall have a minimum buffer width of 100 feet,” the Project is not considered new development as it involves removing and replacing a portion of an existing 24-inch concrete storm drain that needs repair and would be permitted under Policies 6-47 and 6-51 – *Permitted Uses in (within) Riparian Corridors (Buffer Zones)* described in Section 4.7.3 below. However, to avoid adverse impacts to habitat associated with special-status or unique species or other sensitive resources, construction best management practices would be implemented such as Policy 6-63, which states the following regarding construction and ESHA:

Ensure that construction does not adversely impact sensitive bird or other animal species in on-site or nearby ESHA, wetlands, or watercourses by requiring construction projects to implement best management practices (e.g. pre-construction surveys, construction and/or tree removal timing restrictions, exclusionary fencing), and, as appropriate based on project scope and site conditions, noise and vibration reduction measures and monitoring by a qualified biologist during construction.

The proposed Project area contains habitat associated with special-status or unique species, including but not limited to, common yellowthroat, white-tailed kite, California red-legged frog, and San Francisco garter snake. The BSA is depicted as a mapped ESHA in Figure 6-3 of the LCLUP for California red-legged frog upland, foraging, and dispersal habitat and San Francisco garter snake habitat. As such, the Project will result in temporary impacts to these terrestrial ESHAs. However, impacts will be minimal because the scope of the project is limited to replacing a single failing culvert in the existing stormwater system; there is no feasible alternative that would avoid this terrestrial ESHA. With implementation of the avoidance and minimization measures in Section 5, *Avoidance and Minimization Measures*, no permanent impacts to the terrestrial ESHA are anticipated.

#### 4.7.1.1 NON-AQUATIC HABITAT FOR SPECIAL STATUS AND UNIQUE SPECIES

Policy 6-32 of the LCLUP define special status species as species that are listed or are proposed for listing as rare, threatened, endangered, or of special concern by the federal and/or state government. Maintain a list of special status species with potential to be found in the Planning Area and develop guidelines for

their protection and management. Additionally, Policy 6-33 defines unique species as an organism or group of organisms that has scientific or historic value, few indigenous habitats, some characteristic(s) that draw attention or are locally uncommon, or that are common only locally or are of limited range. Locally designate unique species and create guidelines for the protection and management of unique species. Unique species identified in the LCP include winter raptor populations on the Half Moon Bay bluffs. Guidelines for the protection and management of unique species may include specifications for buffers, habitat mitigation ratios, and others.

As previously discussed in Section 4.4.2, special-status or unique species including but not limited to, common yellowthroat, white-tailed kite, California red-legged frog, and San Francisco garter snake have been documented within the BSA and mapped as an ESHA in Figure 6-3 of the LCLUP. However, with implementation of the avoidance and minimization measures in Section 5, *Avoidance and Minimization Measures*, no impacts to special status and unique species are anticipated.

## **4.7.2 Watercourses ESHA**

The LCLUP discusses hydrology and water quality of Half Moon Bay as it relates to the larger watershed areas, surface waters (i.e., watercourses), and groundwater. Surface water features are highly seasonal, especially in the lesser drainages. Surface waters in the region provide a variety of beneficial uses ranging from drinking and irrigation and supply for agricultural uses and livestock grazing to supporting avian, terrestrial, and aquatic wildlife resources; providing recreational opportunities; transporting sediment; and mitigating flood disasters by storing water (LCLUP 2020a). The LCLUP defines Kehoe Watercourse as a “minor” watercourse – features generally may not support as diverse resources and uses as the larger drainages, but contribute to flora and fauna habitat, wetlands, groundwater recharge, stormwater conveyance, and local flood management. These features are also subject to potential erosion and flood hazard.

Per Policy 6-46 of the LCLUP, City policies associated with watercourse ESHAs include a definition of riparian corridors as follows:

Riparian corridors are defined on the ground by an association of native, and in some cases non-native, plant and animal species within or adjacent to a watercourse that contribute to the function or distinction of the riparian habitat. Boundaries of riparian corridors are determined by the limit of riparian vegetation or top of bank, or other confining topography, whichever is greater. The limit of riparian vegetation is determined by the drip line of riparian canopy trees or the limit of riparian shrubs or herbaceous vegetation.

Per Figure 6-2 of the LCLUP, the Project area is mapped as occurring within a riparian corridor ESHA based on an “estimate of top of bank or extent of riparian vegetation, whichever is greater.”

Per Policy 6-47 of the LCLUP, permitted uses in riparian corridors include “Flood, sedimentation, or erosion control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development,” and also “Pipelines and stormwater runoff facilities.” As such, the repair of the Kehoe Watercourse outfall structure would be a permitted use under Policy 6-47 of the LCLUP.

Policy 6-48 of the LCLUP establishes that work within or adjacent to a watercourse/riparian corridor ESHA must conform to a set of standard practices, which include minimizing removal of native vegetation, land exposure during construction, and erosion, sedimentation and runoff; using only native plant species when replanting; providing sufficient passage upstream and downstream for native and anadromous fish; minimizing the adverse effects of any waste water discharges; preventing depletion of

groundwater supplies and substantial interference with surface and subsurface waters; encouraging wastewater reclamation maintaining natural vegetation buffer areas; minimizing alternation of natural streams; minimizing risks and avoiding contribution to flood and erosion hazards; maintaining hydrologic function and sediment transport function of drainage; and providing mitigation and long-term monitoring and reporting for any adverse impacts incurred upstream or downstream.

Furthermore, Policy 6-49 of the LCLUP states that intermittent watercourses, including the Kehoe Watercourse, shall require that a buffer zone extend a minimum of 50 feet from the outer limit of the riparian vegetation or 100 feet from the top of bank, whichever is greater. Policy 6-50 states that, under certain circumstances, and for the Kehoe Watercourse, the “. . . buffer may be reduced for all riparian corridors to no less than 20 feet from the outer limit of riparian vegetation or from top of bank, whichever is greater.”

