APPENDIX D

Biological Technical Report

BIOLOGICAL TECHNICAL REPORT

PACIFIC GAS & ELECTRIC COMPANY
THREEMILE SLOUGH PIPELINE CROSSINGS
REMEDIATION AND DECOMMISSIONING PROJECT
SACRAMENTO COUNTY, CALIFORNIA

Project No. 2402-1171

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1.0 INTRODUCTION

Pacific Gas & Electric Company (PG&E) proposes to remediate two existing natural gas transmission pipelines and decommission and remove two previously abandoned pipelines that cross Threemile Slough. The Threemile Slough Pipeline Crossings Remediation and Decommissioning Project (Project) occurs on Threemile Slough between the Brannan Island State Recreation Area and Sherman Island in Sacramento County, California. Two pipeline crossings, L-131Y and L-131Z, will be remediated to address shallow depth of burial. The Project scope of work also includes the decommissioning and removal of two existing pipeline crossings at the same location that are no longer in use and were previously abandoned in place.

The purpose of this Biological Technical Report is to detail the findings of a desktop review and biological field surveys conducted for the proposed Project. This technical report includes a review of pertinent literature, a review of regulatory requirements, results of reconnaissance field surveys, and a preliminary discussion of general impacts of Project implementation on biological resources.

2.0 BACKGROUND

PG&E is proposing to remediate the L-131Y and L-131Z pipeline crossings and decommission two existing and abandoned pipelines at the Threemile Slough crossing location. The Project purpose is to address shallow depth of burial issues on the active pipelines and remove pipeline crossings that are no longer in use. These activities are described in more detail in Section 2.2 below.

2.1 LOCATION

The Project site is located on Threemile Slough between the Brannan Island State Recreation Area and Sherman Island near the confluence with the Sacramento River. The Project site is located within the *Jersey Island, California* United States Geological Survey (USGS) 7.5-Minute Series topographic quadrangle map (Figure 1). The Project site is in Township 3 North, Range 3 East and occurs within Sacramento County, California. Access to the Project site on the north bank of the slough is through the Brannan Island State Park and access to the Project site on the south side of Threemile Slough is from Sherman Island Levee Road.

2.2 PROJECT DESCRIPTION

2.2.1 Pipeline Remediation

The proposed remediation of the shallowly buried pipeline sections consists of placing rock over the pipelines to achieve the prescribed minimum five feet of cover. The marine equipment spread to be used for the project will be mobilized to the site from their home port located in the San Francisco Bay area and will consist of a derrick barge, materials barge, two tugboats, a utility/survey boat, and a work skiff.

The proposed rock placement will begin with placement of approximately 100 cubic yards of gravel or three-quarters-of-an-inch crushed rock around the exposed pipeline to a point approximately 1 to 2 feet above the top of the pipeline to minimize the potential for larger rocks damaging the pipeline coating. Approximately 950 cubic yards of larger rock approximately matching the size of that found on the surrounding slough bed (9-inch) will then be placed above the pipelines to achieve the prescribed minimum five feet of cover. The estimated total volume of rock to be placed is approximately 1,050 cubic yards, and the estimated area over which rock will be placed is approximately 5, 706 square feet. The cross-section of the proposed rock placement would have an approximately 5-foot-wide flat top, and then be sloped at approximately 1.8 to 1 (horizontal to vertical) to a point where it meets the existing grade (Figure 2).

Adding rock to the slough channel will change the water depth of the slough at this location. However, as-built drawings from when the pipelines were installed in 1990 indicate that the pipelines were installed with the required 5-feet of cover, and the proposed remediation is restoring the cover to that 1990 pre-existing condition. Therefore, while the proposed rock placement may slightly alter the flow of water relative to the current condition, there is no impact to the flow of water relative to the 1990 as-built condition.

To place the rock, a crane-deployed clam bucket will be used to pick up rock from the deck of a materials barge and place the rock above the pipelines. A computer monitor with a

real-time surface navigation display will be set up in the crane to provide the crane operator with the precise location of the clam bucket, the pipeline crossings, and the rock placement.

2.2.2 Pipeline Decommissioning and Removal

The proposed decommissioning scope of work for the two 10-inch-diameter L-131 pipelines that were previously filled with cement and abandoned in place includes complete removal of the pipelines beneath the slough, and removal of the pipelines from the waterside slope of the Sherman Island Levee and the north bank of the slough. As-built documentation provided by PG&E indicates that the pipelines were previously removed from the levee crown. The segments that were previously abandoned in the landside slope and south of the landside levee toe are not within the scope of this project. These segments will remain filled with cement and abandoned in place. The decommissioning portion of the project is scheduled to commence as soon as the remediation work is complete, using the same marine equipment described above in Section 2.2.1.

Removal of the terrestrial pipeline sections, which are located on the north bank of the slough and the waterside slope of the Sherman Island levee located on the south side of the slough, will be performed using excavators (Figure 2). Additional terrestrial construction equipment, such as front loaders, backhoes or skid steers may also be used to support the handling of excavated materials. Vegetation will be removed from above the pipelines and adjacent to the planned excavation areas as needed to allow access for excavators and other equipment. An arborist report will be produced to document trees that may require trimming or removal. Vegetation removal will be minimized to the extent feasible.

Excavators will be used to excavate the soil above and adjacent to the pipelines to be removed to fully expose the pipelines. Topsoil and riprap will be stockpiled separately from other excavation spoils to be replaced last. The terrestrial segments of the pipelines will be cut into sections and loaded onto trucks for transportation to an off-site disposal facility.

Once the terrestrial pipeline removal is complete, excavations will be backfilled and compacted using the native spoils that were removed during excavation. Additional fill material may be imported, as needed, to restore the excavations to the pre-project contours. Separately stockpiled topsoil or riprap will be placed last to match the pre-project conditions.

The previously abandoned L-131 pipelines are buried approximately 7 to 12 feet deep across much of the slough. Since the L-131 pipelines were previously filled with cement, removal will require excavation for most of their length. Underwater excavation will be performed using a submersible excavation pump narrowly following the buried pipeline alignment. The submersible excavation pump pulls both sediment and water into the pump inlet, which mix and form a slurry. On the riverbed, hoses connected to the pump outlet transport the slurry a short distance where it will be side-cast onto the riverbed.

Once excavated, a cutting device such as a shear, hydraulically operated saw, or diamond wire saw suspended from the crane will cut the pipelines into sections. The crane will change from a cutting device to a hydraulically operated grapple to pick up each section of pipeline and place it on the materials barge for eventual transportation to a disposal facility.

Underwater excavations or disturbances to the riverbed that result from the submarine pipeline removal are expected to return to pre-Project conditions through side-casting into the

excavation and through natural hydrogeomorphic processes (Figure 2). The terrestrial project worksites will be restored to pre-project conditions, including reseeding of vegetation and restoration of fences or other improvements that may have been impacted by decommissioning activities. A site restoration plan will be prepared at least 30 days prior to construction and submitted to agencies, as required, for approval.

A turbidity monitoring plan will be developed and approved by the agencies before in-water work is started. The turbidity monitoring plan will be implemented to ensure that the turbidity levels from the excavation work remain within approved limits.

2.2.3 Schedule

The Project is planned to occur August through October 2026. All decommissioning activities within the waterway will occur within the seasonal aquatic work window of August 1 to October 31, 2026, to avoid seasonal migrations and coincide with the period when listed anadromous fish species are least likely to occur in the work areas. Onsite work activities will generally be conducted Monday through Friday approximately 10 hours per workday. Longer shifts or additional shifts may occur, if necessary, to complete the Project within the defined seasonal constraints.

3.0 METHODOLOGY

3.1 LITERATURE REVIEW

Biologists from Padre Associates, Inc. (Padre) reviewed available Project design information, Sacramento soil survey map, National Wetland Inventory (NWI) Map, the USGS 7.5-minute topographic map for the Jersey Island quadrangle, and other environmental documents. The California Natural Diversity Database (CNDDB) and California Department of Fish and Wildlife Biogeographic Information and Observation System (BIOS) were queried for records of special-status species reported within a five-mile radius surrounding the Project area (California Department of Fish and Wildlife [CDFW], 2024). A list of federally listed Threatened and Endangered species was obtained from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), and is included under Appendix A (USFWS, 2024a; NMFS, 2024). Special-status taxa that are known to exist or have the potential to exist in the Project area were also identified through a review of relevant literature (California Native Plant Society [CNPS], 2024; Zeiner et al., 1988; 1990a, b).

Padre biologists also reviewed PG&E's Multiple Region Operations & Maintenance Habitat Conservation Plan (MRHCP) (ICF, 2020) for incorporation of Avoidance and Minimization Measures (AMMs) from the MRHCP for protection of covered species potentially impacted by the Project.

3.2 FIELD SURVEY

Reconnaissance-level field surveys for the purposes of site characterization, biological surveys, and preliminary aquatic resources delineation were conducted by Padre biologists on August 15, 2024. The biological resources study area (study area) included all biological resources that could potentially be impacted by the Project. The study area includes all temporary impact areas, staging areas, access routes, and the surrounding areas. Boundaries of the study area are depicted in Figures 3 and 4. Surveys of the study area were conducted to assess the potential for biological resources and to determine the likelihood of occurrence for special-status species and/or sensitive and regulated habitats on the site. Detection methods included direct observation with binoculars; examination and identification of tracks, scats, previous years nests, burrows/diggings, and carcasses/skeletal remains; and identification of vocalizations (calls and songs). No trapping or netting was performed during surveys. Plants not identified in the field were first identified to a taxonomic level necessary to confirm they were not a special-status species, then collected and returned to the lab for identification using a microscope and standard taxonomic references, when possible (Baldwin et al., 2012). Prior to the field surveys, the CNDDB/BIOS query was reviewed to identify recorded occurrences of special-status plant and animal species in the Project vicinity (Appendix B). Special-status species occurring within five miles of the site are depicted in Figure 5. During the field surveys, vegetative cover types and significant habitat features, such as wetlands, potential nest trees, host plants (valley elderberry longhorn beetle [VELB] [*Desmocerus californicus dimorphus*]) and potential dens or burrows, were noted. Lists of plants and wildlife associated with the various cover types were compiled and are included in Appendix C and Appendix D. Site photographs taken during field surveys are provided in Figure 6.

4.0 ENVIRONMENTAL SETTING

4.1 GEOLOGY/GEOMORPHOLOGY

The Project site is located within the Delta subsection of the Great Valley ecological section of California (Miles and Goudey, 1997). The Delta subsection is located in low areas, near sea-level, at the confluence of the Sacramento and San Joaquin Rivers. The geomorphology of this subsection is a practically level plain, except for the levees of the Sacramento and San Joaquin Rivers. Elevations in this subsection range from a few feet on levees to sea-level, or lower, on the rest of the plain. Decomposition of organic deposits and consequential land subsidence is the main geomorphic process. Fluvial erosion and deposition are the main geomorphic processes on and adjacent to levees.

Three soil types that have been mapped by the Natural Resources Conservation Service (NRCS) are distributed across the Project area, as described in Section 4.3 below.

The Project is located within the Sacramento Valley subregion of the Great Valley California floristic region (Baldwin et al., 2012). The northern and western portions of the Project area are located within the Brannan Island State Recreation area. The southern portion of the Project area is located adjacent to agricultural and developed lands. The Project area crosses Threemile Slough which has a federal levee on the south side.

4.2 CLIMATE

The Project site is situated in Climate Zone 14, which includes Northern California's inland areas with some ocean influence (Sunset Western Garden Collection, 2024). The site has a climate that is moderated by the Pacific Ocean. The climate is characterized by slightly warmer winters and cooler summers than would be expected without moderation from the marine air. This is due to the opening in Northern California's Coast Ranges created by San Francisco and San Pablo bays which allows marine air to penetrate further inland. Most of the rainfall occurs during the period from November through April.

The nearest weather station with historic data that is representative of the climate at the Project area is the Concord Buchanan Field Station (041964) approximately 22.0 miles southwest of the Project area. The average maximum temperature for the 25-year period between 1999 and 2024 was 73.6° Fahrenheit (F), with a range of 58.3°F in January to 88.4°F in July. The average minimum temperature was 49.6°F with a range of 40.3°F in December and 58.7°F in August. The average annual precipitation is 14.91 inches with a range of 0.00 inches in July to 3.39 inches in December. No precipitation falls as snowfall in this location (Western Regional Climate Center, 2024).

4.3 SOILS

The soils in the Delta subsection are mostly poorly to very poorly drained. Soil temperature regimes are thermic (defined as mean annual temperature between 60°F and 70°F, with a difference of greater than 9°F between mean summer and winter soil temperatures). Soil moisture regimes are mostly aquic (soil saturated long enough to cause anaerobic conditions) but they are xeric (dry for 45 or more consecutive days) on levees.

Based on a review and analysis of the U.S. Department of Agriculture's Web Soil Survey for Sacramento County (NRCS, 2024), the Project site is underlain by Egbert clay, 0 to 2 percent slopes, Xeropsamments, 1 to 15 percent slopes, and water. The water soil mapping unit does not have a soil description. The Egbert clay and xeropsamments mapping units are described below.

4.3.1 Egbert clay, 0 to 2 percent slopes (map unit 139)

This soil mapping unit is a poorly drained soil formed in alluvium. Typically, the soil profile is described from 0 to 20 inches as clay and from 20 to 60 inches as silt clay loam. Depth to a restrictive feature is typically more than 80 inches. Depth to the water table is typically 0 inches. This mapping unit is classified as hydric soil. This soil mapping unit underlies the entire study area south of Threemile Slough (Sherman Island).

4.3.2 Xerospamments, 1 to 15 percent slopes (map unit 244)

This soil mapping unit is a somewhat excessively drained soil formed in mine spoil or earthy fill. Typically, the soil profile is described as variable from 0 to 60 inches. Depth to a restrictive feature is typically more than 80 inches. Depth to the water table is typically more than 80 inches. This mapping unit is classified as a non-hydric soil. This mapping unit underlies the entire study area north of Threemile Slough (Brannan Island).

4.4 WATER QUALITY AND TEMPERATURE

Water quality, including turbidity and temperature, are important factors in determining habitat suitability for special-status fish species, specifically salmonids. Typically, salmonids prefer cool streams and rivers with a maximum temperature of 64°F (18°C). High water temperatures result in reduced levels of dissolved oxygen, which can impact growth and development of all life stages of salmonids. Salmon have been documented to have an avoidance response to unfavorable dissolved oxygen levels (Carter, 2005). A typical salmonid behavioral response when temperatures become too high is to move upstream to locations where conditions are more favorable.

A review of real time temperature data in the San Joaquin River from the past 14 years at USGS station San Joaquin R a Jersey Point CA (station #11337190), located approximately 4.3 miles downstream of the Project area indicates that water temperatures above 68°F are typical between June and October (USGS, 2024).

Higher flows associated with increased river stages can result in higher turbidity because of the high flow energies suspending sediments. Water quality data from 2017 to 2024 at the San Joaquin R a Jersey Point monitoring station, report that turbidity levels can range from 4.2 to 8.3 NTUs during late summer and early fall and increases to a range of 8 to 86 NTUs from November through January (USGS, 2024).

4.5 HABITAT DESCRIPTION AND VEGETATION

The study area is located south of the City of Rio Vista, between and including Brannan Island and Sherman Island. The surrounding area consists primarily of agricultural and developed land. A recreational area is located on the northern and western sides of Threemile Slough, and the eastern and southern sides of the slough are comprised of fields used for agriculture.

Six vegetation communities were identified onsite during field surveys (Figure 3). Wild oats and annual brome grasslands were present on Sherman Island along the landward levee slope adjacent to Sherman Island East Levee Road and throughout the majority of the upland study area on Brannan Island. A non-natural vegetation community with a significant amount of human disturbance was also present within the southern portion of the study area on Sherman Island. This community was classified as disturbed land. Along the south bank of Threemile Slough, California sycamore and coast live oak riparian woodland was present along the shoreline. On the north bank of Threemile Slough, sandbar willow thicket was present along the steep banks. There were small pockets of emergent hydrophytic vegetation growing on both banks of Threemile Slough but these were not large enough to be considered separate vegetation communities. Threemile Slough is classified as a riverine community. Lastly, there were developed areas present including roads and a parking lot within the study area on both Brannan and Sherman Islands.

Vegetation communities were determined based on species composition and descriptions from *A Manual of California Vegetation* (MCV) (Sawyer et al., 2009) but were modified as needed to accurately describe the existing habitat observed within the study area. Plant species lists are provided for the study area in Appendix C. Vegetation Communities mapped within the study area are shown in Figure 3. Below is a brief description of the six vegetation communities mapped within the study area.

4.5.1 California Sycamore and Coast Live Oak Riparian Woodland

California sycamore and coast live oak riparian woodlands are typically found on the banks of intermittent streams, springs, seeps, and gullies and on the adjacent floodplains. This community can be found throughout California's Central Valley and the South Coast, Transverse, and Peninsular Mountain Ranges at elevations ranging from sea level to approximately 7,800 feet. This riparian woodland community is characterized by a dominance of western sycamore (*Plantanus racemosa*) or coast live oak (*Quercus agrifolia*) in the tree canopy. Associate species in the tree canopy can include white alder (*Alnus rhombifolia*), California black walnut (*Juglans hindsii*), Fremont cottonwood (*Populus fremontii* ssp. *Fremontii*), valley oak (*Quercus lobata*), California bay (*Umbellularia californica*), and a variety of willow species including narrow-leaved willow (*Salix exigua*), Gooding's black willow (*Salix gooddingii*), and red willow (*Salix laevigata*). The understory of this community may have an open or intermittent shrub layer and a sparse or grassy herbaceous layer. This community is well adapted to intermittent flooding and western sycamore often relies on flooding events to scour seeds for higher success in germination rates.

Within the study area, California sycamore and coast live oak riparian woodland was present along the south bank of Threemile Slough. The dominant species observed in the tree canopy was coast live oak. Narrow-leaved willow and California button willow (*Cephalanthus occidentalis*) were present in the shrub layer. Herbaceous species observed in this community were varied but included California rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), delta tule pea (*Lathyrus jepsonii var. jepsonii),* Bermuda grass (*Cynodon dactylon*), lamp rush (*Juncus effusus*), ragweed (*Ambrosia sp*.), and curly doc (*Rumex crispus*). California sycamore and coast live oak riparian woodland is a sensitive natural community (S3) on the California Department of Fish and Wildlife's (CDFW) *California Natural Communities List* (CDFW, 2023).

4.5.2 Developed

This land cover type is not described in the MCV because it is not a natural community and is typically associated with human disturbance. Developed areas are characterized by a high degree of human disturbance and can include a variety of site conditions from buildings to roadways and parking lots. Typically, there is limited vegetation cover and limited habitat for wildlife present in developed areas.

Within the study area, developed lands were mapped along roads on both Sherman Island and Brannan Island and within the paved parking lot and the PG&E valve station on Brannan Island. The ground surface in these areas was highly disturbed and was either covered in asphalt or gravel. Almost no vegetation was growing within this land cover type.

4.5.3 Disturbed Land

This land cover type is not described in the MCV because it is not a natural community and is typically associated with human disturbance. Disturbed land may exhibit a variety of site conditions, but they are typically dominated by non-native and early successional herbaceous species that readily colonize areas that have been recently disturbed or are frequently disturbed.

Within the study area, disturbed land was present within the low-lying field to the south of Sherman Island East Levee Road. There were multiple types of human disturbance identified throughout this field including old storage facilities and equipment, remnants of burned vegetation and trash piles, and soil or debris dump piles. In addition, piles of dredge spoils and vegetation were present from recent dredging that occurred in an agricultural ditch approximately 15 feet west of the study area. Due to the variety of disturbance activities in this area, there was a variety of herbaceous vegetation observed in this community. The dominant vegetation observed in the disturbed area included Bermuda grass and beardless wild rye (*Elymus triticoides*). Where dredged material from the agricultural ditch was piled, there was a higher concentration of hydrophytic plants including common reed (*Phragmites australis*), narrow-leaved cattail (*Typha angustifolia*), willow weed (*Persicaria lapathifolia*), tall cyperus (*Cyperus eragrostis*), and cocklebur (*Xanthium strumarium*), presumably from the seedbank within the dredge spoils. Throughout the disturbed lands there were many disturbance-adapted weedy species like bristly ox-tongue (*Helminthotheca echioides*), bindweed (*Convolvulus arvensis*), bur clover (*Medicago polymorpha*), and Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*).

4.5.4 Riverine

This community is not described in the MCV because it is an open water aquatic community with limited vegetation. Within the study area, Threemile Slough traverses the Project site and is a perennial and navigable waterway. Throughout most of this mapped feature, there is no emergent vegetation present; however, on the north and south banks of Threemile Slough there are dense to sparse stands of tule (*Schoenoplectus acutus* var. *occidentalis*) along with submerged aquatic vegetation like Brazilian waterweed (*Egeria densa*), pondweed (*Potamogeton* sp.), and parrot's feather (*Myriophyllum aquaticum*). Water hyacinth (*Eichhornia crassipes*) was also observed floating on the water's surface along with small patches of frogbit (*Limnobium* sp.). Many of the plant species observed within this community are classified as highly invasive species, including Brazilian waterweed, parrot's feather, and water hyacinth.

4.5.5 Sandbar Willow Thickets

Sandbar willow thickets are typically found on depositions along rivers and streams as well as in temporarily flooded floodplains and springs. This community can be found throughout California at elevations ranging from sea level to approximately 8,900 feet. This riparian shrubland community is characterized by the dominance of narrow-leaved willow, also known as sandbar willow. Associate species can include California rose, Himalayan blackberry, California blackberry (*Rubus ursinus*), arroyo willow (*Salix lasiolepis*), and dusky willow (*Salix melanopsis*). This community is typically the first to colonize sand bars and cut banks and if the flooding disturbance regime is not too intense, later successional communities, like Fremont cottonwood forests, can take their place.

Within the study area, sandbar willow thicket was present along the north bank of Threemile Slough. The dominant species was narrow-leaved willow, which was found in large dense patches along the steep north bank. Associate species observed included northern California black walnut, coast live oak, blue elderberry (*Sambucus nigra* ssp. *caerulea*), Himalayan blackberry, and Gooding's black willow.

