

SUBSECTION 8.2

Biological Resources

8.2 Biological Resources

8.2.1 Introduction

This subsection describes the laws, ordinances, regulations, and standards (LORS) that apply to biological resource protection, the environmental setting and conditions of the affected site, the methods that were used to evaluate the potential presence of special-status species, and the potential adverse impacts on biological resources that could occur as a result of project construction and operation. It also presents protection and mitigation measures that would avoid, minimize, or compensate for adverse impacts.

8.2.2 Applicable Laws, Ordinances, Regulations, and Standards

The following subsections describe the primary LORS that apply to potential impacts on biological resources in the project area, and list the agencies responsible for enforcing the regulations. A summary of the LORS is provided in Table 8.2-1, at the end of this section.

8.2.2.1 Federal

Federal Endangered Species Act (FESA, 16 United States Code [USC] 153 et seq.).

Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS). Adverse impacts are defined as “take,” which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. “Take” under federal definition includes “such act as may include significant habitat modification or degradation” (50 Code of Federal Regulations [CFR] §17.3). Species that are not listed are not protected by the Federal Endangered Species Act (FESA) even if they are candidates for listing; however, USFWS advises that a candidate species (as well as species of concern) could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

Bald and Golden Eagle Protection Act (16 USC 668) specifically protects bald and golden eagles from harm or trade in parts of these species.

8.2.2.2 State

California Endangered Species Act (Fish and Game Code Section 2050 et seq.). Species listed under this act cannot be “taken” or harmed, except under specific permit. At present, “take” means to do or attempt to do the following: hunt, pursue, catch, capture, or kill.

Fish and Game Code Section 3511 describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Fish and Game Code Section 3503.5 protects all birds of prey and their eggs and nests.

Fish and Game Code Section 3513 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Fish and Game Code Sections 4700, 5050, and 5515 lists mammal, amphibian, and reptile species that are fully protected in California.

Fish and Game Code Sections 1900 et seq., the Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

Title 14, California Code of Regulations, Sections 670.2 and 670.5 lists animals designated as threatened or endangered in California. California species of special concern (CSC) is a category conferred by the California Department of Fish and Game (CDFG) on those species that are indicators of regional habitat changes or are considered potential future protected species. CSCs do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Fish and Game Code (Sections 1601 through 1607) prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. CDFG jurisdiction is limited to areas within the 100-year floodplain. Within this zone, CDFG jurisdiction is subject to the judgement of the department. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of a project.

California Environmental Quality Act (CEQA) (Public Resources Code Section 15380) defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFG can request additional consideration of species not otherwise protected. CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.

Warren Alquist Act (Public Resources Code Section 25000, et seq.) is a CEQA-equivalent process implemented by the California Energy Commission (CEC). Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

8.2.2.3 Local and Other Jurisdictions

8.2.2.3.1 Applicable Habitat Conservation Plans and Critical Habitat Designations. The project is not located in or under the jurisdiction of an existing Habitat Conservation Plan.

Although the proposed project disturbance areas do not fall within any designated or proposed critical habitat areas, it is located in the general vicinity of Critical Habitat designated under the FESA for:

- Central Valley fall/late fall-run chinook salmon ESU (*Oncorhynchus tshawytscha*)
- Central California coast coho salmon ESU (*Oncorhynchus kisutch*)
- Winter run chinook salmon ESU (*Oncorhynchus tshawytscha*)
- Steller (northern) sea lion (*Eumetopias jubatus*)

(Note: An Evolutionarily Significant Unit or "ESU" is a distinctive group of Pacific salmon or steelhead.)

The designated Critical Habitats for the above three salmon species are associated with aquatic resources, while local sea lion Critical Habitat is limited to offshore island rookeries. No project features or construction access would affect any aquatic or shore habitats.