Additionally, Policy 6-51 of the LCLUP allows for “Temporary disruption (e.g., less than six months) for the construction, alteration, repair and maintenance of existing or newly permitted facilities or structures if there are no feasible alternatives and the disruption is repaired and restored to at least an equivalent condition . . . ”

The Project includes temporary impacts to the Kehoe riparian corridor through vegetation clearance and removal of fallen/broken tree limbs for crew to safely access the site, perform culvert replacement activities, and establish a pathway for future maintenance access. The Project work area in the drainage will be accessed on foot and culvert replacement work will be performed by hand. To access the culvert outlet, the contractor will cut surface vegetation, including willows (*Salix sp.*), as needed for access and maintenance only, and will minimize, to the greatest extent practicable, any disturbance to possible soil-stabilizing vegetation and roots. With the implementation of standard practices for watercourse/riparian corridor ESHAs and their associated buffer zones, and with implementation of avoidance and minimization measures in Section 5, *Avoidance and Minimization Measures*, no permanent impacts to the watercourse ESHA are anticipated.

## **4.8 Wetlands, Floodplains, and Waters of the U.S. and State**

### **4.8.1 U.S. Army Corps of Engineers**

USACE typically considers any body of water displaying an OHWM for designation as WOTUS, subject to guidance derived from Supreme Court decisions. USACE jurisdiction over nontidal WOTUS extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4).

The NWPR defines four categories of federally regulated waters and wetlands (and 12 categories of exclusions that are not subject to regulation under the CWA). The four categories of WOTUS and wetlands are: (1) the territorial seas and traditional navigable waters, (2) perennial and intermittent tributaries to those waters, (3) certain lakes, ponds, and impoundments, and (4) wetlands adjacent to jurisdictional waters.

The portion of Kehoe Watercourse that falls within the BSA was likely constructed to convey local surface runoff from the housing communities east and west of Highway 1 (see Figure 3). Kehoe Watercourse has clearly definable bed, banks, and an OHWM, and contained slow-flowing water, approximately 6–12 inches deep at the time of the field survey. This watercourse would have downstream connectivity during storm or surface runoff events to the lower reaches of Pilarcitos Creek, which is a tributary to the Pacific Ocean. The Project will include temporary disturbance to the watercourse,

including work below the OHWM. Given the above, Kehoe Watercourse would likely be considered a USACE jurisdictional water feature, and work within the watercourse would be regulated under CWA Section 404.

#### **4.8.2 Regional Water Quality Control Board**

The RWQCB regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 specifies that certification from the State of California is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Through the Porter-Cologne Act, the RWQCB asserts jurisdiction over WOTS, which are generally identical in extent to WOTUS, but may also include waterbodies not currently under federal jurisdiction such as isolated, intrastate waters. The Porter-Cologne Act defines WOTS as “surface water or ground water, including saline waters, within the boundaries of the state.” The Project will include temporary disturbance to the watercourse, including work below the OHWM and work within the riparian habitat associated with the watercourse.

Given the above, Kehoe Watercourse would likely be considered a RWQCB jurisdictional feature that would be regulated under CWA Section 404/401 (State Water Resources Control Board [SWRCB] 2019).

#### **4.8.3 California Department of Fish and Wildlife**

Section 1602 of the CFGC states that it is unlawful for an entity to “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake” without first notifying CDFW of that activity. “Stream” is not defined in the CFGC, and CDFW has not endorsed any regulation that defines “stream.” However, the California Fish and Game Commission has defined “stream” in 14 CCR 1.72 as follows (CFGC 2021):

[A] body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.

Kehoe Watercourse contained clearly definable bed with hydrogeomorphic top-of-bank limits and adjacent riparian assemblage distinct from upland habitat that continues to the lower reaches of Pilarcitos Creek (see Figure 3). Kehoe Watercourse is also known to support unique and/or special-status species, such as California red-legged frog, San Francisco garter snake, and saltmarsh common yellowthroat, all dependent on aquatic systems. Given the proposed Project, which includes temporary impacts to the bed and bank of the drainage, the Project work area is likely to be a CDFW jurisdictional water feature that would be regulated by the CDFW under Section 1602.

#### **4.8.4 California Coastal Commission**

The Project is located within the coastal zone. The LCLUP together with the City Code<sup>6</sup>, Subdivision Ordinance, and zoning map constitute the Local Coastal Program (LCP) for the City’s coastal zone. A CDP is required for construction of the Project, and the City would be the designated agency responsible for CDP approval of the Project.

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<sup>6</sup> Municipal Code in its current version available at: <https://www.half-moon-bay.ca.us/384/Municipal-Code>.

## **5 AVOIDANCE AND MINIMIZATION MEASURES**

The following avoidance and minimization measures are designed to prevent the Project from having a potentially significant biological impact. In addition to the measures listed below, the Project shall also adhere to the City of Half Moon Bay LCLUP policies and standard measures for General ESHA Protection (Policies -14 and 6-15), Terrestrial ESHAs (Policies 6-16 through 6-18, 6-32 and 6-33), Watercourse ESHAs (Policies 6-46 through 6-49, and 6-51), and Development Standards (Policies 6-63 and 6-64).

1. Prior to the start of the Project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure, including at a minimum a description of white-tailed kite, saltmarsh common yellowthroat, nesting birds, California red-legged frog and its habitat, San Francisco garter snake and its habitat, waters and wetlands, Project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features, will be distributed to the crew members during the training. Trainees will sign an environmental training attendance sheet.
2. Disturbance to vegetation and CRAs/ESHAs shall be kept to the minimum necessary to complete the Project activities. To minimize impacts to vegetation and CRAs/ESHAs, the following measures shall be implemented:
  - a. Prior to all Project activities, a qualified biologist shall work with the contractor to designate the Project work area and any staging areas as well as delineate areas to be avoided with signage and tape or fencing.
  - b. Access to Project locations shall be via existing access roads to the maximum extent practicable. Construction equipment will be positioned on existing access roads above the top of bank. The number of access routes, number and size of staging areas, and total area of the activity shall be limited to the minimum necessary to complete the Project.
3. Construction activities (e.g., grubbing or grading) shall occur during the dry season (June 1–October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake.
4. Within 24 hours of the planned start of Project activities, a focused survey for sensitive and listed species, including, but not limited to, white-tailed kite, common yellowthroat, California red-legged frog, and San Francisco garter snake, shall be conducted by a qualified biologist, including staging areas. Additionally, a nocturnal survey for California red-legged frog that includes eyeshine detection shall be conducted the night before construction begins. Also, a survey for the above species shall be conducted just prior to work on the morning of the first day of construction. Construction activities shall not take place until the surveys are completed.
5. A qualified biologist shall be present during all Project activities. Prior to the start of work each day, the biologist shall perform a sweep for special-status species that may be present in the Project area, including the staging area. The biologist shall have the authority to halt any action that might result in impacts. If California red-legged frog or San Francisco garter snake are found at any time, work activities shall stop immediately. Under no circumstances shall special-status species be handled, relocated, or otherwise harmed or harassed at any time. Crew shall coordinate directly with the onsite biologist if animals are found within the Project work area.
6. If Project activities are conducted during the typical nesting bird season (February 15–September 15), preconstruction nest surveys, including for white-tailed kite, shall be conducted in and near the Project area (within 500 feet for raptors and 300 feet for all other birds) by a biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the Project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to

be determined by the Project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.