4.5.6 Wild Oats and Annual Brome Grassland

Wild oats and annual brome grasslands are dominated by non-native grasses from Europe and Asia. This community is very common in valley and foothill grasslands as well in the open spaces among oak woodlands. Typically, it can be found at elevations ranging from approximately 30 to 3,900 feet in elevation. Within this cover type there is often very limited species diversity. Typical species include wild oat (*Avena fatua*), slender wild oats (*Avena barbata*), ripgut grass (*Bromus diandrus*), and soft chess (*Bromus hordeaceus*). There is a wide variety of native and non-native forbs that can occur in this cover type as well.

Within the study area, wild oats and annual brome grasslands were present on both the south and north sides of Threemile Slough. In the southern portion of the study area, this community was present on the landward levee slope adjacent to Sherman Island East Levee Road. In the northern portion of the study area, this community was present in the large open area surrounding the PG&E valve box. The species composition varied across the study area with some grasslands being dominated by ripgut grass and others being dominated by wild oat. Associate species in these communities also varied but commonly included other non-native upland grasses and forbs including soft chess, rattail sixweek grass (*Festuca myuros*), Bermuda grass, yellow star-thistle (*Centaurea solstitialis*), storksbill (*Erodium sp*.), and Spanish clover (*Acmispon americanus* var. *americanus*).

4.6 WATERS AND WETLANDS

The Project area was examined for evidence of potentially regulated aquatic resources, such as waters and wetlands, under regulatory authority of the U.S. Army Corps of Engineers (ACOE) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. A Preliminary Aquatic Resource Delineation was conducted in August 2024. The Preliminary Aquatic Resource Delineation identified and delineated the geographic extent of Federal jurisdictional waters of the U.S. and wetlands, which are also considered waters of the state (Padre, 2024).

During field survey efforts conducted in August 2024, Padre identified a total of 3.51 acres of Federal jurisdictional waters of the U.S. within the 7.6-acre study area (Figure 4). Threemile Slough is a Navigable Waterway under Section 10 of the Rivers and Harbors Act of 1899 and a Water of the U.S. under Section 404 of the Clean Water Act (CWA) and is subject to ACOE jurisdiction. Threemile Slough is also considered waters of the state regulated by the Regional Water Quality Control Board (RWQCB). There were no other aquatic resources that occurred within the study area above the high tide line (HTL) of Threemile Slough. The bed and bank of Threemile Slough is also regulated under Sections 1600-1617 of the California Fish and Game Code administered by CDFW. Activities within these jurisdictional areas are regulated by the Federal government and/or the State of California.

4.7 WILDLIFE

Wildlife observed within the Project area were characteristic of the delta region and of the riverine and semi-altered habitats that occur onsite. A comprehensive list of wildlife species observed during the surveys is included in Appendix D. Special-status wildlife species occurring, or potentially occurring, within the Project area and near vicinity are discussed in Section 4.8 below.

The vegetation communities on the Project area and surrounding area provide habitat for resident and migratory wildlife species. The composition, density, distribution, and physical characteristics of vegetative communities determine the diversity and abundance of wildlife species utilizing the the Project area. Wildlife species observed and expected within the vegetative cover types present in the Project area are discussed below.

Both the northern and southern portions of the study area consist of highly altered landscapes. In the study area north of Threemile Slough, large portions of the ground have been developed for recreational use within Brannan Island Recreation Area. The vegetated areas within the state park are predominantly non-native annual grasslands. The study area south of Threemile Slough is mostly comprised of a large, disturbed area south of Sherman Island East Levee Road that supports weedy herbaceous species. Both the north and south banks of Threemile Slough have been stabilized with large riprap and support mixed riparian trees and shrubs. Due to the presence of both disturbed habitats and semi-natural lands, wildlife species observed were a mix of species adapted to human disturbance and species that are associated with aquatic habitats. Disturbance adapted species observed included European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), and Eurasian collared-dove (*Streptopelia decaocto*). Additional terrestrial species observed included red-shouldered hawk (*Buteo lineatus*), Swainson's hawk (*Buteo swainsoni*), California ground squirrel (*Otospermophilus beecheyi*), and western fence lizard (*Sceloporus occidentalis*).

Bird species observed along the slough included both resident and migratory species, some of which are closely tied to the aquatic environment. These included mallard (*Anas platyrhynchos*), double-crested cormorant (*Phalacrocorax auritus*), American bittern (*Botaurus lentiginosus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), osprey (*Pandion haliaetus*), and belted kingfisher (*Megaceryle alcyon*).

Within the Project area, there is suitable nesting habitat for a variety of migratory birds and raptors. Trees along Threemile Slough, including coast live oak and eucalyptus (*Eucalyptus* sp.), occur in tall enough stands to provide potential nesting habitat for large raptors like Swainson's

hawk and red-tailed hawk (*Buteo jamaicensis*). The shrubland habitats along the north and south banks of Threemile Slough also provide potential nesting habitat for songbirds and other migratory birds like song sparrow (*Melospiza melodia*).

Threemile Slough flows through the Project area and provides habitat for a wide variety of aquatic species. A range of fish species may utilize Threemile Slough at the Project site including delta smelt (*Hypomesus transpacificus*), green sturgeon (*Acipenser medirostris*) and salmonid species (*Oncorhynchus* sp.).

4.8 SPECIAL STATUS SPECIES

For the purposes of this Report, a special-status species is a plant or animal species that is:

- Listed as endangered, threatened, or a candidate species under the federal Endangered Species Act (FESA);
- Listed as endangered, threatened, or a candidate species under the California Endangered Species Act (CESA);
- Listed as a fully protected species or Species of Special Concern by the CDFW;
- A plant species that is on the CNPS's Rare Plant Ranking System as List 1 or 2;
- Considered rare, threatened, or endangered under the California Environmental Quality Act (CEQA) Guidelines 15380(d) as the species' survival and reproduction in the wild are in immediate jeopardy, present in such small numbers throughout all or a significant portion of its range that it may become endangered, or likely to become endangered within the foreseeable future throughout all or a significant portion of its range; and/or
- Species protected by specific Federal or State regulations or local ordinances.

Based on the literature review and species lists obtained from USFWS (IPaC Trust Resource Report) (Sacramento Office Project code: 2024-0081760) and from NMFS (USFWS, 2024a; NMFS, 2024) for Jersey Island quadrangle, a list of special-status species that have been reported within a five-mile radius surrounding the Project area has been compiled. Special-status species included on the USFWS and NMFS species lists or with CNDDB occurrences within five miles of the Project area were evaluated for potential occurrence in Table 4-1 (CDFW, 2024a). Table 4-1 also includes rationale for why certain species were excluded from further analysis in this document. Special-status species occurring within five miles of the Project are also depicted in Figure 5.

An analysis of the likelihood of occurrence for each species was conducted based on species ranges, previous observations, contemporary sightings, and presence of suitable habitat elements. The Project may be located outside of the known range of some species, or within the geographic range for a certain species, but suitable habitat is absent onsite. For this analysis, potential special-status species that occur in the general area of the Project, and for which the Project may provide habitat, are discussed in greater detail in Sections 4.8.1 and 4.8.2 below.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
PLANTS			
Carex comosa Bristly sedge	2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland along lake margins and wetlands from 0 to 1,312 feet in elevation. Blooms from July to September.	**Moderate**. Potentially suitable habitat is present at the Project site along Threemile Slough. The nearest recorded historic occurrence (Occ. #4; 1988) is located approximately 3.9 miles southeast of the Project area. The nearest recent occurrence (Occ. #11; 2009) is located approximately 13.5 miles northeast of the Project area. Occurrences of this species are located in tidal marsh habitat along sloughs.
Chloropyron molle ssp. *molle (prev. Cordylanthus mollis* spp. *mollis*) Soft salty bird's-beak	FE, 1B.2	Saltmarsh and coastal wetlands from 0 to 33 feet in elevation. Blooms from July to October.	**None**. There is no suitable salt marsh habitat present at the Project site to support this species. The nearest recorded historic occurrence (Occ. #18; 1972) is located approximately 6.5 miles southwest of the Project area. The nearest recent occurrence (Occ. #28; 2017) is located approximately 12.3 miles northwest of the Project area.
Extriplex joaquinana San Joaquin spearscale	1B.2	Alkaline environments, chenopod scrub, meadows and seeps, playas, valley and foothill grasslands from 0 to 2,700 feet in elevation. Blooms from April to October.	**None**. There is no suitable habitat present at the Project site to support this species. The nearest recorded occurrence (Occ. #22) is located approximately 2.4 miles north of the Project area. However, this is a historical occurrence from 1891. The nearest recent occurrence (Occ. #132; 2015) is located approximately 12.6 miles southwest of the Project area.
Hibiscus lasiocarpos var. *occidentalis* Woolly rose-mallow	1B.2	Freshwater marshes and swamps, often on the side of levees at elevations ranging from 0 to 400 feet in elevation. Blooms from June to September.	**Moderate**. Potentially suitable habitat is present along the north and south banks of Threemile Slough. The nearest recorded occurrence (Occ. #36) is located approximately 2.1 miles north of the Project area. However, this is a historical observation from 1891. The nearest, recent occurrence (Occ. #197; 2012) is located approximately 4.1 miles southeast of the Project area on a small levee.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Lathyrus jepsonii var. *jepsonii* Delta tule pea	1B.2	Freshwater and brackish marshes. Often associated with *Typha* and *Juncus* spp. found along marsh edges. Occurs from 0 to 20 feet in elevation. Blooms from April to August.	**Present**. Delta tule pea was observed within the Project area during surveys conducted on August 15, 2024. The plant was not blooming but was identifiable at the time of the surveys. The nearest recorded occurrence of this species (Occ. #145; 2009) is located approximately 1.4 miles south of the Project area on the banks of Threemile Slough.
Lilaeopsis masonii Mason's lilaeopsis	1B.1	Freshwater and brackish marshes, riparian scrub in tidal zones with muddy or silty soils ranging from 0 to 30 feet in elevation. Blooms from April to November.	**Moderate**. Suitable habitat is preset at the Project site, particularly along the south bank of Threemile Slough, though suitable mudflat substrate is limited due to the presence of existing rip rap. Small areas of mud substrate are present in interstitial spaces between rocks observed in several locations on the south bank. Occurrences of this species, if present, would be limited to small populations or occurrences of individual plants. The nearest recorded occurrence (Occ. #37; 2009) is located approximately 390 feet east of the Project area and 556 feet west of the Project area, along Threemile Slough within Brannan Island State Recreation Area.
Limosella australis Delta mudwort	2B.1	Freshwater and brackish marshes, usually on the muddy banks of streams. Found at elevations ranging from sea level to approximately 10 feet. Blooms from May to August.	**Moderate**. Suitable habitat is preset at the Project site, particularly along the south bank of Threemile Slough, though suitable mudflat substrate is limited due to the presence of existing rip rap. Small areas of mud substrate are present in interstitial spaces between rocks observed in several locations on the south bank. Occurrences of this species, if present, would be limited to small populations or occurrences of individual plants. The nearest recorded historic occurrence (Occ. #57; 1986) is located approximately 265 feet east of the Project area on the northeast side of Brannan Island State Recreation Area. The nearest, recent occurrence (Occ. #8; 2009) is located approximately 0.4 miles west of the Project area on the opposite side of Brannan Island.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose	FE, SE, 1B.1	Inland dunes and remnant river bluffs at elevations ranging from sea level to approximately 100 feet. Blooms from March to September.	**Moderate**. Limited suitable habitat is present for this species within the study area on the north side of Threemile Slough in areas with sandy substrate, though no sand dunes occur and sandy substrate within the study area occurs in areas of high disturbance. Occurrence #5 is partially mapped within the study area. This occurrence of Antioch Dunes evening-primrose has been observed consistently since 1980 on the remnants of native dune habitat and was observed during surveys conducted on August 15, 2024, approximately 200 feet east of the Project study area.
Plagiobothrys hystriculus Bearded popcornflower	1B.1	Often in vernal swales of valley and foothill grasslands and vernal pool margins at elevations ranging from sea level to approximately 900 feet. Blooms from April to May.	**None**. There is no suitable vernal pool habitat to support this species at the Project site. The nearest recorded occurrence (Occ. #8; 2005) is located approximately 3.6 miles northwest of the Project area in a vernal swale.
Potamogeton zosteriformis Eel-grass pondweed	2B.2	In freshwater marsh wetlands at elevations ranging from sea level to approximately 4,265 feet. Blooms from June to July.	**Low**. Aquatic habitats at the Project site are brackish and would not provide suitable habitat for eel-grass pondweed. The nearest recorded occurrence (Occ. #7) is located approximately 2.9 miles southeast of the Project area on Webb Island; however, this is a historical occurrence from 1949. All other recorded occurrences are located over 75.0 miles from the Project area and contemporary occurrences are in freshwater lakes and creeks, primarily in Shasta County, CA.
Sagittaria sanfordii Sanford's arrowhead	1B.2	Assorted freshwater habitats including swamps and marshes at elevations ranging from 0 to approximately 2,130 feet. Blooms from May to October, sometimes into November.	**Moderate**. Potentially suitable habitat is present along Threemile Slough at the Project site. The nearest recorded occurrence (Occ. #84; 2009) is located approximately 4.2 miles north of the Project location on an exposed sandy shoreline of the Sacramento River with similar site conditions to those present at the Project site.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Symphyotrichum lentum Suisun marsh aster	1B.2	Freshwater and brackish marshes and swamps at elevations ranging from sea level to approximately 10 feet. Blooms from April to November.	**Moderate**. Suitable habitat is present along the banks of Threemile Slough at the Project site. The Project area is located within the mapped limits of Occurrence #32 from 2009, where Suisun marsh aster was found on both sides of Threemile Slough and along the southern portion of Brannan Island.
INVERTEBRATES			
Apodemia mormo langei Lange's metalmark butterfly	FE	Stabilized sand dunes of the Antioch Dunes, closely associated with Antioch Dunes buckwheat (*Eriogonum nudum* var. *psychicola*).	**None**. The Lange's metalmark butterfly is endemic to the Antioch Dunes and is not known to occur outside of the Antioch Dunes National Wildlife Refuge. The Project site is located outside of the known range of this species.
Branchinecta lynchi Vernal pool fairy shrimp	FT	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Regionally inhabits small, clear-water sandstone depression pools and grass swales, earth slump or basalt-flow depression pools.	**None**. There is no suitable vernal pool habitat to support this species at the Project site. The nearest recorded occurrence (Occ #667; 2019) is located approximately 10.0 miles west of the Project area.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Ranges from California's Central Valley from Shasta County through Madera County. Dependent on its host plant, the blue elderberry shrub (*Sambucus mexicana*) in the central valley and low foothills.	**Moderate.** The Project site is within the known range of valley elderberry longhorn beetle (VELB) and several blue elderberry shrubs were identified within the Project study area and adjacent locations. The nearest recorded occurrence of VELB (Occ. #53; 1987) is located approximately 20.7 miles northeast of the Project area. MRHCP modeled habitat for the VELB occurs on the north bank of Threemile Slough and in terrestrial areas south of Threemile Slough at the Project location (ICF, 2020).
Lepidurus packardi Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Central Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud bottomed and highly turbid.	**None**. There is no suitable vernal pool habitat to support this species at the Project site. The nearest recorded occurrence (Occ. #161; 2019) is located approximately 10.1 miles west of the Project area.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
FISHES			
Acipenser medirostris Green sturgeon – Southern DPS	FT, CSC	Anadromous fish species found in near shore marine and estuarine environments from Alaska to Baja California, Mexico. Juveniles have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin Rivers. Green sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. The Sacramento River watershed is the only confirmed present and historical spawning area. Spawning occurs in the Sacramento River and has recently been documented in the Feather River and Yuba River. The San Francisco Bay Delta Estuary provides year-round rearing habitat for juveniles and foraging habitat for non-spawning adults and subadults in summer months (NMFS, 2018)	**High**. The Project area is located within the vicinity of recorded occurrence #9 from 2019, where observations of green sturgeon have been recorded in the Delta consistently since 1963. In addition, juvenile green sturgeon have been captured annually between 2015 and 2019 at the Sherman Island sampling station, approximately 7.7 miles downstream from the Project area (CDFW, 2019).
Hypomesus transpacificus Delta smelt	FT, SE	Endemic to the Sacramento/San Joaquin Delta, they occur in the Delta primarily below Isleton on the Sacramento River, below Mossdale on the San Joaquin River, and in Suisun Bay. Delta smelt mainly inhabits the freshwater-saltwater mixing zone of the estuary, except during its spawning season, when it moves into freshwater during the early spring months from March until May.	**High**. Suitable habitat occurs at the Project area. Individuals were captured during the 2023 CDFW 20-millimeter (mm) survey approximately 3.8 miles downstream of the Project area (station 706) (IEP, 2024). Delta smelt have not been detected at the nearest sampling station (station 707) since 2016 (IEP, 2024). The nearest recorded CNDDB occurrence (Occ. #7; 2019) is located approximately 0.6 miles west of the Project area, on the opposite side of Brannan Island in the Delta.
Oncorhynchus mykiss irideus pop. 11 Steelhead - Central Valley DPS	FT, CSC	Anadromous species occurring in the Pacific Ocean that migrate through the Sacramento and San Joaquin River systems, Sacramento-San Joaquin Delta, and San Francisco Bay to spawning habitat.	**High**. The species could be found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the site; however, habitat onsite is not suitable for spawning. The Project area is located within the vicinity of recorded CNDDB occurrence #27 from 2012, where observations of steelhead have been recorded in the Delta consistently since 1976.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Oncorhynchus tshawytscha pop. 11 Chinook salmon - Central Valley spring-run ESU	FT, ST	Anadromous species occurring in the Pacific Ocean that spawn in the Sacramento and San Joaquin Rivers and their tributaries.	**High**. The species could be found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the site. Habitat onsite is not suitable for spawning. The nearest recorded CNDDB occurrence (Occ. #17; 2004) is located approximately 32.0 miles upstream of the Project area, in Sacramento. CDFW spring Kodiak trawl surveys captured spring-run Chinook salmon at the confluence of the Sacramento River and Threemile Slough approximately one mile downstream of the Project area in April 2023 (station 707)(IEP, 2024).
Oncorhynchus tshawytscha pop. 7 Chinook salmon - Sacramento River winter-run ESU	FE, SE	Anadromous species occurring in the Pacific Ocean that spawn in the Sacramento River and its tributaries.	**High**. The species could be found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the site. Habitat onsite is not suitable for spawning. The nearest recorded occurrence (Occ. #2; 2004) is located approximately 32.0 miles upstream of the Project area, in Sacramento. CDFW spring 20-mm surveys captured chinook salmon at the confluence of the Sacramento River and Threemile Slough approximately one mile downstream of the Project area in March 2024 (station 707)(IEP, 2024).
Central Valley fall-run chinook salmon ESU *Oncorhynchus tshawytscha*	CSC	Anadromous species occurring in the Pacific Ocean that migrate through the San Francisco Bay, Sacramento-San Joaquin Delta, and Sacramento River to spawning habitat.	**High.** The species can occur in the Project area seasonally during migration to spawning habitat upstream of the site. Habitat onsite is not suitable for spawning. CDFW spring Kodiak trawl surveys captured Central valley fall-run Chinook salmon at the confluence of the Sacramento River and Threemile Slough approximately one mile downstream of the Project area in April 2023 (station 707)(IEP, 2024).