8.2.2.3.2 San Francisco General Plan. The Environmental Protection Element of the San Francisco General Plan (San Francisco County, 1995) contains objectives to protect air (see Subsection 8.1) and water quality (see Subsection 8.14) and ensure sensible management of natural resources as well as conservation and restoration of open space (see Subsection 8.9) that have benefits to biological resources. It also contains specific policies and goals for protecting areas of sensitive plant and wildlife habitat and for assuring compatibility between natural areas and development. Environmental protection policies applicable to the project are summarized in Table 8.2-1.

8.2.2.3.3 Sustainability Plan for San Francisco. The San Francisco Sustainability Plan includes objectives to limit loss of biodiversity as well as goals to create a sustainable economy while contributing minimal impact on the natural world (City and County of San Francisco, 1997). Objectives applicable to the project are summarized in Table 8.2-1.

8.2.2.3.4 San Mateo County General Plan. The Vegetative, Water, Fish, and Wildlife Resources Policies chapter of the San Mateo County General Plan (San Mateo County, 1986) contains specific policies and goals for protecting areas of sensitive plant and wildlife habitat and for assuring compatibility between natural areas and development. The policies of this plan are included based on the potential for air emission impacts on serpentine habitat within San Mateo County's San Bruno Mountain State and County Park. Environmental protection policies applicable to the project are summarized in Table 8.2-1.

8.2.3 Environmental Setting

The following subsections describe the biological conditions of the proposed San Francisco Electric Reliability Project (SFERP) site, beginning with a regional overview, the vegetation types and habitat present in the project area, a description of wildlife typical to the area, and a discussion of specific special-status species known to occur in the general region (see Figure 8.2-1 for documented species locations). Figures are located at the end of the subsection.

8.2.3.1 Regional Overview

The proposed SFERP site is located adjacent to the western shore of central San Francisco Bay in the Potrero District of San Francisco (see Figures 8.2-1 and 8.2-2).

The San Francisco Bay is a breach in the Coast Range that extends for much of the length of the state. The Bay is an important geologic break in the range, providing an influential climatic and hydrological connection between the Pacific Ocean and the Central Valley. The San Francisco area abounds with environmental diversity as land meets water and salt water meets fresh water. The result is a collection of communities such as deep open water, sandy shorelines, dunes, oak woodlands, grasslands, scrub, salt flats, salt marshes, estuaries,

brackish marshes, freshwater marshes, and riparian corridors. The range of habitats and transition zones between, result in a diverse assemblage of plant and wildlife species.

San Francisco itself is approximately a 7-mile square peninsula defining the northern end of the south Coast Range. It is urban with dense industrial, commercial, and residential development. However, it is not without undeveloped or abandoned lots, parkland, and other patches of designated open space providing important habitat for common and special-status plant and wildlife species. Even in the urban landscape, many species have adapted and continue to persist in the presence of human disturbance and significant habitat modification.

The SFERP site is located in a heavily industrialized area of San Francisco. The project location was formerly owned and occupied by a now decommissioned Pacific Gas and Electric (PG&E) steam electric plant. The existing Potrero Power Plant (Potrero PP) lies immediately to the east between the project and the Bay. Industrial and commercial land uses are immediately adjacent to north, west, and south boundaries of the site. Aquatic habitats of the Bay are approximately 750 feet east of the site. The associated SFERP transmission line and switchyard will be contained within the site and the gas and water lines will involve local connections with existing infrastructure.

Significant biological resources in the project vicinity include the San Francisco Bay, Heron's Head Park, and San Bruno Mountain (see Figures 8.2-1 and 8.2-2). The San Francisco Bay is an inlet where the inland waters from the Sacramento and San Joaquin rivers meet the Pacific Ocean. The Bay provides important habitat for fishes, migratory birds, and wetland plant and wildlife species. Heron's Head Park is located approximately 1.5 miles southwest of the project adjacent to the Hunter's Point power plant. The 24-acre park is a restored wetland situated on top of a landfill. San Bruno Mountain is located approximately 4.5 miles southwest of the project in San Mateo County, east of Daly City. The mountain encompasses a state and county park and its biological resources are the subject of the San Bruno Mountain Habitat Conservation Plan. Islais Creek empties into the Bay approximately 3,000 feet south of the project. It is one of the few creeks located in San Francisco. It once emptied into a large marsh at its mouth but has been channelized and severely modified with riprap. Figure 8.2-2 includes project feature locations and biological resources identified on aerial photos at 1:13,200 scale.