7. No stockpiling of vegetation shall occur at the worksite. Vegetation, to the maximum extent practicable, shall be placed directly or as soon as possible into a disposal container and removed from the site. Vegetation shall not be piled on the ground unless it is later disposed of under the supervision of a qualified biologist.
8. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during Project activities shall be placed where they cannot enter the watercourse, culvert inlet, or nearby riparian areas. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the Project work area and disposed of lawfully at an appropriate facility.
9. To protect burrows that may provide refuge for protected animals, such as the California red-legged frog and San Francisco garter snake, no soil or construction materials shall be stockpiled on the ground where burrows are present.
10. Construction shall adhere to San Mateo Countywide Pollution Prevention Program (SMCWPPP) Best Management Practices (BMPs), and no construction shall occur within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any Project activities.
11. During Project activities, all trash that may attract predators shall be properly contained, removed, and disposed of regularly. Following construction, trash/construction debris shall be removed from the Project work area.
12. A qualified biologist shall ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible, and all construction-related tools are free of debris.
13. All fueling and maintenance of vehicles and other equipment and staging areas should occur at least 100 feet from any riparian area, riparian corridor, or other drainage feature. The City and/or its contractors shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the City or its contractors shall ensure that there is a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills, and of the appropriate measures to take should a spill occur.
14. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground overnight shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. Plastic pipes, if used, shall be covered with material to prevent animals from entering the pipes.
15. If any wildlife is encountered during Project activities, the wildlife must be allowed to leave the Project work area unharmed. All listed wildlife species shall be allowed to leave the Project work area of their own accord, and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the Project work area of their own accord, the qualified Project biologist may relocate the wildlife outside of the Project limits.
16. All exposed soils in the Project work area shall be stabilized immediately following the completion of work to prevent erosion. Any exposed or disturbed surfaces shall be permanently protected from erosion by reseeding with native seeds that are locally sourced if possible. Erosion

and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas.

17. Because the Project will result in temporary impacts to Kehoe Watercourse (including vegetation at or near its banks), willows within the Project area, CRAs and/or ESHAs, a Project Restoration and Revegetation Plan shall be prepared and implemented to restore impacted sensitive areas to their original condition.
18. Prior to the start of construction, a plant survey for Choris' popcorn flower, Kellogg's horkelia, Oregon polemonium, and perennial goldfields shall be conducted during the appropriate flowering periods for each species. Plant occurrences within 50 feet of the Project work area shall be flagged for avoidance by the Project. If the Project cannot avoid impacts to a given plant species, the City shall consult with the CDFW on appropriate measures and/or actions to protect or salvage the plant(s) prior to beginning construction.

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## **APPENDIX A**

### **USFWS Records Search Results**



7/13/2021

IPaC: Explore Location resources

**IPaC**

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

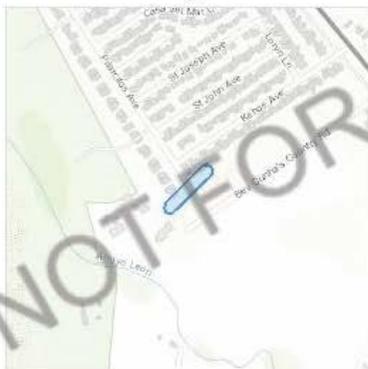
## IPaC resource list

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

San Mateo 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<sup>1</sup> 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<sup>2</sup>).

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:

### Mammals

NAME	STATUS
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7/13/2021

IPaC: Explore Location resources

Southern Sea Otter *Enhydra lutris nereis* Threatened  
 Wherever found Marine mammal  
 No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/8560>

## Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> There is final critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> There is final critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/5956">https://ecos.fws.gov/ecp/species/5956</a>	Endangered

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
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<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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Delta Smelt *Hypomesus transpacificus* 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/321>

Tidewater Goby *Eucyclogobius newberryi* Endangered  
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/57>

## 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<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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

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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.)
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9637">https://ecos.fws.gov/ecp/species/9637</a>	Breeds Feb 1 to Jul 15
Ashy Storm-petrel <i>Oceanodroma homochroa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/7237">https://ecos.fws.gov/ecp/species/7237</a>	Breeds May 1 to Jan 15
Black Oystercatcher <i>Haematopus bachmani</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9591">https://ecos.fws.gov/ecp/species/9591</a>	Breeds Apr 15 to Oct 31
Black Turnstone <i>Arenaria melanocephala</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31

<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 31
Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a>	Breeds Apr 1 to Jul 20
Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8002">https://ecos.fws.gov/ecp/species/8002</a>	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
Song Sparrow <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee <i>Pipilo maculatus clementae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/4243">https://ecos.fws.gov/ecp/species/4243</a>	Breeds Apr 15 to Jul 20
Tricolored Blackbird <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3910">https://ecos.fws.gov/ecp/species/3910</a>	Breeds Mar 15 to Aug 10

<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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<b>Whimbrel</b> <i>Numenius phaeopus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9483">https://ecos.fws.gov/ecp/species/9483</a>	Breeds elsewhere
<b>Willet</b> <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Wrentit</b> <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

## 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.

<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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**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.



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

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

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

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

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

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<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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<p>Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Whimbrel BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	

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.

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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.

<https://ecos.fws.gov/ipac/location/PEUAKQLM6FGVNLRFVW6QFC2VE/resources>

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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.

## Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act<sup>1</sup> and the Convention on International Trade in Endangered Species of Wild Fauna and Flora<sup>2</sup>.