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Spirinchus thaleichthys Longfin smelt – San Francisco Bay-Delta DPS	FPE, ST	Occupies a variety of coastal waters including estuaries, bays, and rivers. During breeding, this species spawns in freshwater tributaries near the ocean.	**High**. Suitable habitat occurs at the Project area. Individuals were routinely captured upstream and downstream of the Project area during the 2023 CDFW 20-millimeter (mm) survey (stations 705, 706, 707, 711) (IEP, 2024). Individuals were also captured approximately 3.8 miles downstream of the Project area in April of 2024 (station 706) (IEP, 2024). The Project area occurs in the vicinity of CNDDB recorded occurrence #17 from 2012 where observations of longfin smelt have been recorded consistently since 1946.
AMPHIBIANS			
Ambystoma californiense pop. 1 California tiger salamander – Central California DPS	FT, ST	Occurs in grassland habitat. Needs underground refuges, especially ground squirrel burrows during summer and vernal pools or other seasonal water sources for breeding in winter.	**Low**. There is no suitable aquatic breeding habitat at the Project site or in the surrounding area to support this species. Due to the Project site's isolated location on two islands in the delta, California tiger salamander is unlikely to disperse into the study area from known occurrences. The nearest recorded occurrence (Occ. #849; 2007) is located approximately 9.4 miles northwest of the Project area in the Montezuma Hills west of the Sacramento River and there are no CNDDB occurrences of this species on Brannan Island or Sherman Island. Terrestrial areas north and south of Threemile Slough are modeled as CTS potential upland habitat in PG&E's MRHCP (ICF, 2020). The terrestrial habitat north of Threemile Slough within the state park supports small mammal burrows, which are important components of CTS upland habitat; however, the density of burrows within the study area was extremely low and suitable breeding habitat in the surrounding area and within Brannan Island is limited. Therefore, the probability of occurrence for CTS is considered low.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Rana draytonii California red-legged frog	FT, CSC	Found in marshes, lakes, reservoirs, ponds, slow moving segments of streams, and other usually permanent water in lowlands, foothill woodlands, and grasslands. Requires aquatic habitat with extensive emergent vegetation.	**None**. There is no suitable aquatic habitat at the Project site to support this species. The nearest recorded occurrence (Occ. #531; 2002) is located approximately 12.1 miles southwest of the Project area in a shallow, perennial stream.
Spea hammondii Western spadefoot	FPT, CSC	Primarily found in grasslands but can be found in other open areas of woodlands, coastal sage scrub, and chaparral. Breeding requires ponded water, often occurring seasonally from rainfall.	**None**. There is no suitable aquatic habitat at the Project site to support this species. The nearest recorded occurrence (Occ. #1,366) is located approximately 18.0 miles southeast of the Project location. However, this is a historical occurrence from 1922 and is likely extirpated. The nearest occurrences from the last 20 years is located approximately 30.3 miles from the Project site (Occ. #630 and #1497).
REPTILES			
Emys marmorata Western pond turtle	FPT, CSC	Ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat (sandy banks, grassy open fields) for egg laying.	**High**. Threemile Slough provides suitable aquatic habitat to support this species, and suitable basking sites were observed within the study area during surveys. Potentially suitable nesting habitat is present along the north and south banks of Threemile Slough, particularly in sandy substrate. The nearest recorded occurrence (Occ. #1,344; 2016) is located approximately 1.8 miles east of the Project location near Seven Mile Slough.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Thamnophis gigas Giant gartersnake	FT, ST	Freshwater marshes and streams. Has adapted to drainage canals and irrigation ditches with slow moving water, especially around rice fields. Prefers locations with vegetation close to the water for basking. Breeds in forests and streamside trees where it can hunt its prey by ambush in the dense cover. Has also been known to forage in residential areas.	**Moderate**. Potentially suitable aquatic habitat is present at the Project site on the north and south banks of Threemile Slough. Emergent vegetation present within Threemile Slough could provide suitable cover and foraging habitat for giant gartersnake (GGS). Suitable upland habitat occurs in adjacent terrestrial areas, particularly north of Threemile Slough where small mammal burrows are present, though the density of small mammal burrows within the study area was low. The nearest recorded occurrence (Occ. #150; 1998) is located approximately 1.4 miles southwest of the Project location where an individual was observed on the water side of a levee along the Sacramento River. A more recent occurrence is located approximately 2.5 miles southeast of the Project area on the south side of Twitchell Island along the San Joaquin River where GGS were observed basking in 2016 (CNDDB Occ. #407). MRHCP modeled habitat for giant gartersnake upland and aquatic habitat occurs on Threemile Slough and surrounding upland areas at the Project location (ICF, 2020).
BIRDS			
Aquila chrysaetos Golden eagle	FP, WL	Forages over open grasslands, savannahs, and deserts. Nests in large trees or cliffs.	**Low**. Although potentially suitable large trees are present in the vicinity of the study area, they are unlikely to support nesting of golden eagle due to their location in a public state recreational area with elevated levels of human disturbance. The nearest recorded occurrence (Occ. #342; 1984) is located approximately 3.9 miles northwest of the Project area where a nest was observed in a power pole.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Athene cunicularia Burrowing owl	SC, CSC, BCC	Dry, open grasslands, treeless plains with sparse vegetation such as prairie, pastures, desert, or shrub steppe, and airports. Underground nesting habitat in burrows and often associated with prairie dogs and ground squirrels, whose burrows they use for nests.	**Low**. The Project area is located within the mapped limits of occurrence #486 from 1989 where one individual burrowing owl was observed at Brannan Island State Recreation Area. Although California ground squirrels were observed at the Brannan Island State Recreation Area, burrow density within the Project study area was extremely low and no burrows suitable for burrowing owl occupation were observed within the study area. A more recent recorded occurrence (Occ. #2081; 2010) is located approximately 3.4 miles west of the Project area.
Buteo swainsoni Swainson's hawk	ST	Nests in riparian forests, remnant riparian trees, planted wind breaks, residential shade trees, and solitary upland oaks. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	**High**. Suitable nesting habitat is present within the study area and suitable foraging habitat occurs onsite and in the surrounding area. One Swainson's hawk adult was observed soaring over Brannan Island during surveys conducted on August 15, 2024. The nearest recorded occurrence (Occ. #1,674; 2003) is located approximately 0.3 miles north of the Project area on Twitchell Island.
Circus hudsonius Northern harrier	CSC, BCC	Nest (ground nester) and hunts in a variety of open habitats dominated by herbaceous vegetation. Breeds and winters in open spaces such as fields, savanna, and freshwater and brackish marshes and their adjacent grasslands.	**Low-Nesting/High-Foraging**. Suitable foraging habitat is present at the Project site. Nesting habitat is limited due to the high level of disturbance present in the upland portions of the study area. The nearest recorded occurrence (Occ. #91; 2007) is located approximately 4.0 miles southwest of the Project area.
Elanus leucurus White-tailed kite	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages over grasslands, marshes, and oak savannas close to isolated, dense-topped trees for nesting and perching.	**Moderate-Nesting/High-Foraging**. Suitable foraging habitat is present at the Project site. Potentially suitable nesting habitat is also present in the trees and shrubs surrounding the study area. The nearest recorded occurrence (Occ. #193; 2007) is located approximately 0.5 miles southwest of the Project area, just east of Threemile Slough, where a breeding pair was observed hunting and courting in the company of one juvenile. Habitat in the vicinity of this occurrence consisted of grassland and pastureland with scattered trees.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
Falco peregrinus anatum American peregrine falcon	FDL, SDL	Found in a variety of open habitats. Nests consists of a scrape or a depression or ledge in an open cliff sites, banks, dunes, mounds, or man-made structures near wetlands, lakes, rivers or other water.	**Low-Nesting/High-Foraging**. There is no suitable nesting habitat within one mile of the Project site although this species may be observed foraging within the study area. Occurrence #79 from 2018 is mapped to a non-specific area within the Jersey Island quadrangle which includes the Project site. This species is known to nest on bridges in the region.
Melospiza melodia pop. 1 Song sparrow ("Modesto" population)	CSC	Endemic resident of the north-central portion of the Central Valley. Prefers habitats with moderately dense vegetation, standing or running water, semi-open canopies, and open ground or leaf litter for foraging. Preferred habitat is believed to be freshwater marshes with emergent vegetation including tule (*Schoenoplectus* sp.), cattails (*Typha* sp.), or valley oak (*Quercus lobata*) riparian forests with an understory of blackberry (*Rubus* sp.).	**Moderate**. Suitable nesting and foraging habitat is present at the Project site. Song sparrows were observed during surveys conducted on August 15, 2024, although it is not clear if it was the Modesto population. The nearest recorded occurrence (Occ. #41; 2008) is located approximately 1.3 miles southwest of the Project area, on the northern end of Decker Island.
Rallus obsoletus obsoletus California Ridgway's rail	FE, SE, FP	Require tidal sloughs that have direct tidal circulation, predominant cover of pickleweed with stands of California cordgrass (*Spartina foliosa*) at lower elevations, high marsh cover consisting of tall stands of pickleweed, gumplant, wrack, and abundant invertebrate populations for foraging.	**None**. There is no suitable saltmarsh habitat present at the Project site to support this species. The nearest recorded occurrence (Occ. #102; 1994) is located approximately 17.1 miles southwest of the Project area.
Riparia riparia Bank swallow	ST	Can be found along rivers and streams near the steep eroded banks where they nest. Can also be found nesting in quarries and road cuts.	**Low-Nesting/High-Foraging**. There is no suitable nesting habitat within the study area to support this species due to a lack of step eroded banks where cavity nests could occur. There is, however, an occurrence (Occ. #201; 2000) located approximately 990 feet northeast of the Project area at the Brannan Island State Recreation Area on a sandy outcrop along Seven Mile Slough. This species has commonly been observed on Decker, Sherman, and Bradford Island in recent years and may forage in the Project area.

Table 4-1. Special-Status Species Considered for Potential Occurrence in the Vicinity of the Threemile Slough Pipeline Crossings Remediation and Decommissioning Project

Scientific Name **Common Name**	**Status[1]**	**Habitat**	**Probability of Occurrence**
MAMMALS			
Lasiurus frantzii Western red bat	CSC	Roosts in forest and woodland habitats from sea level to mixed conifer forests but feeds over a variety of habitats including grasslands and shrublands. Roosts almost exclusively in riparian areas. Prefers cottonwoods, sycamores, and willows. It makes relatively short migrations between summer and winter ranges, which occur between March-May in spring and September and October in autumn.	**Moderate**. Potentially suitable roosting habitat is present in the riparian trees on Brannan Island and Sherman Island. The nearest recorded occurrence (Occ. #64; 1999) is located approximately 0.4 miles west of the Project area in cottonwood and sycamore trees on Brannan Island.
[1]Status: FE = Federal Endangered FPE = Federal Proposed Endangered FT = Federal Threatened FPT = Federal Proposed Threatened FDL = Federal Delisted SE = California State Endangered ST = California State Threatened SC = California State Candidate SDL = California State Delisted FP = CDFW Fully Protected WL = CDFW Watch List CSC = California Species of Special Concern BCC = USFWS Bird of Conservation Concern		1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California 1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California 2B.1 = Rare, threatened, or endangered in California but more common elsewhere; seriously threatened in California 2B.2 = Rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California	

4.8.1 Special-Status Plants

This section includes a discussion of special-status plant species that have potential to occur within the Project area based on habitat availability and known locations of species within the vicinity of the Project area. Eight species were determined to have a moderate to high likelihood of occurrence within the Project area and are discussed in detail below.

4.8.1.1 Bristly sedge (*Carex comosa*)

Bristly sedge (*Carex comosa*) is a California Rare Plant Rank (CRPR) 2B.1 listed species. It is native throughout California and is found elsewhere in North America and beyond. It grows in wetland areas including lake-margins of marshes and swamps, coastal prairie, and valley and foothill grasslands. This sedge produces dense clumps of erect stems up to about 100 centimeters and it blooms between July and September. Potentially suitable habitat is present at the Project site along Threemile Slough. The nearest recorded occurrence (Occ. #4; 1988) is a historic occurrence located approximately 3.9 miles southeast of the Project area. The nearest recent occurrence (Occ. #11; 2009) is located approximately 13.5 miles northeast of the Project area. Occurrences in this area are located in tidal marsh habitat along sloughs. This species was not observed during surveys conducted during the blooming period in August; however, suitable habitat occurs within the study area.

4.8.1.2 Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*)

Woolly rose-mallow is a CRPR List 1B.2 species. It is a perennial herbaceous species that blooms between June and September. It occurs in freshwater marsh habitat at elevations up to 400 feet and is often found growing in riprap on levees. Potentially suitable habitat is present along the north and south banks of Threemile Slough. The nearest recorded occurrence (Occ. #36) is located approximately 2.1 miles north of the Project area. However, this is a historical observation from 1891. The nearest, recent occurrence (Occ. #197; 2012) is located approximately 4.1 miles southeast of the Project area on a small levee. This species was not observed during surveys conducted in August during the blooming period; however, suitable habitat occurs within the study area.

4.8.1.3 Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)

Delta tule pea is a CRPR List 1B.2 species. It is a perennial herb associated with both brackish marshes and freshwater marshes throughout the Delta and Central Valley. The delta tule pea occurs at elevations ranging from approximately 0 to 15 feet and blooms between May and July (sometimes April through August). Delta tule pea was observed within the study area during surveys on August 15, 2024, on the south bank of Threemile Slough. The plants were not blooming but were still identifiable. The nearest recorded occurrence (Occ. #145; 2009) is located approximately 1.4 miles south of the Project area on the banks of Threemile Slough. Based on observations of individuals within the study area, this species is present.

4.8.1.4 Mason's liliaeopsis (*Lilaeopsis masonii*)

Mason's lilaeopsis is a state-listed rare species, and a CRPR List 1B.1 species. This species is found from approximately 0 to 35 feet in elevation and is associated with tidally influenced marsh habitats, mudflats, and levee banks in the Delta. It blooms between April and November (sometimes between June and August), but oftentimes the blooming window is much

more narrow given dynamic tidal environment in which this plant occurs. Suitable habitat is preset at the Project site, particularly along the southern bank of Threemile Slough though suitable mudflat substrate is limited due to the presence of existing rip rap. Small areas of mud substrate are present in interstitial spaces between rocks observed in several locations on the south bank. Occurrences of this species, if present, would be limited to small populations or occurrences of individual plants in small areas of mudflat between individual rocks. The nearest recorded occurrence (Occ. #37; 2009) is located approximately 390 feet east of the Project area and 556 feet west of the Project area, along the edge of Brannan Island State Recreation Area. This species was not identified during surveys conducted in August; however, small areas of suitable habitat occur within the study area.

4.8.1.5 Delta mudwort (*Limosella australis*)

Delta mudwort is a CRPR List 2B.1 species. It is a stoloniferous, aquatic, perennial herb in the Scrophulariaceae (snapdragon) family, and is restricted to muddy, intertidal flats and banks in brackish marshes, freshwater marshes, and riparian scrub in the Sacramento-San Joaquin Delta. It is found in association with other rare plants, especially Mason's lilaeopsis, delta tule pea, and Suisun Marsh aster. It blooms between May and August. Suitable habitat is preset at the Project site, particularly along the southern bank of Threemile Slough though suitable mudflat substrate is limited due to the presence of existing rip rap. Small areas of mud substrate are present in interstitial spaces between rocks observed in several locations on the south bank. Occurrences of this species, if present, would be limited to small populations or occurrences of individual plants in small areas of mudflat between individual rocks. The nearest recorded occurrence (Occ. #57; 1986) is a historic occurrence located approximately 265 feet east of the Project area on the northeast side of Brannan Island State Recreation Area. The nearest, recent occurrence (Occ. #8; 2009) is located approximately 0.4 miles west of the Project area on the opposite side of Brannan Island. This species was not identified during surveys conducted in August; however, small areas of suitable habitat occur within the study area.

4.8.1.6 Antioch dunes evening primrose (*Oenothera deltoides* ssp. *howellii*)

Antioch dunes evening primrose is a federal- and state-listed Endangered species and a CRPR List 1B.1 species. This species is associated with inland dunes habitat at elevations of approximately 0 to 100 feet. It blooms between March and September. Limited suitable habitat is present for the species within the study area on the north side of Threemile Slough in areas with sandy substrate, though no dunes occur within the study area and sandy substrate within the study area occurs in areas of high disturbance. CNDDB occurrence #5 overlaps with the study area on the north side of Threemile Slough. This occurrence of Antioch Dunes evening-primrose has been observed consistently since 1980 on the remnants of native dune habitat in the Brannan Island State Recreation Area and was observed during surveys conducted on August 15, 2024, approximately 200 feet east of the Project study area, though the plants observed were highly desiccated from summer heat and were no longer blooming. This species was not identified in the study area during surveys conducted in August; however, marginally suitable habitat occurs within sandy substrate in the study area.

4.8.1.7 Sanford's arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead is a CRPR List 1B.2 species. This species occurs in shallow freshwater wetland areas at elevations ranging from approximately 0 to 2,135 feet. It is a perennial

herbaceous species that blooms between May and October. Potentially suitable habitat is present along Threemile Slough at the Project site. The nearest recorded occurrence (Occ. #84; 2009) is located approximately 4.2 miles north of the Project location on an exposed sandy shoreline of the Sacramento River with similar site conditions to those present at the Project site. This species was not observed during surveys conducted during the blooming period in August; however, suitable habitat occurs within the study area.

4.8.1.8 Suisun marsh aster (*Symphyotrichum lentum*)

The Suisun marsh aster is a CRPR 1B.2 species of flowering plant found in freshwater and brackish marshes and swamps. Suisun marsh aster is found at lower elevations, ranging from sea level to approximately 10 feet. This species typically blooms between May and November. Suitable habitat is present along the banks of Threemile Slough at the Project site. The Project area is located within the mapped limits of CNDDB occurrence #32 from 2009, where Suisun marsh aster was found on both sides of Threemile Slough and along the southern portion of Brannan Island. This species was not observed during surveys conducted during the blooming period in August; however, suitable habitat occurs within the study area.

4.8.2 Special-Status Wildlife

This section includes a discussion of special-status wildlife species that are known to occur or have potential to occur within the Project area based on habitat availability and known occurrences of species in the vicinity of the Project. Certain species, such as vernal pool invertebrate species listed in Table 4-1 above, may occur within the quadrangle and/or within five miles of the Project area; however, based upon a thorough analysis of the Project area, these species were determined to be absent due to a lack of suitable habitat and, therefore, are not included in this section. Other species may have been eliminated from consideration because the Project area is beyond the recorded geographic and/or elevational range for these species.

4.8.2.1 Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

Valley elderberry longhorn beetle (VELB) is a moderate-sized, brightly colored, and sexually dichromatic beetle that is a federally listed Threatened species. Critical habitat for VELB was designated in 1980 and includes the Sacramento Zone north of the American River and south of Highway 160 in the City of Sacramento, and American River Parkway Zone on the south bank of the American River approximately two miles upstream of the Sacramento Zone (USFWS, 1980). The Project area is not within designated Critical habitat, and the nearest critical habitat unit is the Sacramento Zone, located over 30 miles northeast of the Project area.

The range of the VELB extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west. Occurrences of the VELB are primarily in the vicinity of moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages (USFWS, 1984). Blue elderberry plants are obligate hosts for the VELB, providing a source of food and broodwood. Because of the relatively large size of the VELB (0.5 to 1.0 inch), it is generally restricted to the larger branches and stems of older elderberry plants. Emergence holes are circular-to-slightly oval and usually 0.25 to 0.5-inch in diameter. Emergence holes are generally found on plants with branch and trunk girths with an average diameter of 3.3

inches with a range between 0.6 and 10.0 inches. Emergence holes have been found from a few inches above the ground up to ten feet, but over 70 percent are found below four feet (Barr, 1991).

VELB modeled habitat was identified by the PG&E MRHCP on the north bank of Threemile Slough through the Project area and in the disturbed land area south of Threemile Slough (ICF, 2020). The nearest recorded VELB occurrence (Occ. #53; 1987) is located approximately 20.7 miles northeast of the Project area.

Padre biologists mapped blue elderberry shrubs during biological surveys conducted on August 15, 2024, to determine the extent of potentially suitable VELB habitat within the study area and adjacent lands. Three blue elderberry shrubs were identified in the study area north of Threemile Slough and provide suitable habitat for VELB (Figure 3). One of the elderberry shrubs is located on the north bank of Threemile Slough within the alignment of the two active pipelines, L-131Y and L-131Z proposed for remediation. This elderberry shrub may need to be removed for construction access to the north bank of Threemile Slough for remediation of the active pipelines in the northern portion of the Threemile Slough crossing. The other two blue elderberry shrubs occur at the perimeter of the study area and the dripline of both shrubs extend into the workspace. Both of these shrubs are on the very perimeter of the workspace and will not be directly impacted or removed for completion of the Project.

4.8.2.2 Green sturgeon (*Acipenser medirostris*) – Southern DPS

The green sturgeon is a federally listed Threatened species in the southern range or distinct population segment (DPS). It is also a California Species of Special Concern. Critical habitat for green sturgeon southern DPS was designated in 2009 and includes the west coast of California, the San Francisco Bay-Delta to the confluence of the Sacramento and San Joaquin Rivers, and the Sacramento River (NMFS, 2009). The Project area is within the Sacramento-San Joaquin Delta critical habitat segment.

Green sturgeon is an anadromous species, but little is known about its biology because they are much less abundant than white sturgeon and regarded as inferior quality for consumption (Moyle, 2002). Juvenile green sturgeon has been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin rivers; however, spawning occurs in cool sections of the upper Sacramento River where there are deep, turbulent flows and clean, hard substrates. The Sacramento River watershed is the only confirmed present and historical spawning area. Spawning occurs in the Sacramento River and has recently been documented in the Feather River and Yuba River (tributaries to the Sacramento River) (NMFS, 2018). In the autumn, the post-spawning adults move back down the river and re-enter the ocean. After hatching, larvae and juveniles migrate downstream toward the Sacramento-San Joaquin Delta and estuary where they spend a few years maturing before the move out to the ocean. The San Francisco Bay Delta Estuary provides year-round rearing habitat for juveniles and foraging habitat for non-spawning adults and subadults in summer months (NMFS, 2018). The Project area is located within the vicinity of CNDDB recorded occurrence #9 from 2019, where observations of green sturgeon have been recorded in the Delta consistently since 1963. In addition, juvenile green sturgeon were captured annually between 2015 and 2019 at the Sherman Island sampling station, approximately 7.7 miles downstream from the Project area (CDFW, 2019).

In water work associated with the pipeline depth of burial remediation and pipeline decommissioning and removal is planned to occur between August 1 and October 31. This is the

seasonal aquatic work window for avoidance and minimization of impacts to special-status fish species seasonal migrations and spawning periods. This timeframe coincides with the period when listed anadromous fish species are least likely to occur in the Project area. Green sturgeon can utilize high tide habitat; therefore, it could benefit the species to begin in-water work during low tide.

4.8.2.3 Delta smelt (*Hypomesus transpacificus*)

The delta smelt is a federally Threatened and state Endangered species endemic to the Bay-Delta estuary. Critical habitat for delta smelt includes Suisun, Grizzly, and Honker bays, Goodyear, Suisun, Cutoff, First Mallard, and Montezuma sloughs, and the Sacramento-San Joaquin Delta (USFWS, 1996). Decline in populations is primarily attributed to habitat loss, high diversions of freshwater, reduced water flow, and reduced quality and quantity of suitable nursery habitat. Other contributing factors may include the presence of toxic compounds in the water, competition and predation by nonnative species, reduced food supply, disease, high outflows, and low spawning stock (Goals Project, 2000). Adult delta smelt inhabit open water areas where they feed on small zooplankton. They spawn in freshwater from late winter to early summer. Spawning varies from year to year but is generally between December and July. Adhesive eggs sink and attach to substrates such as cattails, tules, tree roots, and submerged branches. They hatch after two weeks and larvae begin to feed on zooplankton within a few days.

Delta smelt spawning occurs primarily in shallow freshwater or slightly brackish water upstream of the mixing zone (Wang, 1991) in backwater sloughs and channel edge waters. Delta smelt are known to spawn in the lower reaches of the Sacramento and San Joaquin rivers as well as various sites within the Delta in shallow waters and dead-end sloughs. Important spawning habitat includes Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs, the Sacramento River, and tributaries of northern Suisun Bay (USFWS, 1996). The center of spawning occurs around Bradford Island in the Delta and in the Sacramento River just below Rio Vista (Wang, 1991). Spawning varies from year to year but is generally between December and July. Rearing habitat includes an area eastward from Carquinez Straits, including Suisun, Grizzly, and Honker bays, Montezuma Slough and its tributary sloughs, up the Sacramento River to its confluence with Threemile Slough, and south along the San Joaquin River including Big Bend. An adequate river flow is necessary to transport larvae from upstream spawning areas to rearing habitat in Suisun Bay. Suitable transport conditions may be required from February to August.

In December 2021, the USFWS, CDFW, California Department of Water Resources, and Bureau of Reclamation began experimentally releasing captively produced delta smelt into the Sacramento-San Joaquin River Delta in an experiment intended to help inform future supplementation of the species in the wild. A total of five releases occurred between December 2021 and February 2022, totaling over 50,000 captive bred delta smelt released in Rio Vista, Sacramento Deep Water Ship Channel, and Suisun Marsh (USFWS, 2021; University of California, Davis [UC Davis], 2022; San Francisco Estuary, 2022). The effects of survey specific sampling times and locations in relation to times and locations of captive release smelt have not been fully evaluated; however, Interagency Ecological Program (IEP) data from March 2022 showed an increase in abundance in delta smelt at stations near the release sites (IEP, 2024).