The ocean influence and varied topography surrounding San Francisco result in a variety of microclimates. The geographical break in the Coastal Range channels wind through the Bay and influences climate east through the Central Valley and up the Sierra Nevada Range. San Francisco experiences a typical Californian Mediterranean climate, modified by its ocean proximity. True to the Mediterranean climate, winters are characteristically mild (45 to 60 degrees Fahrenheit [°F]) and moist. However, wind patterns and cold ocean water combine to produce fog and moderate summer temperatures (50°F to 70°F).

The following subsections describe the types of habitat found in the project impact areas. Special-status species that are known or have the potential to occur in the project impact areas are listed in Table 8.2-2 (located at the end of Subsection 8.2) and described in Subsection 8.2.3.3. A comprehensive list of special-status species obtained from USFWS, CDFG, and the CEC's Final Staff Assessment (FSA) for the proposed Potrero PP Unit 7

(PPPU7) (CEC, 2002) that was used to evaluate project impacts to sensitive biological resources is included in Appendix 8.2A.

8.2.3.2 Habitat and Vegetation Communities

The SFERP site is located entirely within a previous industrial development and is paved with both concrete and asphalt. There are no remaining features that provide natural habitat for plant and wildlife species. Vegetation is primarily limited to nonnative invasive species that have become established in small patches of bare ground and cracks within the pavement. The existing patches of vegetation provide limited forage and cover resources for a limited diversity of wildlife such as common passerines and rodents. Nearby abandoned buildings may also provide habitat for adaptive species such as common barn owls (*Tyto alba*). The project site is separated from the Bay by other industrial facilities including the existing Potrero PP (see Figure 8.2-2). San Francisco Bay is the closest area of significant habitat to the SFERP site. The Bay shore has been significantly modified with piers, bulkheads, and stabilizing structures. The waterfront is developed for shipping and commercial uses.

8.2.3.3 Special-Status Species

A list of federal and state special-status plant and wildlife species was compiled for the project area based upon the following references: the CDFG California Natural Diversity Data Base (CNDDDB); California Native Plant Society's (CNPS) Electronic Inventory; a USFWS species list requested for San Francisco County; the Potrero PP FSA; and a field reconnaissance survey. The reference information is based on known occurrences, historical records, or the presence of suitable habitat for any given life stage of a particular species. The known locations of special-status species identified in the CNDDDB records for the associated San Francisco North U.S. Geological Survey (USGS) quadrangle are shown on Figure 8.2-1. The field reconnaissance survey was performed by a CH2M HILL biologist on November 19, 2003, and included a 1-mile radius around the site. Based on the project setting, it was determined that focused or additional surveys would not be necessary. The qualifications of the field biologist are provided in Appendix 8.2B.

The reference search and survey resulted in the comprehensive special-status species list provided in Appendix 8.2A. The list includes species listed as threatened or endangered that have special requirements under the FESA and California Endangered Species Acts (CESA) and other unlisted special-status species that could become listed in the future. The table includes the habitat types that could support these species as well as the potential for occurrence in the project area.

Results from the reconnaissance survey, habitat evaluations, aerial photographs, and the PPPU7 FSA conclude an absence of significant biological resources in the SFERP project area. There are no property or project features that would support special-status plants or attract special-status wildlife. Potential impacts were limited to avian collision with the transmission line and exhaust stacks. This impact would be a function of plant operation rather than construction.

The San Francisco Bay area includes sensitive serpentine habitats that are adversely impacted by significant levels of NO_x deposition. Due to prevailing winds, SFERP operation

is not expected to contribute significant oxides of nitrogen (NO_x) deposition on surrounding serpentine habitats such as those found on San Bruno Mountain.