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walrus, polar bears, manatees, and dugongs] and NOAA Fisheries<sup>3</sup> [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [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 marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

Southern Sea Otter *Enhydra lutris nereis*  
<https://ecos.fws.gov/ecp/species/8560>

## Facilities

### Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

## 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.

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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 tubercid 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.

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## **APPENDIX B**

### **CNDDDB Occurrence Maps and Special-Status Species List**



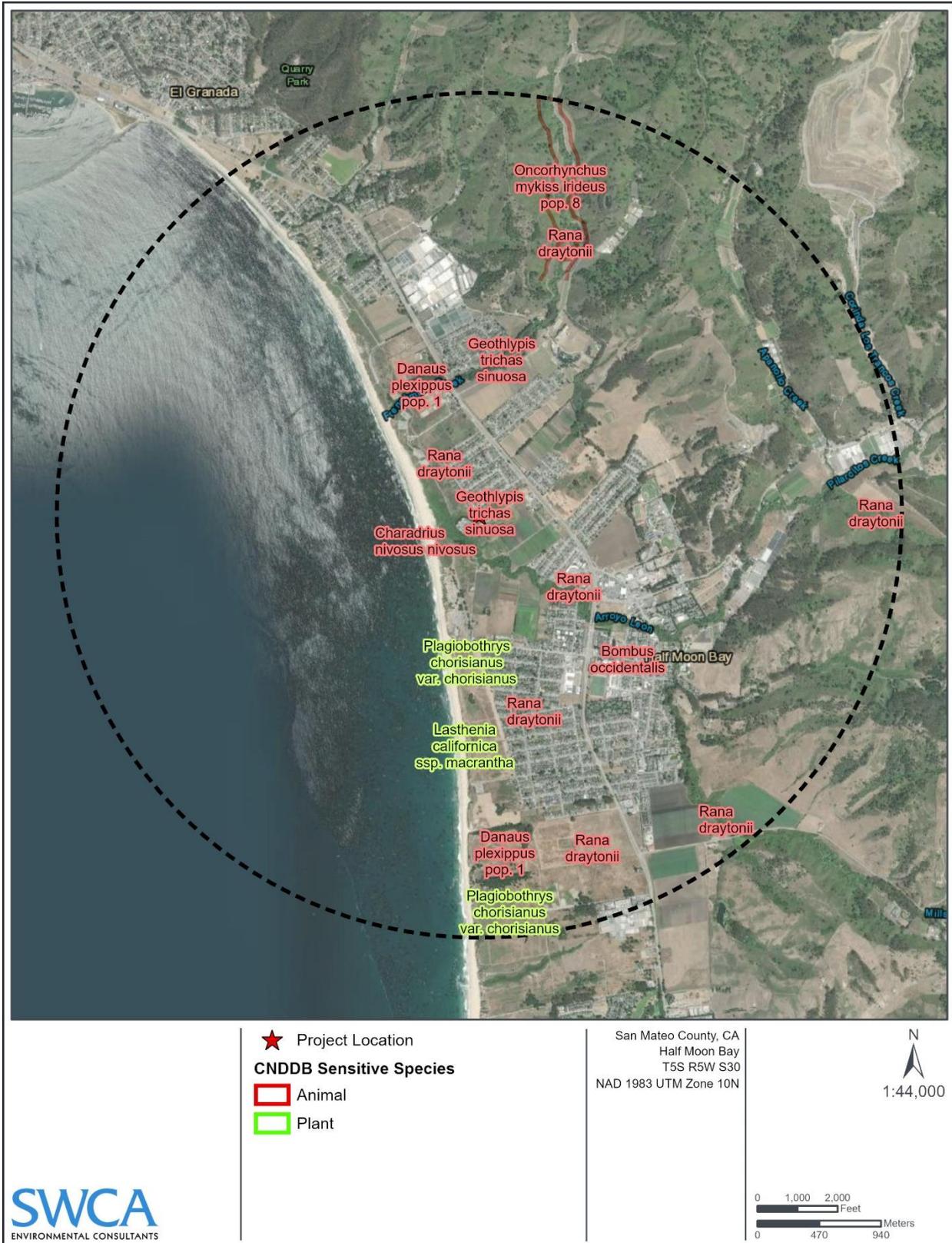


Figure B-1. Two-mile CNDDDB sensitive species map. \*

\* Note that in order to keep locality data confidential for some species, CDFW suppresses coordinate data for San Francisco garter snake. As such, although this species is not shown in the above 2-mile radius map, it is understood that this species does occur within 2 miles of the Project area.

**Table B-1. California Natural Diversity Database 2-Mile Records Results\***

\*Note that in order to keep locality data confidential for some species, CDFW suppresses coordinate data for San Francisco garter snake. As such, although this species is not shown in the 2-mile radius data in Table B-1, it is understood that this species does occur within 2 miles of the Project area.

Scientific Name	Common Name	EONDX	ACCURACY	SITEDATE	FEDLIST	CALLIST	CRPR	CDFW STATUS
<i>Bombus occidentalis</i>	western bumble bee	100351	1 mile	19530328	None	Candidate Endangered		
<i>Charadrius nivosus nivosus</i>	western snowy plover	104890	80 meters	20160503	Threatened	None		SSC
<i>Danaus plexippus</i> pop. 1	monarch - California overwintering population	12310	2/5 mile	19980105	Candidate	None		
<i>Danaus plexippus</i> pop. 1	monarch - California overwintering population	99755	1/5 mile	19980105	Candidate	None		
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	59824	2/5 mile	19900620	None	None		SSC
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	13461	1/5 mile	19900602	None	None		SSC
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	64647	1/10 mile	20000425	None	None	1B.1	
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	103072	specific area	20150409	None	None	1B.2	
<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead - central California coast Distinct Population Segment (DPS)	30141	specific area	19790920	Threatened	None		
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcornflower	57049	specific area	20150328	None	None	1B.2	
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcornflower	94292	specific area	20150409	None	None	1B.2	
<i>Rana draytonii</i>	California red-legged frog	56076	1/5 mile	20040607	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	119807	specific area	200111XX	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	42675	non-specific area	20170109	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	119799	specific area	20190313	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	70285	specific area	20061011	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	119794	80 meters	20201009	Threatened	None		SSC
<i>Rana draytonii</i>	California red-legged frog	68205	80 meters	20070111	Threatened	None		SSC

## **APPENDIX C**

### **Critical Habitat Map**





Figure C-4. Critical habitat map.