The nearest recorded CNDDB occurrence (Occ. #7; 2019) is located approximately 0.6 miles west of the Project area, on the opposite side of Brannan Island in the Delta. Preliminary results of the 20-mm IEP survey conducted in April 2023 found delta smelt at station 706 located approximately 3.8 miles downstream of the Project site (IEP, 2024).

The Threemile Slough Project area occurs within the Central Zone of the range of delta smelt, which includes the legal delta and the entire designated critical habitat for delta smelt (USFWS, 2006a). Threemile Slough is in the center of delta smelt spawning habitat and at the upper limits of delta smelt rearing habitat; however, much of the Project area consists of deep water, riverine habitats with low-quality areas of shaded riverine aquatic cover along the banks. The north bank of Threemile Slough within the study area consists of a steep bank with a rapid drop off into deep water and provides a narrow band of shallow water habitat (defined as waters between Mean High Water and 3 meters below Mean Lower Low Water Mark) preferred for delta smelt spawning or brackish shallow water habitat in the low salinity zone preferred for delta smelt rearing and maturation (USFWS, 2006). The south bank of Threemile Slough within the study area consists of a more gradual sloped bank and supports a wider area of shallow water habitat. Based on the May 2024 bathymetric survey conducted for the Project, approximately 27 linear feet of shallow water habitat occurs along the north bank of Threemile Slough and approximately 55 linear feet of shallow water habitat occurs along the pipeline alignments on the south bank of Threemile Slough at the decommissioning crossing location. The shallow water habitat on both banks is covered by rock rip rap. Consequently, Threemile Slough at the pipeline crossing location provides limited spawning and rearing habitat for delta smelt along the banks of the waterway. Threemile Slough also provides migratory habitat for delta smelt to spawning habitat in the region.

In water work associated with the pipeline depth of burial remediation and pipeline decommissioning and removal is planned to occur between August 1 and October 31. This is the seasonal aquatic work window for avoidance and minimization of impacts to special-status fish species seasonal migrations and spawning periods. This timeframe coincides with the period when listed anadromous fish and resident fish species, including delta smelt, are least likely to occur in the Project area.

4.8.2.4 Central Valley steelhead (*Oncorhynchus mykiss irideus*)

Central Valley steelhead is a federally listed Threatened species. Steelhead have been separated into 14 evolutionary significant units (ESU) based on similarity in life history, location, and genetic markers. Of these 14 ESUs, the California Central Valley ESU could occur in the vicinity of the Project. Final designation of critical habitat for the Central Valley DPS of steelhead was issued on September 2, 2005 (NMFS, 2005). The Project area is within the Sacramento Delta Hydrologic Unit 5510 of designated critical habitat.

Steelhead are an anadromous form of the rainbow trout native to the Pacific Ocean and coastal drainages (Behnke, 1992). Steelhead live most of their life cycle in the Pacific Ocean then migrate upstream to spawn between October and January. Spawning typically occurs between December and April. Steelhead are iteroparous and do not die after spawning and thus may spawn again the following year. Most naturally produced Central Valley steelhead rear in freshwater for one to three years before emigrating to the ocean. Steelhead eggs hatch in about 30 days at 51°F (Leitritz and Lewis, 1980). Studies of Central Valley steelhead have shown that the population is polymorphic, where two-year-old non-anadromous males are breeding with

anadromous females. The polymorphism in the Central Valley population is due to the extreme variation in rainfall and climate which can result in flashfloods and/or droughts lasting years. The species flexibility has allowed it to persist in the Central Valley through the additions of dams and reduction of accessible spawning habitat.

Historically, steelhead were more widely distributed within the Sacramento River and its tributaries, but the construction of dams has restricted upstream migration. However, the mainstem of the Sacramento River and other low gradient portions of the river and its tributaries provide potential migration and juvenile rearing habitat, including Threemile Slough in the Project area. CNDDB occurrence #27 is located in the Sacramento River and Threemile Slough at the location of the Project site, where observations of steelhead have been recorded in the Delta consistently since 1976. The species could be found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the site; however, habitat onsite is not suitable for spawning.

In water work associated with the pipeline depth of burial remediation and pipeline decommissioning and removal is planned to occur between August 1 and October 31. This is the seasonal aquatic work window for avoidance and minimization of impacts to special-status fish species seasonal migrations and spawning periods. This timeframe coincides with the period when listed anadromous fish species are least likely to occur in the Project area.

4.8.2.5 Chinook salmon (*Oncorhynchus tshawyscha*)

The Chinook salmon is an anadromous species spending most of its adult life in the ocean and then returning to freshwater streams to spawn. They spend three to six years maturing in the ocean before they migrate upstream to spawn. Adult Chinook salmon die after spawning. Juveniles spend from several months to over a year rearing in their natal streams before emigrating to the ocean. Preferred spawning grounds for Chinook salmon are in gravel areas of large rivers and tributaries (Goals Project, 2000). Chinook salmon have been separated into 17 distinct groups or ESU based on similarity in life history, location, and genetic markers. The Central Valley spring- and fall-run, and Sacramento River winter-run ESU's have the potential to occur within Threemile Slough in the Project area during their migration to upstream spawning habitat and for juvenile rearing when habitat conditions are suitable.

Central Valley Spring-Run Chinook Salmon

The Central Valley spring-run Chinook salmon is a federally Threatened species and California Threatened species. Final designation of Critical Habitat for the Central Valley Spring-Run chinook salmon was issued September 2, 2005 (NMFS, 2005). The Project area is within the North Delta unit of designated Critical Habitat.

Central Valley spring-run Chinook salmon migration period occurs from March through September with a peak in May and June (PFMC, 2014). The spawning period is late July through late October (NMFS, 2014). The juvenile downstream emergence period is between November and March with a three to 15-month freshwater residency period between November and January (Year-2), concluding with an estuarine emigration period between November and June.

Spring-run Chinook Salmon were historically the most abundant salmonid in the Central Valley. Now only remnant runs remain in in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. CDFW spring Kodiak trawl surveys captured spring-run

Chinook salmon at the confluence of the Sacramento River and Threemile Slough approximately one mile downstream of the Project area in April 2023 (station 707)(IEP, 2024). Seasonally, this species could occur within the Project area during migration to spawning habitat upstream of the site; however, habitat onsite is not suitable for spawning.

Central Valley Fall-Run Chinook Salmon

The Central Valley fall-run chinook salmon are a California Species of Special Concern. The migration period for fall and late-fall run Chinook salmon is August through April with peaks in September through October and December, respectively. The spawning period for this species is late September through late April with peaks in late October and early February, respectively (Goals Project, 2000). The juvenile downstream emergence period is between December and June with freshwater residency periods of 4 to 7 months between December and June for fall-run and seven to 13 months between April of year 1 and April of year-2 for late fall-run. The residency periods end with an estuarine emigration period between March and July for fall-run and between October and May for late fall-run (Goals Project, 2000).

Fall-run chinook salmon are currently the most abundant of the Central Valley races, contributing to large commercial and recreational fisheries in the ocean and popular sport fisheries in the freshwater streams. Fall-run chinook salmon are raised at five major Central Valley hatcheries which release more than 32 million smolts each year. CDFW spring Kodiak trawl surveys captured Central valley fall-run chinook salmon at the confluence of the Sacramento River and Threemile Slough approximately one mile downstream of the Project area in April 2023 (station 707)(IEP, 2024). Seasonally, this species could be found within the Project area, during migration to spawning habitat upstream of the site; however, habitat onsite is not suitable for spawning.

Sacramento Winter-Run Chinook Salmon

Sacramento River winter-run chinook salmon is a federally and state-listed Endangered species. Critical habitat was designated for the Sacramento River winter-run chinook salmon on July 16, 1993 (NMFS, 1993). Critical habitat includes the Sacramento River from Keswick Dam in Shasta County to Chipps Island at the westward margin of the Sacramento-San Joaquin Delta; all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and the Carquinez Strait; all waters of San Pablo Bay westward of the Carquinez Bridge; and all waters of the San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. The Project area is not within critical habitat but is about 0.5-mile east of the Sacramento River unit of designated critical habitat.

Winter-run chinook salmon are an anadromous species spending most of its adult life in the ocean and then returning to freshwater streams to spawn. Preferred spawning grounds for winter-run chinook salmon are in the Sacramento River and tributaries with deep water and large gravel (Goals Project, 2000). The migration period for winter-run chinook salmon is December through July with a peak in March. The spawning period is late April through early August with a peak in early June (Goals Project, 2000). The juvenile downstream emergence period is between July and October with a five-to-ten-month freshwater residency period between July and April, concluding with an estuarine emigration period between November and May.

Sacramento winter-run chinook salmon spawn in the upper reaches of the Sacramento River in waters between the Keswick Dam and the Anderson-Cottonwood Irrigation District (ACID) Dam. Winter-run chinook salmon are immature when upstream migration begins and need to hold in suitable habitat for several months prior to migrating to spawning grounds. CDFW spring 20-mm surveys captured chinook salmon at the confluence of the Sacramento River and Threemile Slough, approximately one mile downstream of the Project area in March 2024 (station 707)(IEP, 2024). Seasonally, the species could be found in the vicinity of the Project area during migration to spawning habitat upstream of the site; however, habitat onsite is not suitable for spawning.

4.8.2.6 Longfin smelt (*Spirinchus thaleichthys*) – San Francisco Bay-Delta DPS

The San Francisco Bay-Delta DPS of Longfin smelt is a Federal Candidate species and State Threatened species. It is native to the Delta and was once abundant. The decline in longfin smelt abundance is primarily associated with the diversion of freshwater from the Delta. Another contributing factor is reproductive failure during drought years. Consecutive drought years leading to reproductive failure could result in the extirpation of longfin smelt because of their two-year life cycle (Goals Project, 2000). Longfin smelt occur in the Sacramento-San Joaquin Delta but can range as far as the South San Francisco Bay and the open ocean. They are most abundant in Suisun Bay and San Pablo Bay. Adult longfin smelt, like the delta smelt, inhabit open water areas of the Delta and feed on zooplankton. They tolerate a wide range of salinity conditions.

Longfin smelt migrate upstream to spawn in freshwater between November and May with a peak in spawning from February through April. The species is thought to spawn over sandy or gravelly substrate with rock or plant material to attach their adhesive eggs to when deposited (Moyle, 2002). The abundance of longfin smelt increases with the amount of freshwater outflow. Longfin smelt have a low tolerance to warm waters, with adults rarely found in water warmer than 64° F and young-of-the-year rarely found in water above 73°F (Hobbs and Moyle, 2015). Warm water and decrease in flows associated with drought conditions make this species sensitive to drought. Loss of estuarine wetland and slough habitat as juvenile rearing habitat is also a threat to the species (Garwood, 2017).

Longfin smelt were routinely captured upstream and downstream of the Project area during the 2023 CDFW 20-millimeter (mm) surveys (stations 705, 706, 707, 711) (IEP, 2024). Individuals were also captured approximately 3.8 miles downstream of the Project area in April of 2024 (station 706) (IEP, 2024). The Project area occurs in the vicinity of CNDDB occurrence #17 from 2012 where observations of longfin smelt have been recorded consistently since 1946.

In water work associated with the pipeline depth of burial remediation and pipeline decommissioning and removal is planned to occur between August 1 and October 31. This is the seasonal aquatic work window for avoidance and minimization of impacts to special-status fish species seasonal migrations and spawning periods. This timeframe coincides with the period when listed anadromous fish and resident fish species, including longfin smelt, are least likely to occur in the Project area.

4.8.2.7 California tiger salamander (*Ambystoma californiense*)

California tiger salamander (CTS) is both a Federal and State listed Threatened species. The California tiger salamander typically inhabits grassland and oak woodland habitats below 1,500 feet that have scattered ponds, intermittent streams, and/or vernal pools that are suitable

for breeding. Tiger salamanders aestivate in rodent burrows throughout the summer and emerge after the first few sustained rainstorms in November. Adults will migrate up to 3,300 feet from aestivation sites to aquatic breeding habitat. The breeding season extends from December through February. Adults remain in breeding ponds for several days before exiting to forage in terrestrial habitat.

The nearest recorded occurrence (Occ. #849; 2007) is located approximately 9.4 miles northwest of the Project area and there are no CNDDB occurrences of this species on Brannan Island or Sherman Island. There is no suitable aquatic breeding habitat at the Project site or in the surrounding area to support California tiger salamander. Due to the Project site's isolated location on two islands in the delta, California tiger salamander is unlikely to disperse into the study area from the nearest known occurrences in the Montezuma Hills.

Terrestrial areas north and south of Threemile Slough are modeled as CTS potential upland habitat in PG&E's MRHCP (ICF, 2020). The terrestrial habitat north of Threemile Slough within the state park supports ground squirrel colonies and small mammal burrows, which are important components of CTS upland habitat; however, the density of burrows within the study area was extremely low and suitable breeding habitat in the surrounding area and within Brannan Island is limited. Therefore, the probability of occurrence of CTS in the Project area is considered low. This species was addressed in this document because of the MRHCP modeled habitat at this location.

4.8.2.8 Western pond turtle (*Emys marmorata*)

Western pond turtle is a Federal Proposed Threatened species and a California Species of Special Concern. The western pond turtle occurs in open water habitats throughout much of California, although at much lower numbers and fewer localities than historical populations, especially in urban areas. Western pond turtle prefers slack or slow water habitats with dense stands of submergent or emergent vegetation for food and cover, and with abundant basking habitat. Western pond turtle is a semi-aquatic species inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but they require upland sites for nesting and over-wintering. The presence of nearby nesting sites and lack of exotic predators are also good habitat components (Bury, 1986).

The nearest recorded occurrence (Occ. #1,344; 2016) is located approximately 1.8 miles east of the Project location near Sevenmile Slough. Threemile Slough provides suitable aquatic habitat to support western pond turtle and suitable basking sites were observed within the study area during surveys. Potentially suitable nesting habitat is limited due to human disturbance, but it is present along the north and south banks of Threemile Slough, particularly in sandy substrate.

4.8.2.9 Giant gartersnake (*Thamnophis gigas*)

Giant gartersnake (GGS) is a California and federally listed Threatened species found in emergent marsh habitats associated with waterways during spring and summer and hibernates in adjacent upland habitat during the winter. Due to extensive habitat loss, giant gartersnakes now inhabit remaining wetlands as well as highly modified habitats, such as agricultural areas. Active rice fields and their associated irrigations systems serve as an alternative habitat that is commonly used by giant gartersnake. These fields provide the habitat components typically required by giant gartersnake. Essential components of giant gartersnake habitat include:

- A fresh-water aquatic component with adequate water from early spring through fall to provide foraging habitat and cover.
- Emergent herbaceous wetland vegetation to provide foraging habitat, cover, and basking areas.
- An upland component near the aquatic habitat that can be used for thermoregulation, cover, and retreat.
- An upland refugia component at higher elevation sites that serve as winter hibernacula and provide cover and refuge from flood waters (Hansen and Brode, 1980; USFWS, 1997).

The nearest recorded occurrence (Occ. #150; 1998) is located approximately 1.4 miles southwest of the Project location where an individual was observed on the water side of a levee along the Sacramento River at Horseshoe Bend. A more recent nearby occurrence is located approximately 2.5 miles southeast of the Project area on the south side of Twitchell Island along the San Joaquin River where GGS were observed basking in 2016 (CNDDB Occ. #407).

Potentially suitable aquatic habitat is present at the Project site on the north and south banks of Threemile Slough. Emergent vegetation present within Threemile Slough could provide suitable cover and foraging habitat for giant gartersnake; however, only small pockets of emergent wetland vegetation occur within the Project area. Suitable upland habitat occurs in adjacent terrestrial areas, particularly north of Threemile Slough where small mammal burrows are present, though the density of small mammal burrows within the study area was low.

MRHCP modeled habitat for giant gartersnake includes aquatic habitat along the banks of Threemile Slough and upland habitat within terrestrial habitat on Sherman Island and Brannan Island (ICF, 2020).

4.8.2.10 Swainson's Hawk (*Buteo* swainsoni)

Swainson's hawk is a California Threatened species that breeds in open habitats in western North America from Alaska south to Mexico. In California, it breeds mainly in the Central Valley, Klamath Basin, Northeastern Plateau, and Mojave Desert (CDFG, 1994). It winters primarily on the pampas of southern South America and Mexico, though a few overwinter in California, the southwestern U.S., and Florida. It was listed when it became absent from most of its former range in California, where its population declined by more than 90 percent during the 1900's (CDFG, 1994).

Throughout its range in California's Central Valley, it usually arrives in March and April and leaves in September or October; however, there is a small population of Swainson's hawk that over-winters in the Sacramento-San Joaquin River Delta (Herzog, 1996). Loss of habitat is the major threat to this species in California. Residential and commercial development continues to replace Swainson's hawk habitat. Pesticides and herbicides are also a major threat, particularly on their wintering grounds. They are also sensitive to disturbance while nesting and may abandon nests if disturbed before the eggs hatch (CDFG, 2006).

This species forages in grassland or areas of sparse trees or shrubs, and often forages in agricultural areas in the Central Valley. It nests in the scattered trees within these habitats such

as those along waterways. During the breeding season, it feeds primarily on small mammals and reptiles. During other seasons, large insects (especially grasshoppers) are the bulk of their diet.

The nearest recorded nest occurrence (CNDDB Occ. #1674; 2003) is located approximately 0.3 miles north of the Project area on Twitchell Island and consisted of a multi-year nest occurrence.

Suitable nesting habitat is present within the study area and suitable foraging habitat occurs onsite and in the surrounding area. There are many suitable nesting trees for Swainson's hawk within half a mile of the Project site including trees within the riparian corridor of Threemile Slough in the Project area. One Swainson's hawk was observed soaring over Brannan Island during surveys conducted on August 15, 2024, and many observations of Swainson's hawk have been made in recent years conducting other surveys in this area. There is high potential for Swainson's hawk nest occurrence within 0.5-mile of the Project area.

4.8.2.11 Northern harrier (*Circus hudsonius*)

Northern harrier is a California species of special concern. The northern harrier inhabits meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. They can be found rarely in wooded areas. It forages mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and rarely on fish. Breeding occurs April to September, with peak activity June through July. Destruction of wetland habitat, native grassland, and moist meadows, and the burning and plowing of nesting areas during early stages of breeding cycle, are major reasons for the species' decline (Remsen 1978).

The nearest recorded occurrence (Occ. #91; 2007) is located approximately 4.0 miles southwest of the Project area. Suitable foraging habitat is present at the Project site. The northern harrier is a ground nesting species; therefore, potential for nest occurrences in the study area is limited due to the high level of disturbance present.

4.8.2.12 White-tailed kite (*Elanus leucurus*)

White-tailed kite is a California Fully Protected species. It is a small raptor with a total length of about 12 inches and is often identified from a distance by its hovering or "kiting" behavior while hunting. White-tailed kites predate mostly on voles and other diurnal mammals, but will occasionally prey on birds, insects, reptiles, and amphibians. It typically forages over open grasslands and emergent wetlands. White-tailed kites nest in dense foliage in treetops near grassy foothills, marshes, riparian woodland, savanna, and partially cleared fields. Preferred nesting trees include oak, willow, sycamores, or other tree stands. White-tailed kites range from western California and southwestern Oregon to southeastern Arizona, and along the Gulf Coast from Texas to Florida, and peninsular Florida (Wheeler and Clark, 1995).

The nearest recorded occurrence (Occ. #193; 2007) is located approximately 0.5 miles southwest of the Project area, just east of Threemile Slough. Suitable foraging habitat is present at the Project site. Potentially suitable nesting habitat is also present in the trees and shrubs surrounding the Project site.

4.8.2.13 Song sparrow ("Modesto" population) (*Melospiza melodia*)

The Modesto population of the song sparrow is endemic to California, where it resides only in the north-central portion of the Central Valley. Highest densities occur in the Butte Sink

area of the Sacramento Valley and in the Sacramento-San Joaquin Delta. Song sparrows breed from mid-March to early August and are resident species of the Sacramento Valley and Delta. Song sparrows are frequently seen within mature riparian corridors, such as the Cosumnes and Stanislaus Rivers, and less frequently within irrigation canals and levees. The Modesto population of song sparrow has an affinity for emergent freshwater marshes dominated by bullrush and cattails as well as riparian willow (*Salix* sp.) thickets. Song sparrows also nest in riparian forests of valley oak (*Quercus lobata*) with a sufficient understory of blackberry, along vegetated irrigation canals and levees (Shuford et al., 2008); however, nests appear to be more successful in early succession riparian wetland communities.

The nearest recorded occurrence (Occ. #41; 2008) is located approximately 1.3 miles southwest of the Project area, on the northern end of Decker Island. Suitable nesting and foraging habitat are present at the Project site. Song sparrows were observed during surveys conducted on August 15, 2024, although it is not clear if it was the Modesto population.

4.8.2.14 Bank swallow (*Riparia riparia*)

Bank swallow is a State-listed Threatened species. The bank swallow is the smallest swallow in California. In the summer, bank swallows breed in the northern half of North America into Alaska and then migrate south in the winter to the southern United States into Mexico. It is a colonial breeder that excavates burrows in riverbanks and railroad and highway embankments. The banks are generally greater than three feet in height to preclude predators, and soils must be sufficiently friable to excavate a nest cavity. It currently ranges from central to northern California wherever suitable nesting habitat exists, with major colonies found along the Sacramento and Feather rivers. The bank swallow forages mostly on flying insects that it captures on the wing.

There is no suitable nesting habitat at the Project site to support this species. There is, however, a nearby nesting occurrence (Occ. #201; 2000) located approximately 990 feet northeast of the Project area at the Brannan Island State Recreation Area on a sandy outcrop along Sevenmile Slough 0.2-miles north of the confluence with Threemile Slough. This species has been commonly observed on Decker, Sherman, and Bradford Island in recent years. There is no open cliff face or suitable nesting habitat on the north or south bank of Threemile Slough within the study area. Bank swallows have the potential to forage and migrate through the Project area; however, they are unlikely to nest within the Project area.

4.8.2.15 Western red bat (*Lasiurus blossevillii*)

Western red bat is a California species of special concern. The western red bat is locally common in some areas of California from Shasta County to the Mexican border and west of the Sierra Nevada. It winters in the western lowlands and coastal regions south of San Francisco Bay. It roosts in forest and woodland habitats from sea level to mixed conifer forest up to 8,150 feet, although breeding occurs at lower elevations. Western red bat feed over a variety of habitats including grasslands and shrublands. They roost in trees and shrubs adjacent to streams, fields, or urban areas and make relatively short migrations between summer and winter ranges, which occur between March-May in spring and September and October in autumn. The western red bat feeds on a variety of insects, but its principal prey includes moths, crickets, beetles, and cicadas. Females bear two or three young per year from May through July.