Therefore, the initial species list was shortened to include only those species that may be affected by these two potential impact sources. The abbreviated list is presented in Table 8.2-2.

8.2.3.3.1 Special-Status Plants. Information acquired from the CNDDDB, CNPS, and other sources resulted in a list of 33 special-status plants species that could occur in San Francisco County (Appendix 8.2A). Most of these species are associated with natural habitats that were once prevalent in San Francisco but have since been lost to extensive urban development. Vegetation in the project area is limited to invasive species established in patches of disturbed ground and foundation cracks. Therefore, project construction will not result in direct removal of special-status plant species. No trees are located on the site.

The greatest potential for impact to plants would be from nitrogen deposition due to NO_x emissions during facility operation. Nitrogen functions as a vegetation fertilizer when added to grassland and woodland communities such as are found on San Bruno Mountain. Those San Bruno Mountain habitats on serpentine rock are characteristically nutrient deficient and support relatively low plant species diversity. Those plants that are adapted to withstand serpentine soils are often rare and endemic. The addition of nitrogen could promote plant species that otherwise find serpentine habitat inhospitable. This potentially results in increased competition and loss of habitat for more serpentine habitat-dependent plant species. However, due to prevailing winds, SFERP operation is not expected to contribute significant NO_x deposition on surrounding serpentine habitats such as those found on San Bruno Mountain.

The initial special-status plant species list was shortened to eight species based on their association with serpentine habitat (Table 8.2-2). This includes shrubs such as the Presidio manzanita (*Arctostaphylos hookeri* ssp. *franciscana*) and annual herbs such as San Francisco owl's clover (*Orthocarpus floribundus*).

8.2.3.3.2 Special-Status Wildlife. Information acquired from the CNDDDB, USFWS, and other sources resulted in a list of 79 special-status wildlife species whose occurrence has been previously recorded in San Francisco County (Appendix 8.2A). Due to the lack of suitable habitats, it is unlikely that any of these species would be found in the project area. Impacts to aquatic resources and the species associated with those habitats were the primary concern for the proposed PPPU7. Unlike that project, the SFERP water supply does not include direct intake or discharge of San Francisco Bay water. SFERP water will be supplied and discharged by conventional City of San Francisco infrastructure. The project site presents no significant resources to attract terrestrial wildlife. Therefore, the initial species list was abbreviated to include only those species that may be affected by nitrogen deposition and avian collision.

Five special-status insects depend on nectar sources associated with serpentine habitats such as those on San Bruno Mountain. Those species include San Bruno elfin butterfly (*Incisalia mossii bayensis*), mission blue butterfly (*Icaricia icarioides missionensis*), callippe silverspot butterfly (*Speyeria callippe callippe*), Bay Checkerspot butterfly (*Euphydryas editha bayensis*), and Opler's longhorn moth (*Adela oplerella*). However, due to prevailing winds, SFERP operation

is not expected to contribute significant NO_x deposition on surrounding serpentine habitats such as those found on San Bruno Mountain.

Exhaust stacks and transmission lines represent collision potential for various bird species. Thirty bird species were included in the abbreviated special-status species list. These species may risk collision when migrating through the general area or when traveling between resource areas. These include raptors such as Cooper's hawk (*Accipiter cooperii*) and American peregrine falcon (*Falco peregrinus anatum*); coastal birds such as California brown pelican (*Pelecanus occidentalis californicus*) and double-crested cormorant (*Phalacrocorax auritus*); and passerines such as rufus hummingbird (*Selasphorus rufus*) and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*).

8.2.3.4 Biological Surveys

A biological reconnaissance survey of the project area and general vicinity was performed by a biologist from CH2M HILL on November 19, 2003. The surveyor's qualifications are provided in Appendix 8.2B. The field surveys were aided by aerial photographs, which helped identify land uses. The presence, or potential presence, of sensitive biological resources was determined from information gathered during field surveys conducted for the project, published and unpublished literature, and natural resource agency databases. The survey included the site and an area within a 1-mile radius from the site (see Figure 8.2-2). Results from 1999 and 2000 surveys performed for the proposed PPPU7 were also used for reference (Mirant, 2000). No further biological surveys are considered necessary.