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## **APPENDIX D**

### **Special-Status Species Considered for Potential Occurrence in the Biological Study Area**



**Table D-1. Special-Status Species Considered for Potential Occurrence in the Biological Study Area**

Species Name	General Habitat Description	Legal Status Federal/State/ CNPS Status	Potential for Occurrence and Rationale
<b>PLANTS</b>			
coastal marsh milkvetch ( <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> )	Perennial herb that occurs in coastal marshes, seeps, and adjacent sand along the northern and central California coast. Elevation: 0–150 meters. Bloom Period: April–October.	--/--/1B.2	<b>None:</b> Suitable habitat absent from the BSA. Species was not observed during the field survey, which was conducted during appropriate blooming period. No CNDDDB occurrences have been recorded within 2 miles of the BSA.
Choris' popcorn-flower ( <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> )	Annual herb that occurs in chaparral, coastal prairie, and coastal scrub in wetland and riparian areas. Elevation: 15–160 meters. Bloom Period: March–June.	--/--/1B.2	<b>Low:</b> Suitable riparian habitat exists within the BSA; however, settings within the Project area where northern coastal scrub habitat was observed outside the Project area. Species was not observed during the field survey which was not conducted during appropriate blooming period. Two CNDDDB occurrences recorded (2015) within 2 miles of the BSA.
Kellogg's horkelia ( <i>Horkelia cuneata</i> var. <i>sericea</i> )	Perennial herb that occurs in closed-cone coniferous forest, chaparral, coastal dunes, and coastal scrub. Elevation: 10–200 meters. Bloom Period: April–September.	--/--/1B.1	<b>Low:</b> Suitable habitat exist on the southeastern extent of the BSA where northern coastal scrub habitat was observed outside the Project area. Species was not observed during the field survey which was conducted during appropriate blooming period. One CNDDDB occurrence have been recorded (2000) approximately 1.4 miles northeast of the BSA in the watershed divide between Frenchman's Creek drainage and Apanilio Creek
Oregon polemonium ( <i>Polemonium carneum</i> )	Perennial herb occurs in coastal prairie, coastal scrub, and lower montane coniferous forest. 0–1830 meters Bloom Period: April–September.	--/--/2B.2	<b>Low:</b> Suitable habitat exist on the southeastern extent of the BSA where northern coastal scrub habitat was observed outside the Project area. Species was not observed during the field survey, which was conducted during appropriate blooming period. No CNDDDB occurrences have been recorded within 2 miles of the BSA.
perennial goldfields ( <i>Lasthenia californica</i> ssp. <i>macrantha</i> )	Perennial herb that occurs in coastal bluff scrub, coastal dunes, and coastal scrub. Elevation: 6–750 meters. Bloom Period: January–November.	--/--/1B.2	<b>Low:</b> Suitable habitat exist on the southeastern extent of the BSA where northern coastal scrub habitat was observed outside the Project area. Species was not observed during the field survey which was conducted during appropriate blooming period. One CNDDDB occurrence was recorded (2015) along the coastal trail and the Seymore Bridge to Francis State Beach.
rose leptosiphon ( <i>Leptosiphon rosaceus</i> )	Annual herb that occurs in coastal bluff scrub. Elevation: 0–100 meters. Bloom Period: April–July.	--/--/1B.1	<b>None:</b> Suitable habitat absent from the BSA. Species was not observed during the field survey, which was conducted during appropriate blooming period. No CNDDDB occurrences have been recorded within 2 miles of the BSA.

Species Name	General Habitat Description	Legal Status Federal/State/ CNPS Status	Potential for Occurrence and Rationale
San Mateo tree lupine ( <i>Lupinus arboreus</i> var. <i>eximius</i> )	Perennial shrub that occurs in chaparral and northern coastal scrub. Elevation: 90–550 meters. Bloom Period: April–July.	--/--/3.2	<b>Low:</b> Suitable habitat exist on the southeastern extent of the BSA where northern coastal scrub habitat was observed outside the Project area. Species was not observed during the field survey, which was conducted during appropriate blooming period. No CNDDDB occurrences have been recorded within 2 miles of the BSA.
<b>ANIMALS</b>			
<b>Amphibians</b>			
California red-legged frog ( <i>Rana draytonii</i> )	Inhabit permanent and temporary pools, streams, freshwater seeps, and marshes in lowlands and foothills occurring from sea level to 6,500 feet. Long distance dispersal occurs during and after rain. Use adjacent upland habitat for foraging and refuge. Breed during wet season from December–March.	FT/SSC	<b>High:</b> Suitable non-breeding, foraging and dispersal habitat for this species occurs within the BSA. This species has a high potential to occur onsite. Suitable breeding habitat is located south of the sewer authority plant. Species was not observed onsite during the field survey. Six CNDDDB occurrences have been recorded between 2006 and 2019. The closest CNDDDB occurrence (2017) was recorded and photographed within the BSA.
<b>Reptiles</b>			
Green sea turtle ( <i>Chelonia mydas</i> )	Marine environments. Often found in shallow waters with marine grass flats, coral reefs, and algae. Typically found in tropical waters.	FT/--/--	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.
San Francisco garter snake ( <i>Thamnophis sirtalis</i> <i>tetrataenia</i> )	Use a wide range of habitats; prefer grassland or wetland near ponds, marshes, and sloughs; and may overwinter in upland areas away from water.	FE/SE, FP	<b>Moderate:</b> Suitable foraging or dispersal habitat for this species is present within the BSA. Additionally, the lower reaches of Pilarcitos Creek located approximately 600 feet west of the Project site contain suitable habitat to support this species. Species was not observed onsite during the field survey. One CNDDDB occurrence (198X) recorded approximately 1,000 feet southeast of the Project. This species could enter the Project area while traveling through the watercourse.
<b>Fishes</b>			
delta smelt ( <i>Hypomesus transpacificus</i> )	Euryhaline species (tolerant of a wide salinity range) occurring in estuarine waters up to 14 ppt salinity. Found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties.	FT/SE/--	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.