Potentially suitable roosting habitat is present in the riparian trees on Brannan Island although limited roosting habitat is present within the study area and their preferred tree species for roosting (cottonwood and sycamore) do not occur within the study area. The nearest recorded occurrence (Occ. #64; 1999) is located approximately 0.4 miles west of the Project area in cottonwood and sycamore trees in the Brannan Island State Recreation Area.

4.9 WILDLIFE CORRIDORS

Wildlife migration corridors are generally defined as connections between fragmented habitat patches that allow for physical and genetic exchange between otherwise isolated wildlife populations. Migration corridors may be local, such as those between foraging and nesting or denning areas, or they may be regional in extent. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. “Habitat linkages” are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary inhabitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional fitness of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

Waterways, particularly areas with contiguous riparian vegetation, offer migration corridors for mammals, reptiles, and birds; however, the riparian corridor along Threemile Slough is discontinuous at the Project area and consists of a very sparse riparian strip, typically the width of an individual tree. Mammals and reptiles present within the area likely use the upland agricultural and range lands as well as riparian cover as a travel corridor regardless of the season. The Project site and surrounding area consists of separate islands (Sherman Island; Brannan Island, and Twitchell Island), which limits the suitability as a migration corridor for terrestrial wildlife. Habitat present on site does, however, provide migratory habitat for birds such as warblers, hummingbirds, etc. who migrate to higher elevations in the spring and lower elevations in the fall. The riparian habitat within the Project area offers shelter, forage, and water for migrating species traversing to the Sierra Nevada Range to nest. Resident species may make local migrations for foraging and/or nesting habitat along the river. Additionally, the Sacramento River and Threemile Slough in the vicinity of the Project area provides critical seasonal migration habitat for anadromous and other native fish species moving upstream to spawning grounds and provides connections for resident fish species to other aquatic habitats within the watershed.

The CDFW ranks areas throughout the state of California for their importance in terrestrial connectivity. The terrestrial connectivity dataset summarizes information on terrestrial connectivity, including the presence of mapped corridors or linkages and the juxtaposition to large contiguous natural areas to support conservation planning efforts (CDFW, 2024b). The Project area and surrounding areas are ranked as *connections with implementation flexibility*, which is identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time (CDFW, 2024b).

5.0 REGULATORY SETTING

5.1 FEDERAL

5.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA), administered by the USFWS and the NMFS (collectively referred hereafter as the "Services"), provides protection to species listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened (PFT) or Endangered (PFE). The Services also maintain lists of Federal candidate species (FC), that include taxa for which substantial information on biological vulnerability and potential threats exists and are maintained to support the appropriateness of proposing to list the taxa as an endangered or threatened species.

Projects that will result in the "take" of a federally listed or proposed species (as defined by FESA Section 9) are required to consult with the Services. The objective of consultation is to determine whether the project will jeopardize the continued existence of a listed or proposed species, and to determine what mitigation measures will be required to avoid jeopardy. Consultations are conducted under Sections 7 or 10 of FESA depending on the involvement by the federal government.

Section 10 consultation is conducted when there is no federal involvement in a project except compliance with FESA. The USFWS issued a section 10(a)(1)(B) incidental take permit to PG&E for implementation of the Multi-Region Habitat Conservation Plan (MRHCP) under Section 10 of the FESA. PG&E's MRHCP provides a comprehensive framework to conserve and protect federally listed species in support of a federal incidental take permit for the covered species for PG&E Operations and Maintenance (O&M) activities in the Multi-Regions (Sacramento Valley and Foothills, North Coast, and Central Coast) which includes the Project area (IFC, 2020). The PG&E MRHCP was developed in collaboration with the USFWS and was implemented in 2020.

Under Section 7, the Services are authorized to issue Incidental Take Permits (ITP) for the take of a listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency. A Biological Assessment is usually required as part of the Section 7 consultation to provide sufficient information for the USFWS and NMFS to fully determine the Project's potential effect on listed species.

5.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The NMFS administers the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC 1801 et seq.). The MSA is the primary law governing marine fisheries management in U.S. Federal waters. The MSA was first enacted in 1976 and amended in 1996. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring Federal authorization is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 USC 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management.

Pursuant to section 305(b)(2), Federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH.

5.1.3 Migratory Bird Treaty Act / Bald Eagle and Golden Eagle Protection Act

The USFWS administers the Federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) and the Bald and Golden Eagle Protection Act (16 USC 668-688). The MBTA prevents the removal of trees, shrubs, and other structures containing active nests of migratory bird species that may result in the loss of eggs or nestlings. Adherence to construction windows either before the initiation of breeding activities or after young birds have fledged is a typical step to protect migratory birds and comply with the MBTA. The Bald Eagle and Golden Eagle Protection Act prohibits the taking or possession of bald and golden eagles, their eggs, or their nests without a permit from the USFWS.

5.1.4 Clean Water Act

ACOE and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into jurisdictional waters of the U.S. and wetlands under Section 404 of the Clean Water Act.

ACOE is responsible for the issuance of permits for the placement of dredged or fill material into waters of the U.S. pursuant to Section 404 of the Clean Water Act (33 USC 1344). As defined by the Corps at 33 CFR 328.3(a)(3), waters of the U.S. are those waters that are used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; interstate waters; and territorial seas.

ACOE asserts jurisdiction over traditional navigable waters (TNW) and certain tributaries and adjacent wetlands that meet current federal definitions. Under ACOE and EPA regulations, wetlands are defined as: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

In non-tidal waters, the lateral extent of ACOE jurisdiction is determined by the OHWM which is defined as the: “…*line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*.” (33 CFR 328[e]).

Wetlands could also be regulated as waters of the U.S. if they were adjacent to jurisdictional waters (other than waters that are themselves wetlands).

The EPA and ACOE issued a Revised Definition of waters of the United States that aimed to establish a durable definition of waters of the U.S. based on pre-2015 regulations, relevant Supreme Court decisions, the science, and the agencies’ technical expertise. The Revised Definition became effective March 20, 2023, but on September 8, 2023, the EPA and ACOE amended the Revised Definition to conform with a recent Supreme Court decision in the case of *Sackett v. Environmental Protection Agency (Sackett)*. Federal regulation concerning tributaries

and adjacent wetlands has recently been revised in an amended Revised Definition of Waters of the United States to conform with the Sackett decision (Conforming Rule) (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, 2023).

5.1.5 Section 10 of the Rivers and Harbors Act of 1899 (33USC 403)

In addition to Section 404, the ACOE regulates activities affecting "navigable waters of the United States" under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). Navigable waters are defined as "…*those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce* (33 CFR 322.2[a])."

Structures or work under or over a navigable WoUS is considered to have an impact on the navigable capacity of the waterbody (33 CFR 322.3[a]). Threemile Slough is a Section 10 waterway.

5.1.6 Section 14 of the Rivers and Harbors Act of 1899 (33USC 408)

The ACOE Civil Works Program is responsible for reviewing all Projects approvals that alter or occupy Civil Works projects. Section 408 provides that the ACOE may grant permission for another party to alter a Civil Works project upon a determination that the alternative proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. There is a federal levee on the south bank of Threemile Slough; however, if pipeline remediation and decommissioning activities are approved by minor alteration agreement issued by the Central Valley Flood Protection Board, a Section 408 review and permission will not be required.

5.2 STATE

5.2.1 California Endangered Species Act

The California Endangered Species Act of 1984 (CESA) (Fish and Game Code Section 2050) regulates the listing and take of state endangered (SE) and threatened species (ST). Take is defined as "hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill" (Fish and Game Code §86). Under Section 2081 of CESA, CDFW may authorize an incidental take permit allowing the otherwise unlawful take of a SE or ST species.

CDFW maintains lists of Candidate-Endangered species (SCE) and Candidate-Threatened species (SCT). These candidate species are afforded the same level of protection as listed species. CDFW designates Species of Special Concern (CSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational values. These species do not have the same legal protection as listed species but may be added to official lists in the future. The SSC list is intended by CDFW as a management tool for consideration in future land use decisions.

5.2.2 Fully Protected Species

California Fish and Game Code Sections 3511, 4700, 5050, and 5515 provide particular and special state protection to a list of wildlife species and prohibit take or possession at any time. The CDFW cannot authorize incidental take of fully protected species with few exceptions.

5.2.3 Nesting Birds

California Fish and Game Code Section 3503 prohibits the take, possession or needless destruction of nests or eggs of birds. It also prohibits the take, possession, or destruction of hawks or owls and the nests or eggs of any hawk or owl.

5.2.4 California Native Plants

CDFW manages the California Native Plant Protection Act (NPPA) of 1977 (F&G Code Section 1900, et seq.), which was enacted to identify, designate, and protect rare plants. F&G Code Section 1913 provides utilities with an exemption from CESA permitting requirements for listed plants within the utility right of way. Specifically, Section 1913(b) states: "…the removal of endangered or rare native plants from a canal, lateral ditch, building site, road, or other right-of-way by the owner of the land or his agent, or the performance by a public agency or a publicly or privately owned public utility of its obligation to provide service to the public, shall not be restricted because of the presence of rare or endangered plants." Section 1913(c) of the CNPPA requires the landowner to provide the CDFW with at least 10 days notice to allow for plant salvage prior to affecting the species. In addition to NPPA designated rare plants, all California Rare Plant Rank (CRPR) 1 (A and B), Rank 2 (A and B), Rank 3, and some Rank 4 plants meet the definition of Rare or Endangered under the CEQA Guidelines §15125 and/or §15380. Potential impacts to these species are considered during CEQA review of a proposed project.

5.2.5 Stream Features

Pursuant to Section 1602 of the Fish and Game Code, a Lake or Streambed Alteration Agreement (LSAA) between the CDFW and state or local governmental agency, public utility, or private citizen is required before the initiation of a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of a river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. The CDFW claims jurisdiction over the bed, bank, and channel of drainage features with regard to activities regulated under Section 1602 of the California Fish and Game Code.

5.2.6 Porter Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (CA Water Code §§ 13000-13999.10) mandates that waters of the State of California shall be protected. Current policy in California is that activities that may affect waters of the State shall be regulated to attain the highest quality. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. The Porter-Cologne Act establishes that the state assumes responsibility for implementing portions of the federal CWA, rather than operating separate state and Federal water pollution control programs in California. Consequently, the state is involved in activities such as setting water quality standards, issuing discharge permits, and operating grant programs. Pursuant to Section 401 of the Clean Water Act, the ACOE cannot issue a federal permit until the State of California first issues a water quality certification to ensure that a project will comply with state water quality standards. The authority to issue water quality certifications in the Project area is vested with the Central Valley Regional Water Quality Control Board (CVRWQCB).

In April 2019, the State Water Resources Control Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material (Procedures), for inclusion

in the Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures took effect in May 2020.

5.3 LOCAL AND REGIONAL PLANS

The California Public Utilities Commission (CPUC) has preemptive jurisdiction over the siting, design, construction, maintenance, and operation of PG&E Project activities; therefore, the Project is not subject to local discretionary regulations.

6.0 SIGNIFICANCE CRITERIA

The impact of the Project on biological resources was evaluated in terms of mandatory findings of significance at Section 15065 of CEQA and Appendix G of the State CEQA Guidelines (Association of Environmental Professionals, 2022). The various components of the Project were considered in association with site conditions and were evaluated against CEQA criteria pertaining to biological issues. In accordance with these CEQA Guidelines, a project will normally result in a significant impact if any of the following conditions would result from project implementation:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulation, or by the CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site;
- Conflict with any local polices or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Additionally, the CEQA Guidelines Initial Study Land Use and Planning checklist notes that conflicts with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project should be considered during a project's environmental review.

7.0 PROJECT IMPACT ANALYSIS

7.1 IMPACT CATEGORIES

Short-term and long-term impacts are analyzed for the proposed Project. Each impact statement is classified as to the level of significance, based on the significance criteria from Section 6.0, and the availability of measures to feasibly mitigate project effects. Impact categories include:

- **Potentially Significant Impact** is an adverse effect that cannot be mitigated. This category of impact is one for which a solution has not been formulated, either because of the limits of technical and/or scientific knowledge, or unfeasibility from a technical, economic, and/or political perspective. Under CEQA, a Significant Unavoidable impact would require a “finding of overriding consideration” by the Lead Agency to approve the project;
- **Less than Significant with Mitigation** is an adverse environmental effect that can be mitigated to less than significant levels. Measures have been identified that can feasibly be implemented and will avoid the impact altogether by not taking a certain action or parts of an action; minimize impacts by limiting the degree or magnitude of the action and its implementation; rectify the impact by repairing, rehabilitating, or restoring the affected environment; or compensate for the impact by replacing or providing substitute resources or environments;
- **Less than Significant Impact** is an environmental effect that is less than significant or has no identified impact. These impacts may be adverse, but are not of sufficient magnitude, intensity, or duration to disrupt the environment, and have no serious consequences. As a result, no mitigation is required; and
- **No Impact** is when the Project would not result in any impact in the category, or the category does not apply.

7.2 IMPACTS TO BIOLOGICAL RESOURCES

Effects on biological resources include temporary impacts associated with the removal of the previously abandoned pipeline crossings. In addition, there will be approximately 0.12-acre of fill resulting from the placement of rock over the L-131Y and L-131Z pipelines to remediate the depth of burial and restore the cover over the pipeline to the five feet of cover that previously existing at the time of pipeline installation. Temporary impacts associated with the Project include habitat disturbance, vegetation removal, and localized turbidity. General construction disturbances will temporarily alter the natural movement and behavior of wildlife in the Project area. Construction may also result in indirect impacts that affect the quality of habitat in the Project area. Temporary impacts will be restored to pre-project conditions following completion of the Project. The placement of rock over the exposed pipelines to remediate the depth of burial and restore cover will not change the type of bottom substrate currently existing in this portion of the channel because the bottom of Threemile Slough in this area is currently composed of rocks ranging in size between approximately nine inches to several feet in diameter (Longitude 123, 2024).

The PG&E MRHCP is a model-based HCP, that incorporates the use of modeled habitat developed in collaboration with the USFWS for covered species. Modeled habitat is used as a tool to determine mitigation acreages and apply HCP take coverage. MRHCP Field Protocols (FPs) 1-19 and species-specific AMMs for covered species with modeled habitat in the Project area will be implemented during construction to minimize potential impacts to covered species and comply with the MRHCP. The AMMs are outlined in Table 7-1 and their implementation was considered when analyzing the potential impacts of the Project.

Table 7-1. PG&E MRHCP Field Protocols and AMMs for Covered Species to be Implemented as Part of the Project

Field Protocols / AMMs	Measure Description
FP-01	Conduct annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work. Tailboard and site-specific training will also be conducted prior to commencing work.
FP-02	Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).
FP-03	Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.
FP-04	Route off-road access paths and site work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).
FP-05	Notify conservation landowners at least 2 business days prior to conducting covered activities on protected lands (state- or federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if practicable or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedure ENV-8003P-01, PG&E will notify the conservation landowner within 48 hours after initiating emergency work. Although this notification is intended only to inform conservation landowner, PG&E will attempt to work with the conservation landowner to address landowner concerns.
FP-06	Minimize potential for covered species to become trapped, injured, or killed in pipes, culverts, or under materials or equipment. Inspect pipes and culverts wide enough to be entered by a covered species that could inhabit the area where pipes are stored for wildlife species prior to moving pipes and culverts. Contact a biologist if a covered species or other federally-listed species is suspected or discovered.
FP-07	Vehicle speeds on unpaved roads will not exceed 15 miles per hour.
FP-08	Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.
FP-10	Minimize the covered activity footprint and minimize the amount of time spent at a work site to reduce the potential for take of species.
FP-11	Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's *Stormwater Field Manual for Construction Best Management Practices*) to prevent construction site runoff into waterways.
FP-12	Stockpile soil within established work site boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.
FP-13	Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or

Field Protocols / AMMs	Measure Description
	steep-walled holes every morning prior to initiating daily activities to ensure wildlife is not trapped. Field crews will not handle covered species. If any covered wildlife species is found, work will stop and a biologist will be notified. A biologist with appropriate take permits will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.
FP-14	If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial “weed free” seed mix. (Except in suitable habitat for Mount Hermon June beetle, Ohlone tiger beetle and Zyante band-winged grasshopper.)
FP-15	Prohibit vehicular and equipment refueling within 250 feet of the edge of wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.
FP-16	Maintain a buffer of 250 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not practicable because the covered activity footprint is within the buffered area, other measures as prescribed by the biologist or the HCP administrator to minimize impacts such as flagging access routes or paths, requiring foot access, restricting work until the dry season, or requiring a biological monitor during the activity.
FP-17	Directionally fall trees away from an exclusion zone, if an exclusion zone has been defined. If this is not practicable, remove the tree in sections. Avoid damage to adjacent trees to the extent practicable. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs more than 6 inches in diameter.
FP-18	Nests with eggs and/or chicks will be avoided: contact a biologist or the Avian Protection Program Manager for further guidance. Work will be stopped until the crew can obtain clarification from a biologist or the Avian Protection Program Manager on how to proceed.
FP-19	Inspect and maintain exclusion fencing installed to exclude species from work areas.
VELB-1	All personnel, including PG&E employees and contractors, who are likely to encounter elderberry plants or valley elderberry longhorn beetle, especially during vegetation management activities, are required to receive training on valley elderberry longhorn beetle. When covered ground-disturbing activities will be implemented within 20 feet of elderberry, a qualified individual will identify a work exclusion zone (i.e., 5–20 feet of the dripline of all elderberry shrubs), with pin flagging or other appropriate means, within which ground disturbance, tree felling, and equipment and vehicle operation will be avoided or minimized. Except for cut stump treatment of removed trees (non-elderberry), herbicides will not be used within this zone. When performing vegetation maintenance work in compliance with Public Resources Code Sections 4291–4293, pruning, rather than removal of elderberry plants, will be performed where feasible.
GGS-1	Conduct work during the active season (May 1–October 1) to the extent practicable. A biologist will conduct a survey and identify where exclusion fencing is needed. If needed, a solid exclusion fence will be installed around the perimeter of work sites and will be inspected weekly. Burrows and other refuge habitat will be avoided to the extent practicable. If work will be conducted during the inactive period (October 2–April 30) then PG&E will conduct preparation work during the snake’s active period to make construction areas ready for work during the inactive season. Preparation work includes, at a minimum, adding baserock to access roads and work sites, grading access roads and work sites, and installing work zone exclusion fencing. If giant gartersnakes are encountered during construction activities, snakes will be allowed to move away from construction or a biologist will follow USFWS handling protocols and move snakes to the nearest appropriate habitat out of harm’s way.
Wetland-1	Identify vernal pools and other aquatic habitat for covered aquatic invertebrates and amphibians and establish buffers. Maintain a buffer of 250 feet around vernal pools and

Field Protocols / AMMs	Measure Description
	vernal pool complexes. If maintaining the buffer is not practicable because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist to minimize impacts. These measures may include flagging access, requiring foot access, restricting work until the dry season, or requiring the presence of a biological monitor during the activity. Activities must maintain the downstream hydrology to the vernal pool or complex.
Wetland-2	Identify wetlands, ponds, and riparian areas and establish and maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not practicable because the work sites are within any part of the buffered area, the field crew will implement other measures as prescribed by the biologist to minimize habitat impacts. These measures may include flagging access, requiring foot access, restricting work until the dry season, or requiring a biological monitor during the activity. Activities must maintain the hydrology necessary to support the wetland, pond, or riparian area (inclusive of downstream).

The following analysis provides an assessment of potential impacts from the proposed Project activities and includes the appropriate PG&E MRHCPs FPs and AMMs, Project-specific applicant proposed AMMs, and/or prescribed mitigation measures to reduce impacts to special-status species or other biological resources to a level of less than significant.

IMPACT BIO-1: Construction of the Project may result in impacts to special-status plant species.

DISCUSSION: There are recorded occurrences of Suisun marsh aster on both banks of the Threemile Slough within the Project area (CDFW, 2024a) and Delta tule pea was observed along the south bank of Threemile Slough during field surveys. Other special-status species, such as Mason's lilaeopsis, delta mudwort, bristly sedge, woolly rose-mallow, Antioch dunes evening primrose, and Sandford's arrowhead have not been previously documented within the study area but have the potential to occur based on habitat suitability and proximity to documented occurrences.

There is potential for temporary impact to special-status plant species if they occur within the excavation footprint for decommissioning and removal of the previously abandoned pipelines on the banks of Threemile Slough. Up to 0.51-acre of temporary impact to the banks of Threemile Slough that provide suitable habitat for special-status plant species may occur (Figure 3). Temporary impacts will be restored to pre-project contours and there will be no permanent loss of suitable habitat for special-status plant species. As a public utility, PG&E is exempt from CESA permitting requirements for listed plants under Section 1913(b) of the California Fish and Game Code.

RECOMMENDED MITIGATION MEASURE – MM BIO-1: The following recommended mitigation measures would reduce Project impacts to special-status plants in the Project area to less than significant.

1. Prior to the start of construction, and during the appropriate blooming period, a qualified botanist will survey the Project impact area on the banks of Threemile Slough to determine whether special-status plants occur within the impact footprint and to document the current baseline conditions prior to the start of construction.

2. If a special-status plant population is found, it will be flagged for avoidance, if feasible.
3. If special-status plant species cannot be avoided, any temporary impact to special-status plant populations will be restored to pre-existing condition upon Project completion using various restoration methods.. Restoration methods will include topsoil salvage for replacement after excavation areas are backfilled, allowing for preservation of roots, rhizomes, and seedbank material which will facilitate revegetation of the temporary impact area with species that previously existed at the location. A Site Restoration Plan will be prepared with specific details of the topsoil salvage and replacement. The Site Restoration Plan will also address species-specific restoration methods such as plant salvage and transplantation and/or seed collection and replanting, as appropriate, and establish performance criteria and monitoring to ensure restoration to pre-project conditions.

BIO-1 IMPACT CATEGORY: Less than significant with mitigation.

IMPACT BIO-2: In-water work associated with rock placement for exposed pipeline remediation and decommissioning and removal of the previously abandoned pipelines could impact special-status fish species, if present, in the Project area while in-water work is occurring.