8.2.4 Environmental Consequences

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of the construction, operation, maintenance, and decommissioning of the SFERP project and supporting facilities. A summary of potential project impacts is presented in Table 8.2-3.

8.2.4.1 Standards of Significance

Impacts on biological resources are considered significant if one or more of the following conditions could result from implementation of the proposed project:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species.
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of special-status species, including fully protected, candidate proposed for listing, CSC, and certain CNPS list designations.
- Substantial interference with the movement of any resident or migratory fish or wildlife species.
- Substantial reduction of habitat for native fish, wildlife, or plants.
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat.
- Removal of trees designated as heritage or significant under County or local ordinances.

8.2.4.2 Potential Impacts of Construction and Operation of SFERP Project Site and Temporary Construction Laydown Area

The SFERP plant site would permanently occupy 4.5 acres of existing paved industrial development. This area is currently characterized by paved and cement surfaces with patches of exposed fill supporting ruderal vegetation. The project site was once occupied by a series of industrial uses; it is adjacent to the operating Potrero PP; and is the subject of the previously proposed PPPU7 AFC. The site provides little habitat value for native plant and wildlife species. The construction laydown area will be approximately 10 acres, located on land leased from the Port of San Francisco. The laydown area would be located southeast of the project site, between 25th and Cesar Chavez streets and between Water Front and Georgia streets (see Figure 1-2). This proposed laydown area has been recently graded and partially graveled.

8.2.4.2.1 Special-Status Species. No special-status plant or wildlife species were observed on the proposed project site and vicinity during the 2003 reconnaissance survey for this project, or the 1999 and 2000 surveys performed for the proposed PPPU7 (Mirant, 2000). No records of historical special-status species sightings were included in the CNDDDB for the area. CNDDDB records for three special-status plant species (adobe sanicle, alkali milk-vetch, and San Francisco owl's-clover) are located less than a mile west of the site (Figure 8.2-1). All three records are over 100 years old and the species are now considered locally extirpated. The site and laydown areas are dominated by industrial development and do not support likely habitat for any special-status plant or wildlife species. Seasonal botanical and wildlife surveys are not necessary.

Due to the lack of biological resources, SFERP's construction would not result in significant impacts to special-status plant and wildlife species. The following paragraphs describe the potential for impacts associated with different components of SFERP site construction and operation.

8.2.4.2.2 Wetlands and Waters of the U.S. No jurisdictional wetlands or waters are present on the project site. Project construction would not cause loss or fill of any wetlands.

Cooling water discharged from the plant cooling system will be sent to the Southeast Water Pollution Control Plant (SEWPCP) via the City's combined sewer system. Likewise, stormwater runoff from the site will be sent to the SEWPCP via the combined sewer system.

Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to San Francisco Bay water quality. As discussed further in Subsections 8.9 (Agriculture and Soils) and 8.14 (Water Resources), the Applicant will prepare an erosion and sediment control plan that specifies best management practices (BMPs) to avoid sediment runoff and erosion that would cause water quality degradation.

8.2.4.2.3 Cooling Tower Drift. Cooling tower drift is the fine mist of water droplets that escape the cooling tower's mist eliminators and are emitted into the atmosphere. Cooling towers concentrate the particulates (total dissolved solids) during the cooling process and produce a salt mist. At high concentrations, salts can physically damage leaf cells, which affects the photosynthetic ability of the plant. Other effects include blocking the stomata (leaf pores) so

that normal gas exchange is impaired, as well as affecting leaf adsorption and solar radiation reflectance. These effects can reduce productivity in crops, trees, and sensitive special-status plant species in a deposition area.