Species Name	General Habitat Description	Legal Status Federal/State/ CNPS Status	Potential for Occurrence and Rationale
steelhead - central California coast Distinct Population Segment (DPS) ( <i>Oncorhynchus mykiss irideus</i> pop. 8)	Well oxygenated clear, cool water habitats with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	FT/SSC	<b>None:</b> BSA does not contain suitable habitat. Although the watercourse drains into Pilarcitos Creek (historic spawning), literature confirms that lower Pilarcitos Creek/lagoon does not provide steelhead winter and spring off-channel refuge habitat for spawning and returning kelts (Wetlands and Water Resources, Inc. 2010). One CNDDDB occurrence recorded (1990) within 2 miles of the BSA.
tidewater goby ( <i>Eucyclogobius newberryi</i> )	Occurs in brackish shallow lagoons and lower stream reaches where water is fairly still, but not stagnant.	FE/CSC	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.
<b>Birds</b>			
California least tern ( <i>Sterna antillarum browni</i> )	Largely a coastal species that feed on fish and nest on sandy dunes or beaches. Once a common species in California; currently nesting colonies are isolated to Southern California and scattered Bay Area beaches.	FE/SE/--	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.
marbled murrelet ( <i>Brachyramphus marmoratus marmoratus</i> )	Spends most of the non-breeding season in off shore or near shore environments near coniferous forests. The only California alcid species to nests inland. Typically nests in the upper branches of redwoods or doug-fir forests. Builds its nests with lichens and mosses.	FT/SE/--	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.
saltmarsh common yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	Frequent low, dense vegetation near water, especially wet meadow, fresh emergent wetland, saline emergent wetland habitats, and valley foothill riparian. Nest usually placed on or within 8 centimeters (3 inches) of ground. May be over water, in emergent aquatic vegetation, dense shrubs, or other dense growth.	--/SSC	<b>Moderate:</b> BSA does not contain marsh or wetland habitat; however, dense vegetation near water to support nesting and foraging behaviors is present. Coastal scrub & marsh habitat is located at the lower reaches of Pilarcitos Creek located approximately 600 feet west of the Project site. Two CNDDDB occurrences recorded (1990) within 2 miles of the BSA, with one recorded near the mouth of Pilarcitos Creek in vicinity of sewage treatment plant.
western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	Found in shores, peninsulas, offshore islands, bays, estuaries, and rivers along the Pacific Coast. Breeding sites entail coastal beaches above the high-tide line, sand spits, dune-backed beaches, and river bars.	FT/SSC	<b>None:</b> BSA does not contain suitable nesting or foraging habitat. One CNDDDB occurrence recorded (2016) near the mouth of Pilarcitos Creek at Half Moon Bay State Beach.
white-tailed kite <i>Elanus leucurus</i>	Open grasslands, meadows, or marshlands for foraging close to isolated trees for nesting and perching.	--/FP	<b>Present.</b> Riparian corridor at the lower reaches of Pilarcitos Creek may provide suitable nesting habitat; however, the proposed Project would not impact trees suitable for nesting. No raptor nests were observed within the BSA. Any occurrence during Project activities would likely be a "flyby" and would not be impact the individual. Observed during field survey flying overhead.

Species Name	General Habitat Description	Legal Status Federal/State/ CNPS Status	Potential for Occurrence and Rationale
<b>Mammals</b>			
Southern sea otter <i>Enhydra lutris nereis</i>	Sea otters are found in nearshore marine environments of California from Ano Nuevo, San Mateo Co. to Point Sal, Santa Barbara Co	FT/--/FP	<b>None:</b> The BSA does not provide suitable habitat for the species. No CNDDDB occurrence recorded within BSA.
<b>Invertebrates</b>			
Western bumble bee <i>(Bombus occidentalis)</i>	In California, populations are currently restricted to high elevation sites in the Sierra Nevada, though there have been few observations on the northern California coast (Xerces Society 2021). Basic habitat requirements: suitable nesting sites for the colonies, nectar and pollen from floral resources available throughout the duration of the colony period (spring, summer and fall), and suitable overwintering sites for the queens (U.S. Forest Service [USFS] 2021).	--/SC	<b>Low:</b> BSA contain marginal suitable habitat and impacts to this species are not expected. One historic CNDDDB occurrence recorded (1953) in Half Moon Bay but exact location unknown.
Monarch butterfly <i>(Danaus plexippus)</i>	Occurs along coast from northern Mendocino to Baja California, Mexico. Winter roost in wind-protected tree groves (eucalyptus [ <i>Eucalyptus</i> spp.], Monterey pine [ <i>Pinus radiata</i> ], and Monterey cypress [ <i>Cupressus macrocarpa</i> ]), with nectar plants and water sources nearby (Xerces Society 2016).	FC/--	<b>Low:</b> BSA contains marginal suitable overwintering and is restricted to the outer western extent of the BSA. Eucalyptus (silver dollar gum and blue gum) and Monterey cypress trees are located along the sewer authority's perimeter fence. This windrow of tree may have the structural integrity to support stable aggregations. Two CNDDDB occurrences recorded (1998) was recorded within 2 miles of the BSA with the closest occurring at Frenchman Creek approximately 0.70 mile north.

Sources: Baldwin et al. (2012), CNDDDB (2021), USFWS (2021b).

**Status Codes:**

-- = No status

Federal: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; MBTA = Protected by Migratory Bird Treaty Act

State: SE = State Endangered; ST = State Threatened; SC = State Candidate; SR = State Rare; SSC = California Species of Special Concern; FP = Fully Protected

**California Native Plant Society:**

List 1B = Rare, threatened, or endangered in California and elsewhere

List 2 = Rare, threatened, or endangered in California, but more common elsewhere

List 3 = Plants about which more information is needed

List 4 = Watch list of plants of limited distribution

**CNPS Threat Code:**

...1 = Seriously endangered in California (more than 80% of occurrences threatened / high degree and immediacy of threat)

...2 = Fairly endangered in California (20–80% occurrences threatened)

...3 = Not very endangered I California (<20% of occurrences threatened or no current threats known)

**Potential for Occurrence Ratings:**

None = No potential for the species or habitat to occur due to lack of suitable habitat in the BSA.

Low = Species has been mapped within 2 miles of the BSA, but record is old/unreliable, the appropriate habitat is not present, or the record is far from the Project area.

Moderate = Records have been mapped near the Project area and/or suitable habitat is present, but records are old or far from the Project area.

High = Species has high likelihood of presence in the BSA, has been mapped in close proximity to the Project area, and suitable habitat is present.