DISCUSSION: The depth of burial remediation and pipeline decommissioning and removal components of the Project will require in-water work in Threemile Slough. This in-water work could impact special-status fish species, if present, in the Project area during pipeline reburial and removal activities. In-water work, including excavation and rock placement, will temporarily increase turbidity to the aquatic environment immediately surrounding the pipeline removal location. Increases in turbidity can result in temporary suspension of sediments, organic matter, or contaminated constituents contained within the sediments. If these materials are introduced into the water column, they can create localized conditions that adversely affect habitat. Large-scale increases of organic matter within a water column, usually associated with fine sediments, such as silts and clays, can increase dissolved nutrient concentrations, resulting in increased algal blooms or decrease dissolved oxygen when the suspended sediments are anoxic or have a high chemical oxygen demand.

A Turbidity Monitoring Plan will be developed for the project, which will include provisions for monitoring turbidity during underwater excavation and other in-water work activities that have the potential to increase turbidity. Turbidity curtains may be used if turbidity monitoring indicates that turbidity levels would exceed permitted thresholds, and the site conditions, such as strong currents, at the time of construction do not make their use infeasible. In water work and the installation of a turbidity curtain, if determined necessary, could temporarily prevent fish movement and preclude fish use of the aquatic habitat at the discrete in water work location for a short period of time.

Implementation of the Project may result in short-term temporary impacts to the approximately 55 linear foot band of shallow water habitat on the south side of Threemile Slough during decommissioning and removal of the previously abandoned pipelines. These impacts will be temporary, will be restored to pre-construction contours, and will not

result in the loss of shallow water habitat.

In addition, the placement of rock to remediate shallow depth of burial and pipeline exposures on the active pipeline crossing will reduce the steep slope on the north bank in the shallow water zone and result in an expansion of shallow water habitat near the north bank from the current 27 linear feet to approximately 40 linear feet within the proposed rock placement footprint. Since the steep slope on the north bank currently consists of rip rap and the proposed pipeline remediation will consist of similar sized rock, the proposed placement of rock in the shallow water zone will not change the character of the bottom substrate that currently exists and will expand the shallow water zone to restore the north bank to the pre-eroded condition that existed at the time of pipeline installation.

RECOMMENDED MITIGATION MEASURE – MM BIO-2: The applicant has proposed Project-specific measures to reduce the potential for impact to special-status fish species and has incorporated them into the Project design. The following measures will be implemented during the depth of burial remediation and decommissioning activities involving in-water work within Threemile Slough.

1. An environmental training program will be developed and presented by a qualified biologist. All contractors and employees involved with the Project will be required to attend the training program. At a minimum, the program will cover special-status species that could occur on the site, their distribution, identification characteristics, sensitivity to human activities, legal protection, penalties for violation of state and federal laws, reporting requirements, and required Project avoidance, minimization, and mitigation measures.
2. Construction activities in surface water at or below the HTL on the banks of Threemile Slough will be conducted within the agency approved aquatic work window for avoidance of listed fish species (August 1 to October 31). This coincides with the timeframe when the aquatic work area is least likely to support special-status fish species based on seasonal migrations and spawning.
3. A qualified biological monitor will be present to monitor Project activities during all in-water work and initial ground disturbance that has the potential to impact special-status species.
4. A Turbidity Monitoring Plan will be implemented during all in-water work to ensure that turbidity levels upstream and downstream of the Project area remain compliant with regulatory requirements.
5. If determined to be necessary and feasible, turbidity curtains may be installed around the in-water work area and/or up and downstream of pipeline removal activities. The feasibility of use of a turbidity curtain will be determined based on site specific conditions at the time of in-water work and the necessity for use of a turbidity curtain will be based on the results of the turbidity monitoring program.

BIO-2 IMPACT CATEGORY: Less than significant with implementation of MM BIO-2.

IMPACT BIO-3: Completion of the Project could potentially impact the VELB due to the presence of blue elderberry shrubs on the north bank of Threemile Slough, specifically within the existing easement for the active L-131Y and L-131Z. Removal of vegetation will be necessary for decommissioning and removal of the pipeline and may include the blue elderberry shrub within the active pipeline easement.

DISCUSSION: There is a large elderberry shrub that occurs over the in-service L-131Y and L-131Z pipeline right-of-way, on the north bank of Threemile Slough. This shrub is within the planned vegetation removal area for access the pipelines to address the depth of burial (Figure 3). Completion of the pipeline remediation activities may require removal of all or a portion of the blue elderberry cluster. The shrub had several stems greater than one inch in diameter and would be considered potential VELB habitat located within riparian habitat. Two additional blue elderberry shrub clusters were mapped at the perimeter of the study area but will not be removed for the project.

The VELB is a covered species under the PG&E MRHCP and both the north bank of Threemile Slough and portions of the study area south of Threemile Slough are modeled habitat for the VELB. The MRHCP provides distinctions between temporary and permanent impacts that accommodate shrub accounting and annual mitigation based on impacts on the VELB habitat, species life history, and past discussions with USFWS regarding impacts (ICF, 2020). The MRHCP provides a consistent ability to track and mitigate impacts on VELB by using the following definitions:

- **Permanent Impact on VELB Habitat**. Any covered activity that results in removal of an entire elderberry shrub with at least one stem greater than 1-inch diameter at ground level will be counted as a permanent impact on one shrub.
- **Temporary Impact on VELB Habitat**. Any covered activity that results in pruning of one or more elderberry shrub stems greater than 1-inch diameter at ground level, where pruning is at 6-feet or below in height, when the plant is left in place will be counted as a temporary impact. Any covered activity that results in pruning of elderberry shrub stems, regardless of stem diameter, beyond 6 feet above ground level during the months of March through May, when adult VELB is most likely to be present will also be counted as a temporary impact.

MRHCP covered activities that result in permanent or temporary impacts to VELB habitat will be overseen by a qualified individual, who will also make stem size determinations and collect other relevant information pertaining to the facility involved, location, and date of the impact. All permanent and temporary impacts will be tracked at the shrub level in PG&E's existing VELB database. Once the vegetation is recommended for removal and removal crews are scheduled, the impacts on elderberry shrubs are noted as completed. The VELB database is used to track the location, date, and type of elderberry shrub impact and will generate an annual summary of impacts, which will be included in the MRHCP annual report for the purposes of tracking impact and mitigation within the MRHCP (ICF, 2020). The accounting methodology used in the MRHCP for impacts on VELB habitat is based on the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS, 2017).

MRHCP SPECIES-SPECIFIC AMMs: This Project may result in permanent impact to VELB habitat and use of the MRHCP for impact assessment and accounting, implementation of appropriate field protocols and species-specific AMMs, and compensatory mitigation will reduce Project impacts to less than significant levels. The Field Protocols are identified in Table 7-1 and MRHCP species-specific AMM is outlined below.

MRHCP VELB-1: All personnel, including PG&E employees and contractors, who are likely to encounter elderberry plants or VELB, especially during vegetation management activities, are required to receive training on VELB. When covered ground-disturbing activities will be implemented within 20 feet of elderberry, a qualified individual will identify a work exclusion zone (i.e., five to 20 feet of the dripline of all elderberry shrubs), with pin flagging or other appropriate means, within which ground disturbance, tree felling, and equipment and vehicle operation will be avoided or minimized. Except for cut stump treatment of removed trees (non-elderberry), herbicides will not be used within this zone. When performing vegetation maintenance work in compliance with Public Resources Code Sections 4291–4293, pruning, rather than removal of elderberry plants, will be performed where feasible.

Permanent impact associated with shrub removal for this Project will be overseen and documented by a qualified individual in compliance with the MRHCP and the *Valley Elderberry Longhorn Beetle Habitat Impact Report Field Form* and included in the MRHCP annual report for the purposes of impact and mitigation tracking. Compensatory mitigation is provided for permanent impacts to the VELB in accordance with the MRHCP Conservation Strategies.

BIO-3 IMPACT CATEGORY: Less than Significant with implementation of MRHCP VELB-1, standard MRHCP Field Protocols, and MRHCP Conservation Strategies.

IMPACT BIO-4: Construction activities within and adjacent to Threemile Slough during the depth of burial remediation and decommissioning and removal phases of the Project, could potentially impact aquatic species such as western pond turtle.

DISCUSSION: Based on biological surveys conducted for this Project, western pond turtle has a moderate potential for occurrence within Threemile Slough in the Project area. Threemile Slough provides suitable aquatic habitat to support the western pond turtle and suitable basking sites were observed within the study area during surveys. Potentially suitable nesting habitat is present along the north and south banks of Threemile Slough, particularly in sandy substrate. Implementation of the Project will result in short-term temporary impacts to potentially suitable aquatic habitat. However, no permanent impacts or loss of habitat for western pond turtle will occur as a result of the Project.

RECOMMENDED MITIGATION MEASURE BIO-4: The applicant has proposed the following measures in combination with the Field Protocols (FP-13) identified in Table 7-1 to reduce the potential for impact to western pond turtle to less than significant levels:

1. A qualified biologist will conduct pre-construction surveys for WPT within 48 hours prior to ground disturbance to ensure that individuals are not present in the work area.

2. Prior to ground disturbance activities, a barrier, such as wildlife exclusion fencing, will be placed around the excavation area to prevent WPT from moving into work areas.
3. A qualified biological monitor shall be present to monitor project activities during all in-water work and initial ground disturbance that has the potential to impact special-status species.

BIO-4 IMPACT CATEGORY: Less than significant with implementation of MM BIO-4 and standard MRHCP Field Protocols.

IMPACT BIO-5: Construction activities within Threemile Slough during the depth of burial remediation and decommissioning and removal phases of the Project could potentially impact aquatic species such as giant gartersnake.

DISCUSSION: Based on biological surveys conducted for this Project, potentially suitable aquatic habitat for giant gartersnake is present at the Project site on the north and south banks of Threemile Slough. Emergent vegetation present within Threemile Slough could provide cover and foraging habitat for giant gartersnake. Suitable upland habitat occurs in adjacent terrestrial areas, particularly north of Threemile Slough where small mammal burrows are present, though the density of small mammal burrows within the study area was low.

The giant gartersnake is a covered species under the PG&E MRHCP and modeled habitat for giant gartersnake includes aquatic habitat along the banks of Threemile Slough and upland habitat within terrestrial habitat on Sherman Island and Brannan Island (ICF, 2020). Implementation of the Project may result in short-term temporary impacts to giant gartersnake modeled habitat but will not result in permanent impacts or loss of habitat because pipeline decommissioning and removal will result in temporary impacts and rock placement activities associated with pipeline remediation will not change the available aquatic habitat in the area or eliminate wetland vegetation that provides cover and potential foraging habitat. Implementation of AMMs from the MRHCP will further reduce the potential for impact to giant gartersnake.

MRHCP SPECIES-SPECIFIC AMM: Consistent with the PG&E MRHCP, the following measures will be implemented during construction activities for protection of giant gartersnake. These measures in combination with the Field Protocols identified in Table 7-1 will reduce Project impacts to less than significant levels:

MRHCP GGS-1: Conduct work during the active season (May 1 to October 1) to the extent practicable. A biologist will conduct a survey and identify where exclusion fencing is needed. If needed, a solid exclusion fence will be installed around the perimeter of work sites and will be inspected weekly. Burrows and other refuge habitat will be avoided to the extent practicable.

If work is conducted during the inactive period (October 2 to April 30) then PG&E will conduct preparation work during the snake's active period to make construction areas ready for work during the inactive season. Preparation work can include, at a minimum, adding baserock to access roads and work sites, grading access roads and work sites, and installing work zone exclusion fencing.

If giant gartersnakes are encountered during construction activities, snakes will be allowed to move away from construction, or an approved biologist will follow USFWS handling protocols and move snakes to the nearest appropriate habitat out of harm's way.

BIO-5 IMPACT CATEGORY: Less than significant with implementation of MRHCP GGS-1 and standard MRHCP Field Protocols.

IMPACT BIO-6: Vegetation removal and construction activities associated with pipeline depth of burial remediation and pipeline decommissioning could impact nesting Swainson's hawks in the Project area.

DISCUSSION: There are many suitable nesting trees for Swainson's hawk within a half mile of the Project site including trees within the riparian corridor of Threemile Slough in the Project area. One Swainson's hawk adult was observed soaring over Brannan Island during surveys conducted on August 15, 2024.

Because Swainson's hawk is a State-listed species and there is suitable nesting habitat in proximity to the Project area, there is the potential that construction near Swainson's hawk nesting areas could disrupt breeding activities if construction occurs during the nesting season. No loss of Swainson's hawk foraging habitat as a result of the Project.

The following mitigation measure would reduce impacts to nesting Swainson's hawks during Project construction.

RECOMMENDED MITIGATION MEASURE - MM BIO-6: The following measure is recommended to reduce Project impacts to nesting occurrences of Swainson's hawk to less than significant levels:

1. If construction occurs outside of Swainson's hawk nesting season (August 16 to February 28), impacts would be avoided, and no mitigation would be necessary.
2. Project activities occurring between March 1 and August 15 will require surveys conducted by a qualified biologist in accordance with the *Swainson's hawk Technical Advisory Committee (TAC) Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000) for active Swainson's hawk nests within a 0.5-mile radius of the Project area. Pre-construction surveys will be completed for the two survey periods immediately prior to the start of construction and within 15 days prior to any construction disturbance. A pre-construction survey report will be prepared that outlines the surveys conducted, nest locations identified, and recommended nest protection buffers. If active Swainson's hawk nests are identified near the Project area, then based on nest protection buffers outlined in PG&E's Nesting Bird Management Plan the following shall be required:
    a) Apply a minimum 0.25-mile nest protection buffer from an active nest. Postpone Project activities within the nest protection buffer until after the young have fledged and are no longer dependent on the nest tree.
    b) If it is not possible to postpone Project activities, construction activities may proceed with CDFW approval and nest monitoring by a qualified raptor biologist. If the monitoring biologist observes signs of distress, then they

shall stop construction work and coordinate with the CDFW to establish additional protection measures to ensure avoidance of nest abandonment prior to the re-start of project activities.

BIO-6 IMPACT CATEGORY: Less than Significant with implementation of MM BIO-6.

IMPACT BIO-7: Vegetation removal, ground-clearing activities, and construction disturbance could impact bird species protected under the Migratory Bird Treaty Act (MBTA), raptors, or other special-status bird species.

DISCUSSION: Vegetation present within the Project area could provide nesting habitat for bird species protected by the MBTA, raptors, or other special-status bird species. Vegetation removal, ground-clearing activities, and construction disturbance could potentially impact nesting birds that are protected under the Federal MBTA of 1918 (16 USC 703-711) and Fish and Game codes (Sections 3503, 3503.5, and 3800). The laws and regulations prohibit the take, possession, or destruction of birds, their nests, or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort could be considered a “take”.

RECOMMENDED MITIGATION MEASURE - MM BIO-7: The applicant has proposed the following measures in combination with the Field Protocols (FP-18) identified in Table 7-1 to reduce the potential for impact to nesting birds, raptors and other special-status bird species to reduce Project impact to less than significant levels:

1. Schedule vegetation removal and ground-clearing activities during the non-nesting season (August 16 to February 14), if feasible.
2. If Project-related vegetation removal and ground-clearing activities are scheduled between February 15 and August 15, then pre-construction surveys shall be conducted within 14 days prior to the start of vegetation removal in potential nesting habitat within 500 feet of the Project area to identify nest locations. If an active nest is identified, an appropriate species-specific nest protection buffer will be recommended based on PG&E’s Nesting Bird Management Plan and site-specific conditions.
3. A pre-construction nesting survey report will be prepared that outlines the surveys conducted, nest locations identified, and recommended nest protection buffers. Each recommended nest protection buffer will be approved by the PG&E biologist prior to the start of construction activities. Construction activities will be prohibited within the established buffer zones until the young have fledged. If it is not possible to postpone Project activities within established buffers, construction activities may only proceed with notification to the CDFW, approval from the PG&E biologist, and nest monitoring by a qualified biologist. If the monitoring biologist observes signs of distress, then they shall stop construction work and coordinate with the PG&E biologist.
4. If a lapse in Project-related activities occurs for 14 days or longer during the nesting season, another focused survey is required before project activities can be reinitiated.

BIO-7 IMPACT CATEGORY: Less than Significant with implementation of MM BIO-7.

IMPACT BIO-8: The removal of riparian habitat on the banks of Threemile Slough for equipment access and pipeline removal may impact special-status bat species such as western red bat.

DISCUSSION: Based on the review of pertinent literature and the proximity to known occurrences, western red bat has a moderate likelihood of occurrence in the work area. It roosts in trees and shrubs, primarily cottonwood and sycamore trees, adjacent to streams, fields, or urban areas and a historic documented occurrence from 1999 occurs in Brannan Island State Recreation Area. Although not their preferred tree species, removal of the riparian trees and shrubs on the banks of Threemile Slough for equipment access and decommissioning and removal of the previously abandoned pipelines could result in the disturbance of tree roosting bats, such as western red bat, if present. Although suitable roosting habitat is present within the Project area for special-status bat species, the presence of these bat species has not been confirmed.

RECOMMENDED MITIGATION MEASURE – MM BIO-8:

The applicant has proposed the following measures to reduce the potential for impact to tree roosting bats:

1. Prior to tree removal or trimming, seasonally appropriate emergence surveys will be conducted by a qualified bat biologist to fully assess bat presence and behavior. If no special-status bat species are detected, no further mitigation is necessary. If special-status bat species are detected, the following measures will be implemented to minimize the impact of tree removal:
   a) Tree removal will be conducted outside the maternity season (April 1–August 31) to avoid potential mortality to flightless young and outside the bat hibernation season (November– February) to avoid direct mortality of foliage roosting species.
   b) In addition, a phased vegetation removal approach would be followed:
      i. On Day 1, branches and limbs that do not contain crevices or cavities shall be removed using hand tools or chainsaws. The goal is to create a disturbance sufficient to cause any bats roosting in the tree to leave that night and not return, but not at a level of intensity that will cause bats to fly out of the tree during the disturbance itself (during the daytime).
      ii. On Day 2, the remainder of the tree may be removed.
   c) A qualified bat biologist will be present to monitor tree removal.

BIO-8 IMPACT CATEGORY: Less than Significant with implementation of MM BIO-8.

IMPACT BIO-9: The pipeline remediation and the decommissioning and removal of the previously abandoned pipelines will result in impacts to aquatic resources (waters of the U.S. and wetlands) regulated by the ACOE under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The Project will also result in impacts to aquatic resources regulated by the Central Valley RWQCB under Section 401 of the Clean Water Act and CDFW under Section 1600 of the California Fish and Game Code.

DISCUSSION: A preliminary aquatic resource delineation has been conducted for the Project to determine the geographic extent of Federal and State regulatory jurisdiction (Padre, 2024). A total of 0.12-acre of fill will be placed for the remediation of the exposures on the active pipelines and up to 2.58 acres of temporary disturbance to jurisdictional waters of the U.S. and waters of the state may occur during the decommissioning phase of the project, including approximately 0.41-acre of excavation for pipeline removal (Figure 4).

RECOMMENDED MITIGATION MEASURE – MM BIO-9:

1. PG&E will obtain all necessary permits for impacts to jurisdictional aquatic resources from the ACOE, RWQCB, and CDFW prior to implementation of Project activities within jurisdictional areas and the Project will comply with agency permit conditions.
2. Standard best management practices (BMPs), such as the use of silt fencing and non-monofilament straw wattle, will be implemented within the disturbance footprints at each terrestrial excavation location to minimize erosion, increased turbidity, and sedimentation to waters of the U.S. and waters of the state.
3. After pipeline remediation, decommissioning, and removal activities are complete, the temporary disturbance areas will be restored to pre-project contours and condition. Levee disturbance areas will be restored consistent with Central Valley Flood Protection Board and Local Maintaining Agency requirements as required by the permits and authorizations issued by those agencies. Impacts to the banks of Threemile Slough will be restored to pre-existing condition and temporary disturbance areas within the Brannan Island State Recreational Area will be restored consistent with State Parks requirements. A Site Restoration Plan will be developed that will include the restoration of habitat removed for completion of the Project.

BIO-9 IMPACT CATEGORY: Less than Significant with implementation of MM BIO-9.

IMPACT BIO-10: The Project will require the removal of riparian habitat on the banks of Threemile Slough, including vegetation removal on the north bank for equipment access to the pipeline remediation area for rock placement and for removal of the previously abandoned pipelines from the north bank. Vegetation removal from the south bank will be required for equipment access and removal of the previously abandoned pipelines from the south bank.

DISCUSSION: Riparian habitat occurs on both the north and south bank of Threemile Slough including a narrow band of mature trees, primarily coast live oak (*Quercus agrifolia*), on the south bank and dense willow shrub cover on the north bank. This includes one sensitive natural community (SNC) on the south bank, the California sycamore and coast live oak riparian woodland (Figure 3). Workspace within this riparian habitat will be reduced to the minimum necessary for successful completion of the Project and tree removal within the workspace areas will be minimized to the extent feasible; however, vegetation will need to be removed for equipment access and pipeline removal from Threemile Slough. According to the arborist report for the Project, a total of six trees and

two areas of brush will be removed for completion of the Project (Coleman Utility Arboriculture [CUA], 2024). This includes five coast live oak trees, ranging in size from six inches to 32 inches in diameter, and one miscellaneous brush area (approximately 7,000 square feet in size) to be removed on the south bank of Threemile Slough and one coast live oak tree, six inches in diameter, and one miscellaneous brush area (approximately 13,000 square feet in size) to be removed on the north bank of Threemile Slough.

RECOMMENDED MITIGATION MEASURE – BIO-10: The following recommended mitigation measures would reduce Project impacts to riparian habitat removal at the Project area:

- A Site Restoration Plan will be developed that will include the replacement of riparian habitat removed for completion of the Project. Implementation of a Site Restoration Plan upon completion of the Project will restore the temporary disturbance areas to pre-project contours and condition. If onsite restoration of woody vegetation on the federal levee is not acceptable, offsite mitigation may be considered for mitigation of impacts to riparian habitat.

BIO-10 IMPACT CATEGORY: Less than Significant with implementation of MM BIO-10.