Studies performed by Lerman and Darley (1975) concluded that particulate deposition rates of 365 grams per square meter per year ($\text{g}/\text{m}^2/\text{year}$) caused damage to fir trees, but rates of 274 $\text{g}/\text{m}^2/\text{year}$ and 400 to 600 $\text{g}/\text{m}^2/\text{year}$ did not cause damage to vegetation at other sites. Pahwa and Shipley (1979) exposed vegetation (corn, tobacco, and soybeans) to varying salt deposition rates to simulate drift from cooling towers that use saltwater (20,000 to 25,000 parts per million [ppm]) in the circulation water. Salt stress symptoms on the most sensitive crop plants (soybeans) were barely perceptible effects at a deposition rate of 2.98 $\text{g}/\text{m}^2/\text{year}$ (Pawha and Shipley, 1979).

Assuming a particulate deposition rate of 2 centimeters per second and a maximum salt concentration of 0.10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (the maximum modeled annual average particulate matter concentrate from the cooling tower), the maximum expected deposition rate is 3.091 kg/hectare/year or 0.309 $\text{g}/\text{m}^2/\text{year}$, which is significantly less than levels expected to cause barely perceptible effects to the most sensitive crop plants.

8.2.4.2.4 Cooling Effluent and Discharge. Process water for the SFERP power plant operations will be supplied from the City's combined sewage system and go through a new onsite water treatment plant. This system is further discussed in Section 7 (Water Supply) and Subsection 8.2.4.3. Water will be discharged to the plant wastewater sump, and then to the City's combined sewer system. Since the SFERP project will draw process water from, and discharge wastewater into, the combined sewer system, there will be no mechanism to affect fish or other aquatic biota from securing or discharging water during operations.

8.2.4.2.5 Combustion Turbine Emissions. Air emissions from the three combustion turbine exhaust stacks include nitrogen oxides (NO_x), sulfur oxides (SO_x), and particulates (PM_{10}). Nitrogen oxide gases (NO , NO_2) convert to nitrate particulates in a form that is suitable for uptake by most plants. As stated previously, increased nitrate availability could potentially impact the natural serpentine vegetation community on San Bruno Mountain. The nonnative annuals could out-compete the native serpentine plants. However, prevailing wind patterns in the area would drive the plume inland across the Bay and away from San Bruno Mountain. Therefore, NO_x deposition impacts to serpentine habitat would be insignificant.

Nitrogen dioxide is potentially phytotoxic, but generally at exposures considerably higher than those resulting from most industrial emissions. Exposures for several weeks at concentrations of 280 to 490 $\mu\text{g}/\text{m}^3$ can cause decreases in dry weight and leaf area. One-hour exposures of at least 18,000 $\mu\text{g}/\text{m}^3$ are required to cause leaf damage. The predicted maximum annual average NO_2 of 0.1 $\mu\text{g}/\text{m}^3$ are far below these threshold limits. In addition, the total predicted maximum 1-hour NO_2 concentrations of 8.3 $\mu\text{g}/\text{m}^3$ (with infrequent concentrations of 115 $\mu\text{g}/\text{m}^3$ during simultaneous startups of all three combustion turbine generators [CTGs]) would be significantly smaller than the 1-hour threshold (7,500 $\mu\text{g}/\text{m}^3$ or 3,989 ppm) for 5 percent foliar injury to sensitive vegetation (USEPA, 1979). This indicates that NO_x emissions from the SFERP, when considered in the absence of other air pollutants, would not adversely affect the physical functions of plants in the area.

8.2.4.2.6 Noise and Lights from Plant Operations. The SFERP site is zoned industrial and is surrounded by several industrial facilities adjacent to the site. These facilities typically operate 24 hours per day, 7 days per week and have standard industrial lighting and noise emissions. Operation of the plant would produce some noise, as described in Subsection 8.5. Noise and construction activities would not adversely impact wildlife, due to existing noise levels and the lack of local wildlife attractants in the immediate vicinity.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to some areas and, if the lights are on tall buildings or the combustion turbine exhaust stacks, collisions could occur. However, the exhaust stack height of 85 feet is lower in profile than much of the surrounding development. In comparison, stack heights for the Protrero PP's Unit 3 is about 300 feet. As described in Subsection 8.11, Visual Resources, any required stack and facility lighting will be pointed down to minimize impacts.