## **APPENDIX E**

### **NWI / NHD Records**





Figure E-1. National Wetland Inventory and National Hydrography Dataset map.

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## **APPENDIX F**

### **Soils Map**



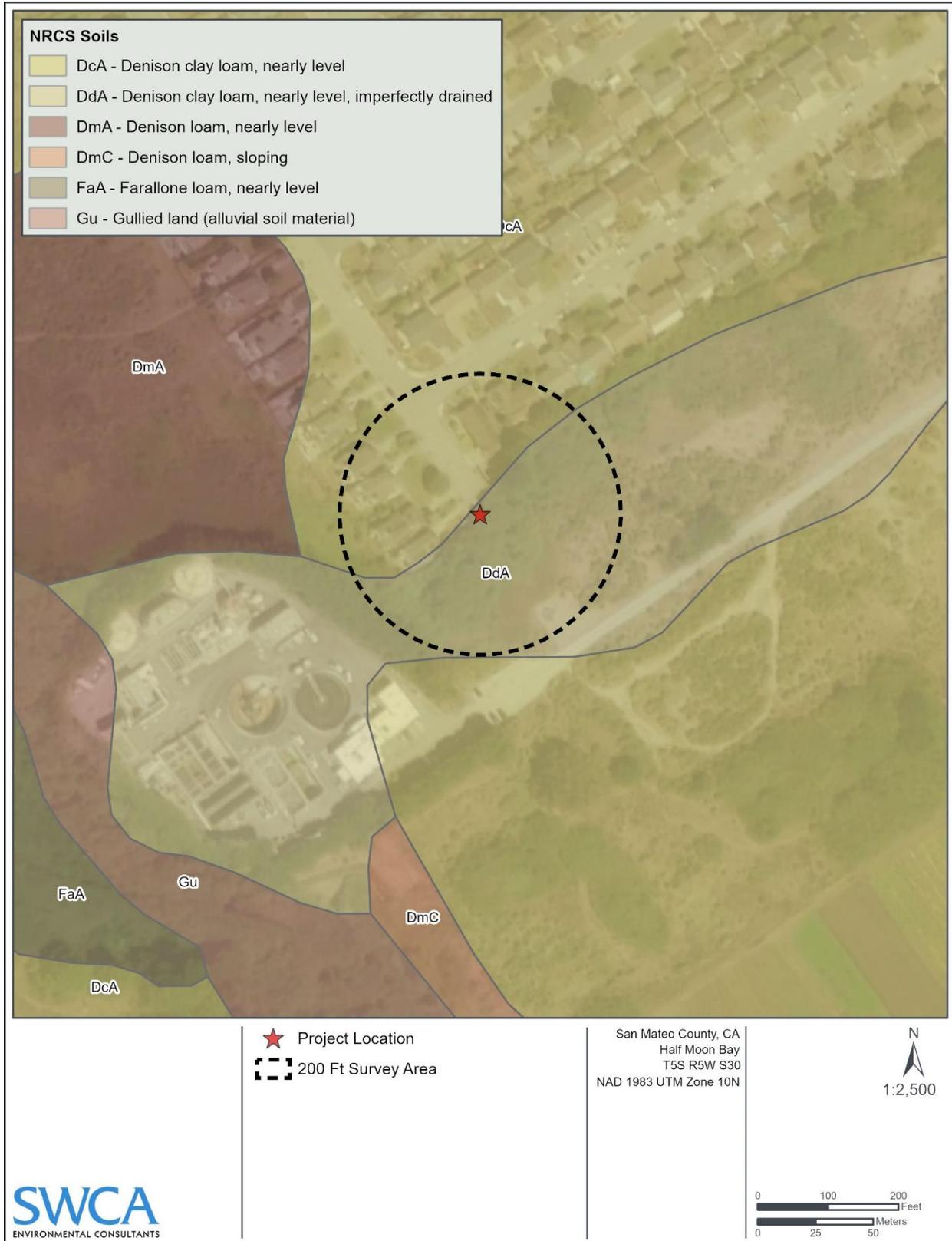


Figure F-1. USGS soils map (Soil Survey Geographic Database [SSURGO]).

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## **APPENDIX G**

### **Species Observed During Field Survey**



**Table G-1. Plant Species Observed During the Field Survey**

Scientific Name	Common Name	Origin	Form	Rarity Status	CAL-IPC Status <sup>1</sup>	Wetland Status (AW 2016) <sup>2</sup>
<i>Aloe</i> sp.	-	-	-	-	-	-
<i>Amaranthus deflexus</i>	Large-fruited amaranth	non-native	annual herb	-	-	-
<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	Western lady fern	native	fern	-	-	FAC
<i>Avena barbata</i>	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
<i>Baccharis pilularis</i>	Coyote brush	native	shrub	-	-	-
<i>Struthiopteris spicant</i>	Deer fern	native	fern	-	-	FAC
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
<i>Bromus madritensis</i>	Foxtail chess, foxtail brome	non-native	annual grass	-	-	UPL
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
<i>Carpobrotus edulis</i>	Iceplant	non-native (invasive)	perennial herb	-	High	-
<i>Chasmanthe floribunda</i>	Chasmanthe	non-native	perennial herb	-	Watch	-
<i>Cirsium vulgare</i>	Bull thistle	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Conium maculatum</i>	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate	FACW
<i>Cortaderia jubata</i>	Andean pampas grass	non-native (invasive)	perennial grass	-	High	FACU
<i>Delairea odorata</i>	Cape ivy	non-native (invasive)	perennial herb	-	High	-
<i>Ehrharta erecta</i>	Upright veldt grass	non-native (invasive)	perennial grass	-	Moderate	-
<i>Elymus glaucus</i>	Blue wildrye	native	perennial grass	-	-	FACU
<i>Epipactis helleborine</i>	Helleborine	non-native	perennial herb	-	-	FACU
<i>Equisetum arvense</i>	Common horsetail	native	fern	-	-	FAC
<i>Erigeron canadensis</i>	Canada horseweed	native	annual herb	-	-	FACU
<i>Eucalyptus globulus</i>	Blue gum	non-native (invasive)	tree	-	Limited	-
<i>Eucalyptus polyanthemos</i>	Silver dollar gum	non-native	tree	-	-	-
<i>Euphorbia peplus</i>	Petty spurge	non-native	annual herb	-	-	-
<i>Foeniculum vulgare</i>	Fennel	non-native (invasive)	perennial herb	-	High	-
<i>Fumaria officinalis</i>	Fumitory	non-native	annual herb	-	-	-
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC