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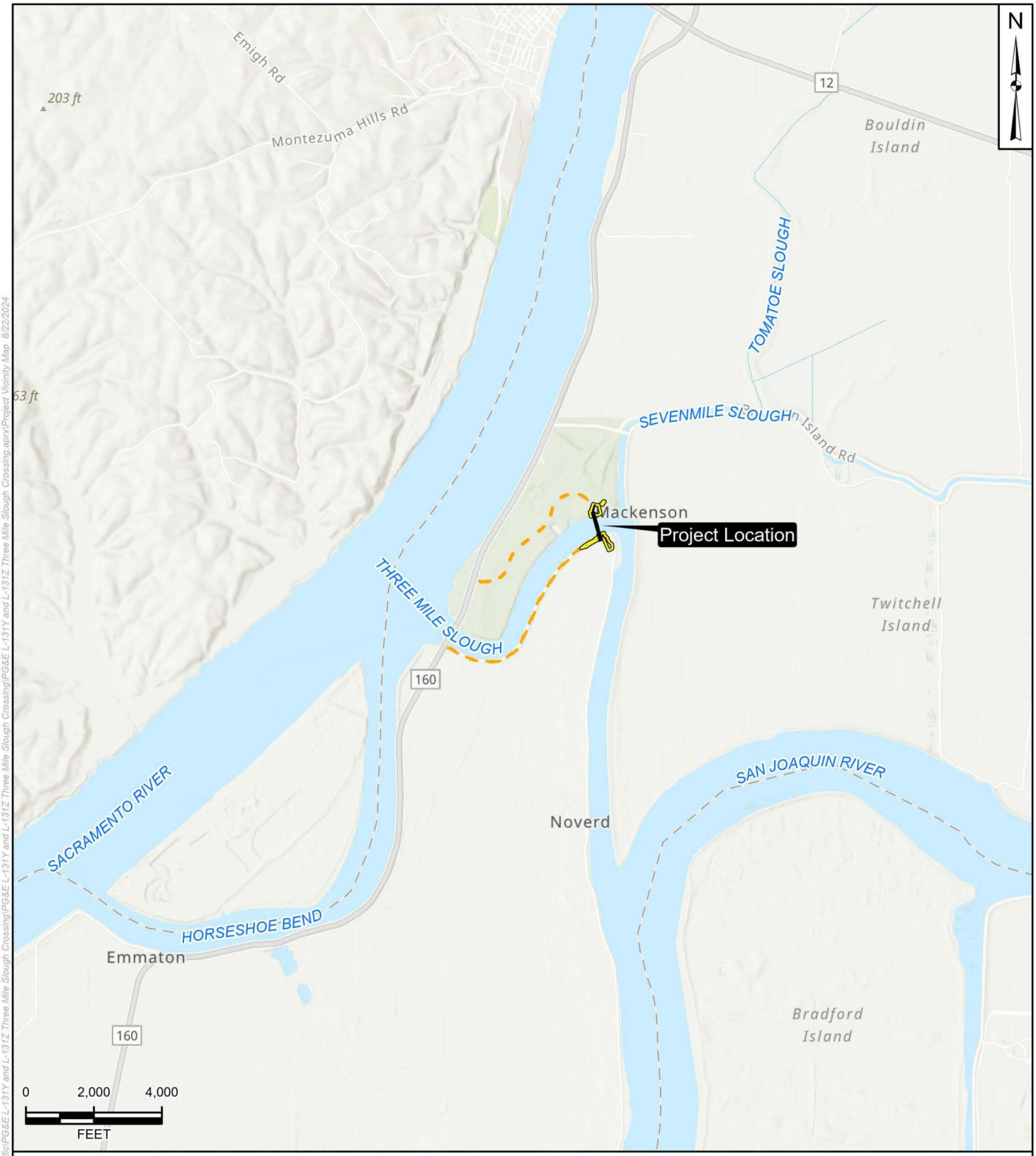
FIGURES



LEGEND:

Pipeline | Workpace | Access Route

MAP EXTENT:

Source: Esri Online Topo Basemap
Coordinate System:NAD 1983 StatePlane California II FIPS 0402 Feet
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME:	PG&E L-131Y & L-131Z THREE MILE SLOUGH CROSSING REMEDIATION SACRAMENTO COUNTY, CA
PROJECT NUMBER:	2402-1171
DATE:	August 2024

PROJECT VICINITY MAP

FIGURE 1

Z:\GIS Projects\GIS Maps\GIS Data\Project Specific\PG&E L-131Y and L-131Z Three Mile Slough Crossing\PG&E L-131Y and L-131Z Three Mile Slough Crossing apx\Project Vicinity Map_8/22/2024

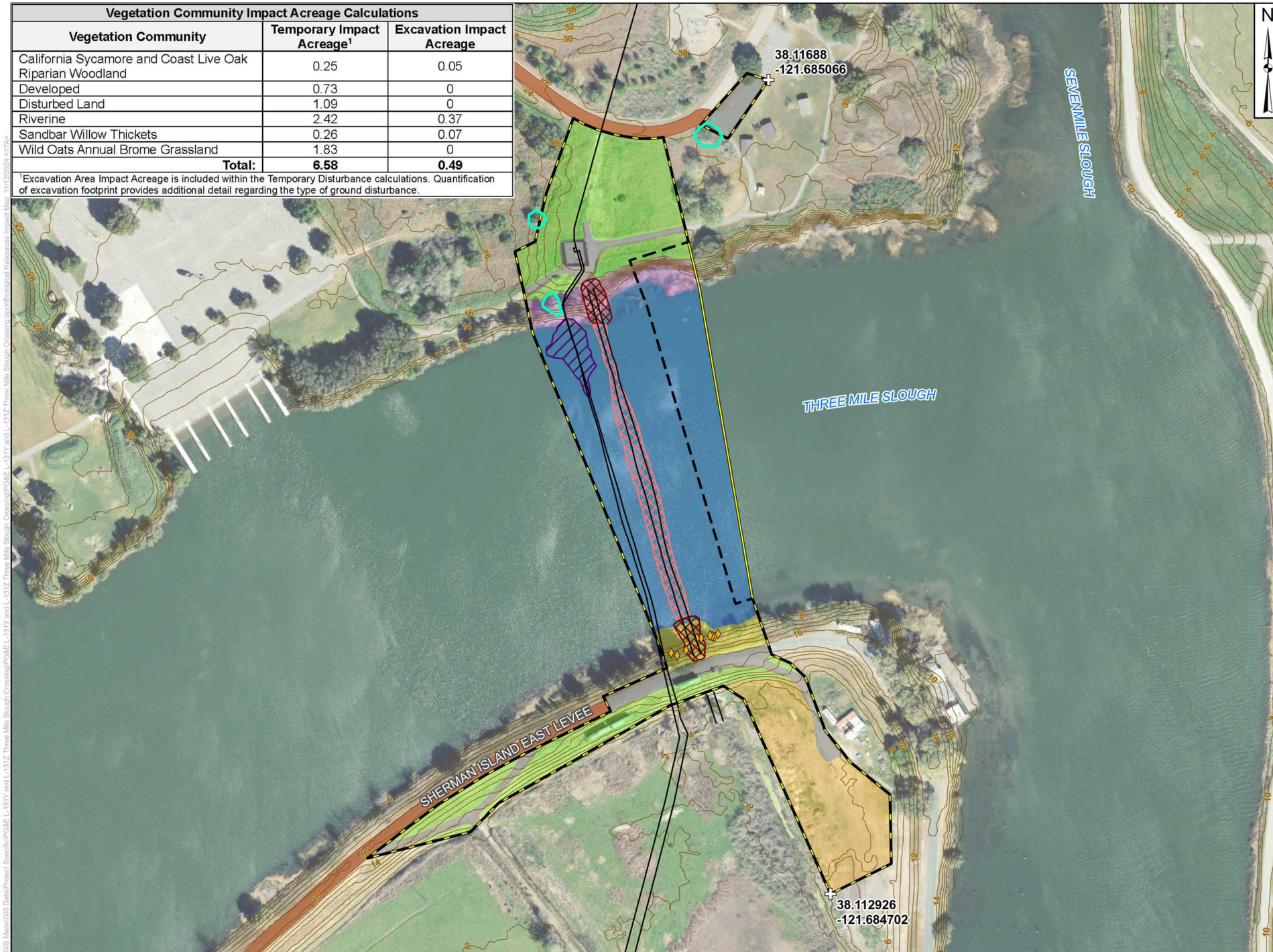
Source: L123
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME:	PG&E L-131Y & L-131Z THREE MILE SLOUGH CROSSING REMEDIATION SACRAMENTO COUNTY, CA		PROJECT OVERVIEW	FIGURE
PROJECT NUMBER:	2402-1171	DATE: December 2024		2

Vegetation Community Impact Acreage Calculations		
Vegetation Community	**Temporary Impact Acreage[1]**	**Excavation Impact Acreage**
California Sycamore and Coast Live Oak Riparian Woodland	0.25	0.05
Developed	0.73	0
Disturbed Land	1.09	0
Riverine	2.42	0.37
Sandbar Willow Thickets	0.26	0.07
Wild Oats Annual Brome Grassland	1.83	0
Total:	**6.58**	**0.49**

[1]Excavation Area Impact Acreage is included within the Temporary Disturbance calculations. Quantification of excavation footprint provides additional detail regarding the type of ground disturbance.



LEGEND:

- Control Point
- Delta Tule Pea *(Lathyrus jepsonii var. jepsonii)*
- Pipeline Alignment
- Study Area (7.6 ac)
- Access Route
- Dripline of Blue Elderberry Shrub *(Sambucus nigra ssp. caerulea)*
- Work Space
- Terrestrial Excavation Area
- In-Water Excavation Area
- Rock Placement Area

Vegetation Communities

- California Sycamore and Coast Live Oak Riparian Woodland
- Developed
- Disturbed Land
- Riverine
- Sandbar Willow Thickets
- Wild Oats and Annual Brome Grassland

MAP EXTENT:

0 90 180
FEET

Source: Esri Online Imagery Basemap, County of Sacramento
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: PG&E THREEMILE SLOUGH PIPELINE CROSSINGS REMEDIATION AND DECOMMISSIONING SACRAMENTO COUNTY, CA

PROJECT NUMBER: 2402-1171

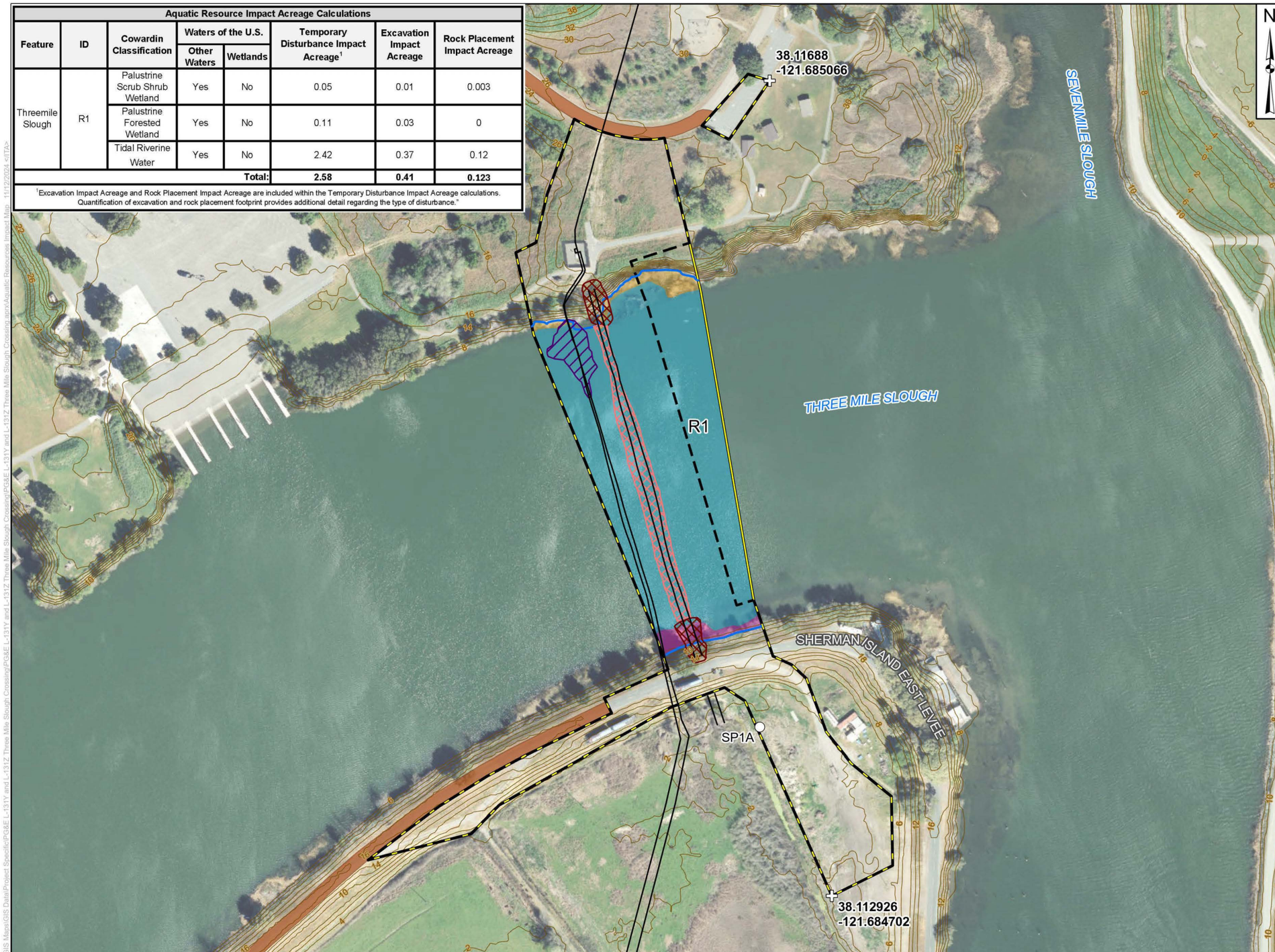
DATE: November 2024

BIOLOGICAL RESOURCES IMPACT MAP

FIGURE 3

Aquatic Resource Impact Acreage Calculations							
Feature	ID	Cowardin Classification	Waters of the U.S.		Temporary Disturbance Impact Acreage[1]	Excavation Impact Acreage	Rock Placement Impact Acreage
			Other Waters	Wetlands			
Threemile Slough	R1	Palustrine Scrub Shrub Wetland	Yes	No	0.05	0.01	0.003
		Palustrine Forested Wetland	Yes	No	0.11	0.03	0
		Tidal Riverine Water	Yes	No	2.42	0.37	0.12
				Total:	2.58	0.41	0.123

[1]Excavation Impact Acreage and Rock Placement Impact Acreage are included within the Temporary Disturbance Impact Acreage calculations. Quantification of excavation and rock placement footprint provides additional detail regarding the type of disturbance."



LEGEND:

- Control Point
- Sample Plot Location
- High Tide Line
- Pipeline Alignment
- Study Area (7.6 ac)
- Access Route
- Work Space
- Terrestrial Excavation Area
- In-Water Excavation Area
- Rock Placement Area

Cowardin Classification

- Palustrine Forested Wetland (0.11 ac)
- Palustrine Scrub Shrub Wetland (0.13 ac)
- Tidal Riverine Water (3.27 ac)

MAP EXTENT:

0 90 180
FEET

Source: Esri Online Imagery Basemap, County of Sacramento
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Notes: This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: PG&E THREEMILE SLOUGH PIPELINE CROSSINGS REMEDIATION AND DECOMMISSIONING SACRAMENTO COUNTY, CA

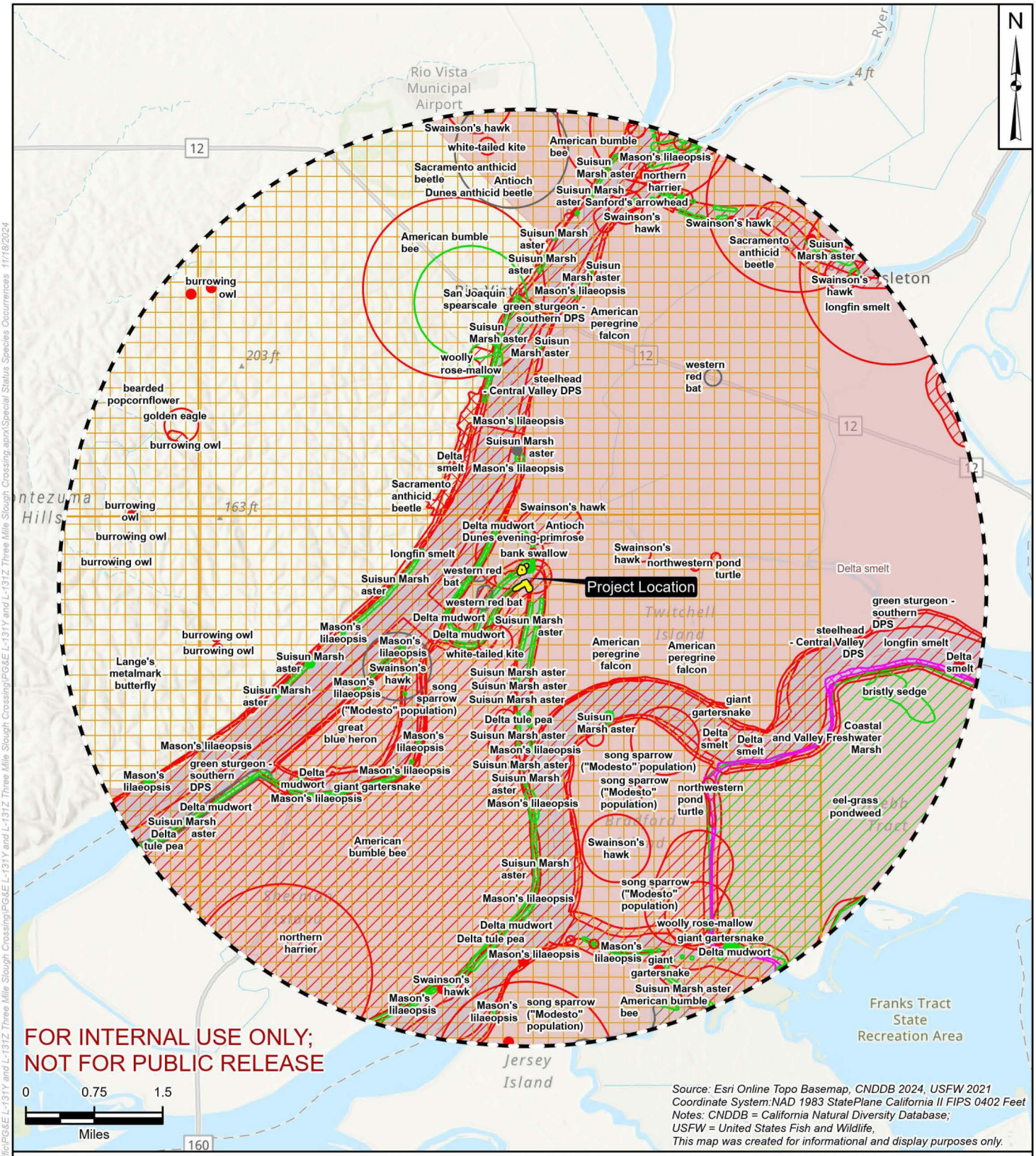
PROJECT NUMBER: 2402-1171

DATE: November 2024

AQUATIC RESOURCES IMPACT MAP

FIGURE 4

<ITA>2:\GIS Projects\GIS Maps\GIS Data\Project Specific\PG&E L-131Y and L-1317 Three Mile Slough Crossing\PG&E L-131Y and L-1317 Three Mile Slough Crossing\Aquatic Resources Impact Map_11\12\2024 <ITA>



FOR INTERNAL USE ONLY;
NOT FOR PUBLIC RELEASE

0 0.75 1.5
Miles

Source: Esri Online Topo Basemap, CNDDB 2024, USFW 2021
Coordinate System:NAD 1983 StatePlane California II FIPS 0402 Feet
Notes: CNDDB = California Natural Diversity Database;
USFW = United States Fish and Wildlife,
This map was created for informational and display purposes only.

LEGEND:

- Workpace
- Buffer Zone (5 miles)
- USFW Critical Habitat

CNDDB Occurrences

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

MAP EXTENT:

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: PG&E L-131Y & L-131Z
THREE MILE SLOUGH CROSSING REMEDIATION
SACRAMENTO COUNTY, CA

PROJECT NUMBER: 2402-1171

DATE: November 2024

SPECIAL STATUS SPECIES OCCURRENCES

FIGURE 5

Z:\GIS Projects\GIS Maps\GIS Data\Project Specific\PG&E L-131Y and L-131Z Three Mile Slough Crossing\PG&E L-131Y and L-131Z Three Mile Slough Crossing apx\Special Status Species Occurrences 11/18/2024

Photograph A. View across Threemile Slough where the pipelines will be decommissioned, taken from the southern bank on Sherman Island. View northwest (photograph taken 8/15/24).	
Photograph B. View of the south bank of Threemile Slough. Photo shows rip rap along the waterside slope of the Sherman Island levee. View northeast (photograph taken 8/15/24).	

Photograph C. View of delta tule pea (*Lathyrus jepsonii* var. *jepsonii*) growing in Himalayan blackberry (*Rubus armeniacus*) and California rose (*Rosa californica*) patch on the south bank of Threemile Slough (photograph taken 8/15/24).	
Photograph D. View of Sherman Island East Levee Road along the levee crown and the California sycamore and coast live oak riparian woodland community along the southern bank of Threemile Slough. View northeast (photograph taken 8/15/24).	

Photograph E. View of the disturbed land within the study area on Sherman Island. This area has a high level of human disturbance and evidence of trash piles, burn piles, and dredge spoil disposal were observed. This area would be used for parking and construction staging. View northwest (photograph taken 8/15/24).	
Photograph F. View of the wild oats and annual brome grassland on the landward slope of the Sherman Island Levee. This area is routinely mowed. View southwest (photograph taken 8/15/24).	

Photograph G. South view of the approximate alignment of the L-131Y and L-131Z pipelines across Threemile Slough. The area of exposure proposed for remediation is in the foreground of this photo (photograph taken 8/15/24).	
Photograph H. View of the sandbar willow thickets vegetation community located along the northern bank of Threemile Slough. These willows will be removed for access to decommission and remove the previously abandoned pipelines. View northeast (photograph taken 8/15/24).	

Photograph I. View of a blue elderberry shrub (*Sambucus nigra ssp. caerulea*) located over the active L-131Y and L-131Z pipeline crossings on the north bank of Threemile Slough. This elderberry shrub may need to be removed or pruned for construction access to remediate the pipelines. View southwest (photograph taken 7/24/24).	
Photograph J. View of a blue elderberry shrub at the perimeter of the study area on Brannan Island. This elderberry shrub will remain in place and will not be impacted by construction. View west (photograph taken 8/15/24).	