8.2.4.2.7 Potential for Collision and Electrocutation Hazard to Birds. The project would construct three 85-foot-high exhaust stacks and electric transmission lines that could potentially result in bird collisions. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions, colliding with tall guyed television or radio transmission towers (CEC, 1995; Kerlinger, 2000 in Final Staff Assessment for Contra Costa Power Plant). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features (e.g., ridge tops) or when inclement weather forces them down closer to the ground. A large number of birds migrate along the Pacific Coast, passing through the San Francisco Bay Area. The project area is within a known path for nocturnally migrating birds. However, there are no topographic or ecological features that would attract birds to this location or "funnel" them into the vicinity of exhaust stacks or other elevated features of the project. Bird collisions with the new 300-foot-long 115-kilovolt (kV) electrical transmission connections are expected to be rare due to relatively low pole heights (approximately 40 to 50 feet). Because of the relatively low structure height and lack of guy wires, the potential for bird collisions with stacks, poles, electric conductor wires, structures, and towers of the project is considered less than significant.

Large raptors, herons, and egrets can be electrocuted by transmission lines when a bird's wings simultaneously contact two conductors of different phases, or a conductor and a ground. The installation of transmission lines and poles will be constructed according to "raptor-friendly" guidelines (Avian Power Line Interaction Committee [APLIC, 1996]). The 115-kV electrical transmission lines for the project will be constructed with at least a 5.5-foot span between conductor wires. The additional 300 feet of transmission conductors between the plant and the adjacent substation would not increase avian electrocutions in the area.

8.2.4.3 Impacts of Natural Gas and Water Pipeline Construction and Operation

Fuel will be delivered to SFERP via a new pipeline, to PG&E's San Francisco Load Center located approximately 250 feet west of the project site. The primary method of pipeline construction includes excavation of an open trench approximately 4-feet deep and 3- to 7-foot wide, depending on site-specific soil type. The construction corridor will be approximately 50-feet wide. The pipeline corridor will require pavement and concrete cuts and does not intersect sensitive environmental resources. The temporary construction

corridor will be used to store the excavated soil, provide access for equipment and vehicles, and space for welding the pipeline prior to installation and backfill.

The project will use recycled water for the majority of its water needs. The system will include a new water treatment facility to be constructed in a pre-engineered building on the SRERP site. A pipeline will be constructed to divert effluent from the City's combined sewer system collection station near Marin Street (see Figure 2-1). The pipeline will be approximately 1-mile long and the primary method of construction includes locating new piping within and existing underground structure (collection box) and approximately 3,300 feet of open trench excavation (approximately 4-feet deep and 3- to 7-feet wide, depending on site-specific soil types) for the remaining pipeline. The construction corridor will be approximately 25- to 75-feet wide. The pipeline corridor will require pavement and concrete cuts and does not intersect sensitive environmental resources. The temporary construction corridor will be used to store the excavated soil, provide access for equipment and vehicles, and space for handling the pipeline prior to installation and backfill.

Potable water will be supplied by a City main located adjacent to the project boundary at Illinois and 23rd streets. There are no significant habitats present that would be adversely affected by temporary construction of the gas or water lines. Therefore, construction is not likely to result in any impacts to biological resources.

8.2.4.3.1 Special-Status Species. Construction of the gas and water pipelines will be confined to road cuts in an industrial area. The work area is adjacent to industrial and commercial development, which are not characterized by natural habitat and do not provide significant biological resources for special-status plant and wildlife species.

8.2.4.3.2 Wetlands and Waters. The gas and water pipelines will not cross any jurisdictional wetlands or navigable water features.

The pipelines will require pressure testing after construction to ensure welds are tight and to remove any accumulated dust or welding residue from the pipeline. To do this, the pipe is filled with water and pressurized, resulting in a potentially large volume of water. If disposed improperly this water could cause adverse effects on the water quality of receiving waters. The City proposes to dispose of pipe-testing water in the combined sewer system. Disposal to the sewer would ensure impacts of wastewater disposal are less than significant.