Scientific Name	Common Name	Origin	Form	Rarity Status	CAL-IPC Status <sup>1</sup>	Wetland Status (AW 2016) <sup>2</sup>
<i>Hirschfeldia incana</i>	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-
<i>Hordeum murinum</i>	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
<i>Juncus patens</i>	Rush	native	perennial grasslike herb	-	-	FACW
<i>Lobularia maritima</i>	Sweet alyssum	non-native (invasive)	perennial herb	-	Limited	-
<i>Malva nicaeensis</i>	Bull mallow	non-native	annual herb	-	-	-
<i>Myoporum laetum</i>	Ngaio tree	non-native (invasive)	tree, shrub	-	Moderate	FACU
<i>Nasturtium officinale</i>	Watercress	native	perennial herb (aquatic)	-	-	OBL
<i>Oenanthe sarmentosa</i>	Water parsley	native	perennial herb	-	-	OBL
<i>Persicaria lapathifolia</i>	Common knotweed	native	annual herb	-	-	FACW
<i>Pinus radiata</i>	Monterey pine	native	tree	Rank 1B.1**	-	-
<i>Pittosporum crassifolium</i>	Thick leaf box	non-native	tree, shrub	-	-	-
<i>Polystichum munitum</i>	Western sword fern	native	fern	-	-	FACU
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	non-native	annual herb	-	-	FAC
<i>Pseudognaphalium ramosissimum</i>	Pink cudweed	native	biennial herb	-	-	-
<i>Raphanus sativus</i>	Radish	non-native (invasive)	annual, biennial herb	-	Limited	-
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	-	-	FAC
<i>Rumex acetosella</i>	Sheep sorrel	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Rumex conglomeratus</i>	Green dock	non-native	perennial herb	-	-	FACW
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Salix lasiolepis</i>	Arroyo willow	native	tree, shrub	-	-	FACW
<i>Sambucus racemosa</i>	Red elderberry	native	shrub	-	-	FACU
<i>Scrophularia californica</i>	California bee plant	native	perennial herb	-	-	FAC
<i>Solanum sp.</i>	-	-	-	-	-	-
<i>Sonchus asper ssp. asper</i>	Sow thistle	non-native	annual herb	-	-	FAC
<i>Sonchus oleraceus</i>	Sow thistle	non-native	annual herb	-	-	UPL
<i>Spergularia macrotheca</i>	Sticky sand spurry	native	perennial herb	-	-	FAC
<i>Symphyotrichum chilense</i>	Pacific aster	native	perennial herb	-	-	FAC
<i>Tropaeolum majus</i>	Garden nasturtium	non-native	annual herb, vine	-	-	UPL

Scientific Name	Common Name	Origin	Form	Rarity Status	CAL-IPC Status <sup>1</sup>	Wetland Status (AW 2016) <sup>2</sup>
<i>Urtica dioica</i>	Stinging nettle	native	perennial herb	-	-	FAC
<i>Zantedeschia aethiopica</i>	Callalily	non-native (invasive)	perennial herb	-	Limited	OBL

\* Data from Baldwin et al. (2012)

\*\*The state 1B.1 rank only applies to native/endemic stands found only in Monterey County and southern San Mateo County / Northern Santa Cruz County. This species observation does not belong to a state rare / protected community

<sup>1</sup> California Invasive Plant Council (Cal-IPC) Ratings:

**High:** These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

**Moderate:** These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

**Limited:** These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

<sup>2</sup> Wetland Status Indicators:

**OBL:** Obligate; Almost always occur in wetland.

**FACW:** Facultative Wetland; Usually occur in wetland, but may occur in non-wetland.

**FAC:** Facultative; Occur in wetland and non-wetland.

**FACU:** Facultative Upland; Usually occur in non-wetland, but may occur in wetland.

**UPL:** Upland; Almost never occur in wetland.

**Table G-2. Animal Species Observed During the Field Survey**

Scientific Name	Common Name	Origin	Rarity Status
<i>Buteo jamaicensis</i>	Red-tailed Hawk	Native	
<i>Calypte anna</i>	Anna's hummingbird	Native	
<i>Carpodacus mexicanus</i>	House finch	Native	
<i>Corvus brachyrhynchos</i>	American crow	Native	
<i>Elanus leucurus</i>	White-tailed kite	Native	CDFW Fully Protected
<i>Melospiza melodia</i>	Song sparrow	Native	
<i>Haemorhous purpureus</i>	Purple finch	Native	
<i>Larus occidentalis</i>	Western gull	Native	
<i>Passerculus domesticus</i>	House sparrow	Non-native	
<i>Spinus tristis</i>	American goldfinch	Native	
<i>Streptopelia decaocto</i>	Eurasian collared dove	Non-native	
<i>Sturnus vulgaris</i>	European starling	Non-native	
<i>Tachycineta thalassina</i>	Violet-green Swallow	Native	
<i>Turdus migratorius</i>	American robin	Native	
<i>Zenaida macroura</i>	Mourning dove	Native	
<i>Zonotrichia leucophrys</i>	White-crowned sparrow	Native	

## **APPENDIX H**

### **Photo Documentation**





**Photograph 1.** View facing northwest showing the culvert outfall located in Kehoe Watercourse. Photograph taken July 6, 2021.



**Photograph 2.** View facing south of the Project area located at the end of Pilarcitos Avenue. The culvert repairs will occur within the limit of riparian vegetation (arroyo willow thickets). Photograph taken July 6, 2021.



**Photograph 3.** View facing northwest of the arroyo willows that may be trimmed or removed to allow crew access to conduct culvert repairs. Photograph taken July 6, 2021.



**Photograph 4.** View facing southwest showing ruderal vegetation in the south portion of the BSA, which is outside Project work area. Photograph taken July 6, 2021.



**Photograph 5.** View facing southwest showing the sea fig and fennel patches located in the south portion of the BSA, which is outside the Project work area. Photograph taken July 6, 2021.



**Photograph 6.** View facing northeast of coyote brush scrub located in the southeast portion of the BSA, which is outside the Project work area. Photograph taken July 6, 2021.

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