Photograph K. View of the wild oats and annual brome grassland vegetation community located in the study area on Brannan Island. View north (photograph taken 8/15/24).	
Photograph L. View of the developed parking lot located within the study area on Brannan Island. This area will be used for parking and construction staging. View south (photograph taken 8/15/24).	

APPENDIX A

USFWS AND NMFS SPECIES LISTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654

In Reply Refer To: 11/26/2024 21:23:43 UTC
Project Code: 2024-0081760
Project Name: PG&E Three Mile Slough Pipeline Crossings Remediation and Decommissioning

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/program/eagle-management/working-around-eagles). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/node/266177) for minimizing impacts to migratory birds and

bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation; and http://www.towerkill.com.

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

PROJECT SUMMARY

Project Code: 2024-0081760
Project Name: PG&E Three Mile Slough Pipeline Crossings Remediation and Decommissioning
Project Type: Pipeline - Onshore - Maintenance / Modification - Below Ground
Project Description: Pipeline decommissioning and remediation
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.114616350000006,-121.68576130996959,14z

Counties: Sacramento County, California

ENDANGERED SPECIES ACT SPECIES

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

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

---

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

BIRDS

NAME	STATUS
California Ridgway"s Rail *Rallus obsoletus obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered

REPTILES

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

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

FISHES

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Endangered
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Proposed Endangered

INSECTS

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

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

FLOWERING PLANTS

NAME	STATUS
Soft Bird's-beak *Cordylanthus mollis ssp. mollis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: Padre Associates Inc.
Name: Robin Bedard
Address: 350 University Ave., suite 250
City: Sacramento
State: CA
Zip: 95827
Email rbedard@padreinc.com
Phone: 9163335920

From: ccvo consultationrequests - NOAA Service Account
To: Robin Bedard; Sarah Powell
Subject: Fwd: PG&E L-131Y and L-131Z Three Mile Slough Pipeline Remediation Project - Species List Request
Date: Tuesday, November 5, 2024 9:34:56 AM

Hi Robin,

Very sorry about this - we responded but forgot to include you on the email! Please feel free to reach out to Stephen Maurano if you have any questions.

Apologies again!
Tancy

---------- Forwarded message ---------
From: **Stephen Maurano - NOAA Federal** <stephen.maurano@noaa.gov>
Date: Fri, Sep 13, 2024 at 10:27 AM
Subject: Re: PG&E L-131Y and L-131Z Three Mile Slough Pipeline Remediation Project - Species List Request
To: ccvo consultationrequests - NOAA Service Account <ccvo.consultationrequests@noaa.gov>
Cc: _NMFS WCR CVO Consultation Tracking <ccvo.consultations@noaa.gov>, Garwin Yip - NOAA Federal <garwin.yip@noaa.gov>

Mr. Bedard,

This is in response to your September 6, 2024 email requesting NOAA's National Marine Fisheries Service (NMFS) technical assistance for the PG&E L-131Y and L-131Z Three Mile Slough Pipeline Remediation Project located in Jersey Island, California (approximate coordinates of the project location 38° 6'54.85"N, 121°41'6.85"W). Without a full project description, NMFS cannot determine the full extent of the overall action area, however, with the information available, the following listed species and critical habitats could occur in the project area:

Sacramento River winter-run Chinook salmon *(Oncorhynchus tshawytscha)*
endangered (January 4, 1994, 59 FR 440)
critical habitat (June 16, 1993, 58 FR 33212)

Central Valley spring-run Chinook salmon (*O. tshawytscha*)
threatened (June 28, 2005, 70 FR 37160)
critical habitat (September 2, 2005, 70 FR 52488)

California Central Valley steelhead (*O. mykiss*)
threatened (January 1, 2006, 71 FR 834)
critical habitat (September 2, 2005, 70 FR 52488)

Southern distinct population segment of North American green sturgeon (*Acipenser medirostris*)
threatened (April 7, 2006, 71 FR 17757)
critical habitat (October 9, 2009, 74 FR 52300)

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Pacific Fisheries Management Council has identified essential fish habitat (EFH) for Pacific coast salmon species

(*i.e.*, Chinook salmon) in Amendment 14 to the Pacific Coast Salmon Fishery Management Plan. Federal action agencies are mandated by the MSA (section 305(b)(2)) to consult with NMFS on all actions that may adversely affect EFH, and NMFS must provide EFH conservation recommendations to those agencies (section 305(b)(4)(A)).

Please let me know if you have any questions or concerns regarding this information.

Thank you,

Stephen Maurano
Acting Water Operations and Delta Consultations Branch Chief

---------- Forwarded message ---------
From: **Robin Bedard** <rbedard@padreinc.com>
Date: Fri, Sep 6, 2024 at 2:30 PM
Subject: PG&E L-131Y and L-131Z Three Mile Slough Pipeline Remediation Project - Species List Request
To: ccvo.consultationrequests@noaa.gov <ccvo.consultationrequests@noaa.gov>
Cc: Sarah Powell <spowell@padreinc.com>

To Whom It May Concern,

I would like to request an official species list from NMFS for species that may occur in the Jersey Island, California Quadrangle where PG&E L-131Y and L-131Z Three Mile Slough Pipeline Remediation Project will be occurring. The approximate coordinates of the project location are: 38° 6'54.85"N, 121°41'6.85"W. Could you please generate an official species list for the project that should be covered in our biological technical report as part of our environmental review for CEQA.

Please let me know if you need any additional information to general an official species list.

Thank you,
Robin Bedard

Robin E. Bedard
Staff Biologist
Padre Associates, Inc.
350 University Ave. Suite #250
Sacramento, CA 95825
Cell Phone: (760)223-1145

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copying of this message is prohibited. If you are not the intended addressee, please notify the sender immediately and delete this message. Thank you.

Please consider the environment before printing this email.

--

Stephen Maurano (he/him/his)
California Central Valley Office | NOAA Fisheries
(916) 214-2675

www.fisheries.noaa.gov

APPENDIX B

CNDDB QUERY RESULTS

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: BIOS selection

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acipenser medirostris pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	0 32	14 S:3	0	2	0	0	0	1	0	3	3	0	0
Actinemys marmorata northwestern pond turtle	G2 SNR	Proposed Threatened None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	0 10	1140 S:3	0	1	1	0	0	1	2	1	3	0	0
Anthicus antiochensis Antioch Dunes anthicid beetle	G3 S3	None None		20 20	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Anthicus sacramento Sacramento anthicid beetle	G4 S4	None None	IUCN_EN-Endangered	15 30	13 S:3	0	0	0	0	0	3	3	0	3	0	0
Apodemia mormo langei Lange's metalmark butterfly	G5T1 S1	Endangered None		10 10	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Aquila chrysaetos golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern	117 117	332 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	10 10	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	10 200	2057 S:8	0	6	1	0	0	1	7	1	8	0	0
Bombus pensylvanicus American bumble bee	G3G4 S2	None None	IUCN_VU-Vulnerable	-12 74	720 S:4	0	0	0	0	0	4	4	0	4	0	0
Buteo swainsoni Swainson's hawk	G5 S4	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	0 20	2577 S:12	1	0	1	0	0	10	5	7	12	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Carex comosa bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	-21 -21	31 S:1	0	0	1	0	0	0	1	0	1	0	0
Circus hudsonius northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	-10 4	82 S:2	0	0	0	0	0	2	0	2	2	0	0
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	G3 S2.1	None None			60 S:1	0	0	0	0	0	1	1	0	1	0	0
Elanus leucurus white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	-5 19	190 S:2	0	0	0	0	0	2	0	2	2	0	0
Eucerceris ruficeps redheaded sphecid wasp	G1G3 S2	None None		7 7	4 S:1	0	0	0	0	1	0	1	0	0	1	0
Extriplex joaquinana San Joaquin spearscale	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		127 S:1	0	0	0	0	0	1	1	0	1	0	0
Falco peregrinus anatum American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive	3 10	76 S:3	0	0	0	0	0	3	0	3	3	0	0
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	0 2	173 S:3	0	1	1	0	0	1	1	2	3	0	0
Hypomesus transpacificus Delta smelt	G1 S1	Threatened Endangered	AFS_TH-Threatened IUCN_CR-Critically Endangered	0 0	29 S:4	0	0	0	1	0	3	0	4	4	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	20 20	238 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Lasiurus frantzii western red bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	20 20	128 S:2	0	0	0	0	0	2	2	0	2	0	0
Lathyrus jepsonii var. jepsonii Delta tule pea	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_BerrySB-Berry Seed Bank SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	0 10	133 S:7	0	0	4	1	0	2	2	5	7	0	0
Lilaeopsis masonii Mason's lilaeopsis	G2 S2	None Rare	Rare Plant Rank - 1B.1	0 13	206 S:29	0	11	12	2	0	4	7	22	29	0	0
Limosella australis Delta mudwort	G5 S2	None None	Rare Plant Rank - 2B.1	0 17	59 S:10	1	4	4	0	0	1	5	5	10	0	0
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	G5T3?Q S3?	None None	CDFW_SSC-Species of Special Concern	0 20	92 S:10	0	0	0	0	0	10	1	9	10	0	0
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	10 10	10 S:1	0	0	1	0	0	0	0	1	1	0	0
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern		31 S:1	0	0	0	0	0	1	0	1	1	0	0
Plagiobothrys hystriculus bearded popcornflower	G2 S2	None None	Rare Plant Rank - 1B.1	170 170	15 S:1	0	0	1	0	0	0	0	1	1	0	0
Potamogeton zosteriformis eel-grass pondweed	G5 S3	None None	Rare Plant Rank - 2B.2		20 S:1	0	0	0	0	0	1	1	0	1	0	0
Riparia riparia bank swallow	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	5 5	299 S:1	0	0	0	0	0	1	1	0	1	0	0
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	5 5	143 S:1	0	1	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Spirinchus thaleichthys pop. 2 longfin smelt - San Francisco Bay-Delta DPS	G5TNRQ S1	Endangered Threatened	IUCN_LC-Least Concern	0 0	35 S:3	0	0	0	0	0	3	1	2	3	0	0
Symphyotrichum lentum Suisun Marsh aster	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	0 10	175 S:23	0	8	9	2	0	4	3	20	23	0	0
Thamnophis gigas giant gartersnake	G2 S2	Threatened Threatened	IUCN_VU-Vulnerable	-10 5	381 S:5	0	1	3	0	0	1	2	3	5	0	0

APPENDIX C

PLANT SPECIES OBSERVED

Plant Species Observed at the PG&E Threemile Slough Pipeline Crossings Remediation and Decommissioning Project Site

Common Name/Family	*Scientific Name*	Growth Habit	Wetland Indicator Status	Native Status	Sensitivity / Listing Status
EQUISETACEAE (Horsetail Family)					
Common horsetail	*Equisetum arvense*	H	FAC	N	
ADOXACEAE (Muskroot Family)					
Blue elderberry	*Sambucus nigra* ssp. *caerulea*	S	FACU	N	
AMARANTHACEA (Amaranth Family)					
Alligator weed	*Alternanthera philoxeroides*	H	OBL	I	
APIACEAE (Carrot Family)					
Bur-chervil	*Anthriscus caucalis*	H	NL	I	
Fennel	*Foeniculum vulgare*	H	NL	I	
APOCYNACEAE (Dogbane Family)					
Indian hemp	*Apocynum cannabinum*	H	FAC	N	
ASTERACEAE (Sunflower Family)					
Ragweed	*Ambrosia sp.*	H	FACU		
Mugwort	*Artemisia douglasiana*	H	FAC	N	
Coyote brush	*Baccharis pilularis*	S	NL	N	
Italian thistle	*Carduus pycnocephalus* ssp. *pycnocephalus*	H	NL	I	
Yellow star-thistle	*Centaurea solstitialis*	H	NL	I	
Bull thistle	*Cirsium vulgare*	H	FACU	I	
Fleabane daisy	*Erigeron* sp.	H	NL		
Bristly ox-tongue	*Helminthotheca echioides*	H	FAC	I	
Telegraph weed	*Heterotheca grandiflora*	H	NL	N	
Prickly lettuce	*Lactuca serriola*	H	FACU	I	
Cocklebur	*Xanthium strumarium*	H	FAC	N	
BORAGINACEAE (Borage Family)					
Fiddleneck	*Amsinckia* sp.	H		N	
Alkali heliotrope	*Heliotropium curassavicum* var. *oculatum*	H	FACU	N	
BRASSICACEAE (Mustard Family)					
Black mustard	*Brassica nigra*	H	NL	I	
Perennial pepperweed	*Lepidium latifolium*	H	FAC	I	
CONVOLVULACEAE (Morning-Glory Family)					
Bindweed	*Convolvulus arvensis*	H	NL	I	
FABACEAE (Legume Family)					
Spanish clover	*Acmispon americanus* var. *americanus*	H	UPL	N	
Delta tule pea	*Lathyrus jepsonii* var. jepsonii	H	OBL	N	1B.2
California burclover	*Medicago polymorpha*	H	FACU	I	
Sourclover	*Melilotus indicus*	H	FACU	I	
Clover	*Trifolium* sp.	H			
Vetch	*Vicia* sp.	H			
Winter vetch	*Vicia villosa*	H	NL	I	
FAGACEAE (Oak Family)					
Coast live oak	*Quercus agrifolia*	T	NL	N	
Valley oak	*Quercus lobata*	T	FACU	N	

Plant Species Observed at the PG&E Threemile Slough Pipeline Crossings Remediation and Decommissioning Project Site

Common Name/Family	*Scientific Name*	Growth Habit	Wetland Indicator Status	Native Status	Sensitivity / Listing Status
GERANIACEAE (Geranium Family)					
Storksbill	*Erodium* sp.	H			
HALORAGACEA (Water-Milfoil Family)					
Parrot's feather	*Myriophyllum aquaticum*	H	OBL	N	
JUGLANDACEAE (Walnut Family)					
Northern California black walnut	*Juglans hindsii*	T	FAC	N	1B.1
MALVACEAE (Mallow Family)					
Bull mallow	*Malva nicaeensis*	H	NL	I	
ONAGRACEAE (Evening Primrose Family)					
Hairy willow herb	*Epilobium ciliatum*	H	FACW	N	
Water primrose	*Ludwigia sp.*	H	OBL	I	
Smartweed	*Persicaria sp.*	H			
PLATANACEAE (Sycamore Family)					
Western sycamore	*Platanus racemosa*	T	FAC	N	
POLYGONACEAE (Buckwheat Family)					
False waterpepper	*Persicaria hydropiperoides*	H	OBL	N	
Willow weed	*Persicaria lapathifolia*	H	FACW	N	
Curly dock	*Rumex crispus*	H	FAC	I	
ROSACEAE (Rose Family)					
California rose	*Rosa californica*	S	FAC	N	
Himalayan blackberry	*Rubus armeniacus*	V	FAC	I	
RUBIACEAE (Madder Family)					
California button willow	*Cephalanthus occidentalis*	S	OBL	N	
SALICACEAE (Willow Family)					
Narrow-leaved willow	*Salix exigua*	S	FACW	N	
Gooding's black willow	*Salix goodingii*	T	FACW	N	
VERBENACEAE (Vervain Family)					
Shore vervain	*Verbena littoralis*	H	FACU	I	
ZYGOPHYLLACEAE (Caltrop Family)					
Puncture vine	*Tribulus terrestris*	H	NL	I	
ARECACEAE (Palm Family)					
Fan palm		T	FAC/FACW		
CYPERACEAE (Sedge Family)					
Sedge	*Carex* sp.	H			
Santa Barbara sedge	*Carex barbarae*	H	FAC	N	
Tall cyperus	*Cyperus eragrostis*	H	FACW	N	
Tule	*Schoenoplectus acutus* var. *occidentalis*	H	OBL	N	
HYDROCHARITACEAE (Waterweed Family)					
Brazilian waterweed	*Egeria densa*	H	OBL	I	
Frogbit	*Limnobium sp.*	H	OBL		
JUNCACEAE (Rush Family)					
Lamp rush	*Juncus effusus*	H	FACW	N	
POACEAE (Grass Family)					
Giant reed	*Arundo donax*	G	FACW	I	

Plant Species Observed at the PG&E Threemile Slough Pipeline Crossings Remediation and Decommissioning Project Site

Common Name/Family	*Scientific Name*	Growth Habit	Wetland Indicator Status	Native Status	Sensitivity / Listing Status
Wild oat	*Avena* sp.	G		I	
Slender wild oat	*Avena barbata*	G	NL	I	
Wild oat	*Avena fatua*	G	NL	I	
Ripgut grass	*Bromus diandrus*	G	NL	I	
Soft chess	*Bromus hordeaceus*	G	FACU	I	
Bermuda grass	*Cynodon dactylon*	G	FACU	I	
Beardless wild rye	*Elymus triticoides*	G	NL	N	
Rattail sixweeks grass	*Festuca myuros*	G	FACU	I	
Hare barley	*Hordeum murinum* ssp. *leporinum*	G	FACU	I	
Dallis grass	*Paspalum dilatatum*	G	FAC	I	
Harding grass	*Phalaris aquatica*	G	FACU	I	
Common reed	*Phragmites australis*	G	FACW	N	
Rabbitfoot grass	*Polypogon monspeliensis*	G	FACW	I	
PONTEDERIACEAE (Pickerel-Weed Family)					
Water hyacinth	*Eichhornia crassipes*	H	OBL	I	
POTAMOGETONACEAE (Pondweed Family)					
Berchtold's pondweed	*Potamogeton berchtoldii*	H	OBL	N	
Crisp-leaved pondweed	*Potamogeton crispus*	H	OBL	I	
TYPHACEAE (Cattail Family)					
Narrow-leaved cattail	*Typha angustifolia*	H	OBL	I	

Wetland Indicator Status

OBL = Obligate wetland species, occurs almost always in wetlands (>99% probability)
FACW = Facultative wetland species, usually found in wetlands (67-99% probability)
FAC = Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)
FACU = Facultative upland species, not usually found in wetlands (1-33% probability)
UPL = Upland species, almost never found in wetlands (<1% probability)
NI = No indicator has been assigned due to a lack of information to determine indicator status
NL = Not listed, assumed upland species

Sensitivity / Listing Status

FE = Federal Endangered FT = Federal Threatened FC = Federal Candidate SE = California State Endangered ST = California State Threatened	1B.1 = Threatened in California and elsewhere, seriously threatened in California 1B.2 = Threatened in California and elsewhere, moderately threatened in California 2B = Plants rare, threatened, or endangered in California but more common elsewhere 3 = Plants about which more information is needed 4 = Plants of limited distribution

Growth Habit	Native Status
F = Fern G = Grass H = Herb S = Shrub T = Tree	N = Native I = Introduced

APPENDIX D

WILDLIFE SPECIES OBSERVED

Wildlife Species Observed at the PG&E Threemile Slough Pipeline Crossing Remediation and Decommissioning Project Site

Common Name/ Family	*Scientific Name*	Sensitivity / Listing Status[1]
REPTILES		
PHRYNOSOMATIDAE (spiny lizards)		
Western Fence Lizard	*Sceloporus occidentalis*	
BIRDS		
ANATIDAE (Ducks, Geese, and Swans)		
Mallard	*Anas platyrhynchos*	M
COLUMBIDAE (Pigeons and Doves)		
Rock Pigeon	*Columba livia*	
Eurasian Collared-Dove	*Streptopelia decaocto*	
PHALACROCORACIDAE (Cormorants)		
Double-crested Cormorant	*Phalacrocorax auritus*	M, WL
ARDEIDAE (Bitterns, Herons, and Allies)		
American Bittern	*Botaurus lentiginosus*	M
Great Blue Heron	*Ardea herodias*	M
Great Egret	*Ardea alba*	M
CATHARTIDAE (New World Vultures)		
Turkey Vulture	*Cathartes aura*	M
PANDIONIDAE (Ospreys)		
Osprey	*Pandion haliaetus*	M, WL
ACCIPITRIDAE (Hawks, Kites, Eagles, and Allies)		
Red-shouldered Hawk	*Buteo lineatus*	M
Swainson's Hawk	*Buteo swainsoni*	M, ST, BCC
TYTONIDAE (Barn Owls)		
Barn Owl	*Tyto alba*	M
ALCEDINIDAE (Kingfishers)		
Belted Kingfisher	*Megaceryle alcyon*	M
PICIDAE (Woodpeckers and Allies)		
Acorn Woodpecker	*Melanerpes formicivorus*	M
Nuttall's Woodpecker	*Picoides nuttallii*	M
FALCONIDAE (Caracaras and Falcons)		
American Kestrel	*Falco sparverius*	M
TYRANNIDAE (Tyrant Flycatchers)		
Say’s Phoebe	*Sayornis saya*	M
Ash-throated Flycatcher	*Myiarchus cinerascens*	M
LANIIDAE (Shrikes)		
Loggerhead Shrike	*Lanius ludovicianus*	M, CSC, BCC
CORVIDAE (Jays and Crows)		
California Scrub-Jay	*Aphelocoma californica*	M
American Crow	*Corvus brachyrhynchos*	M
HIRUNDINIDAE (Swallows)		
Bank Swallow	*Riparia riparia*	M, ST
Barn Swallow	*Hirundo rustica*	M
TROGLODYTIDAE (Wrens)		
Marsh Wren	*Cistothorus palustris*	M

Wildlife Species Observed at the PG&E Threemile Slough Pipeline Crossing Remediation and Decommissioning Project Site

Common Name/ Family	*Scientific Name*	Sensitivity / Listing Status[1]
TURDIDAE (Thrushes)		
Western Bluebird	*Sialia mexicana*	M
STURNIDAE (Starlings)		
European Starling	*Sturnus vulgaris*	
FRINGILLIDAE (Fringilline and Cardueline Finches and Allies)		
House Finch	*Haemorhous mexicanus*	M
EMBERIZIDAE (Emberizids)		
Song Sparrow	*Melospiza melodia*	M
MAMMALS		
DIDELPHIDAE (Opossums)		
Virginia Opossum	*Didelphis virginiana*	
Sensitivity / Listing Status[1]		
M = Protected under the federal Migratory Bird Treaty Act (MBTA) ST = California State Threatened CSC = California Species of Special Concern BCC = USFWS Birds of Conservation Concern WL = CDFW Watch List		