8.2.4.5 Conflict with Regional Habitat Conservation Plans

There are no countywide or regional Habitat Conservation Plans that would affect development in this industrial area of San Francisco. As discussed earlier, nitrogen deposition from NO_x emissions are not expected to result in significant impacts within sensitive habitats covered by the San Bruno Mountain Habitat Conservation Plan.

8.2.4.6 Cumulative Impacts

The proposed project is located within a previously developed area surrounded by similar industrial development. The associated linear facilities will be short in length and will be located within previously developed areas. NO_x emissions have been projected to be insignificant and are not expected to impact local natural habitat or increase cumulative impacts in the area. Because the project is not expected to result in significant impacts and

there are no other proposed projects in the study area that would have similar impacts on biological resources, therefore, the SFERP project is not expected to contribute to any adverse cumulative impacts.

Operation of the completed facility should support the closure of the Hunter's Point Power Plant (Hunter's Point PP), which is adjacent to Heron's Head Park and the Bay. PG&E has an agreement with CCSF to decommission Hunter's Point PP when the plant is no longer needed for electric system reliability. The California Independent System Operator (CAISO), which is responsible for the reliability of the electric system in much of California, has stated in writing that construction of the SFERP project along with a number of transmission projects would allow for closure of Hunter's Point PP without an adverse impact on reliability. Thus, construction of the SFERP would support the shutdown of an outdated and less efficient facility. It is not certain whether the closure of Hunter's Point PP will provide any overall NO_x reduction. However, since prevailing winds are away from San Bruno Mountain, impacts on serpentine habitat would not be affected. Hunter's Point PP also takes cooling water directly from the Bay, resulting in the potential impingement of fish, aquatic invertebrates, and other aquatic species. This impact would be eliminated.

8.2.5 Proposed Mitigation and Monitoring

The construction and operation of the SFERP project is not expected to result in significant biological impacts; therefore, no biological monitoring is proposed and mitigation measures are limited to the following design guidelines intended to minimize avian impacts.

8.2.5.1 Foraging and Migratory Birds

The project site and transmission line route was chosen to minimize the crossing of open areas potentially used as forage by migratory birds and raptors. The proposed mitigation measures include:

1. Design "raptor-friendly" 115-kV electric transmission lines, as described in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1996) with conductor wire spacing greater than the wingspans of large birds (43 inches on the vertical and 60 inches on the diagonal) to prevent electrocutions.
2. Provide safety lighting that points downward on the turbine exhaust stacks to reduce avian collisions, if such lighting is required.

8.2.6 Involved Agencies and Agency Contacts

Because the project has no federal nexus, will not impact any state or federal listed species or state species of concern and will not cross any streams, no agency contacts are provided.

8.2.7 Required Permits and Permit Schedule

Because no streams will be crossed, no federal, state, or local permits are required for Biological Resources.

8.2.8 References

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Zeiner, D.C, W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990b. *California's Wildlife, Volume 3: Mammals*. California Department of Fish and Game. Sacramento.

Zeiner, D.C, W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990c. *California's Wildlife, Volume 1: Amphibians*. California Department of Fish and Game. Sacramento.

TABLE 8.2-1
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Federal		
Federal Endangered Species Act (FESA, 16 USC 153)	Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS).	The SFERP site does not include habitat for federally listed species. Construction and operation will avoid significant impacts to federally listed species and their habitat.
Migratory Bird Treaty Act (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	The SFERP site does not include habitat or other features that would likely attract migratory birds. Stacks and new transmission lines will be low in profile relative to other nearby structures and are not likely to result in significant bird strikes. New transmission lines will be constructed using “raptor-friendly” design guidelines.
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	The SFERP site does not include habitat or other features that would likely attract eagles. Stacks and new transmission lines will be low in profile relative to other nearby structures and are not likely to result in significant bird strikes. New transmission lines will be constructed using “raptor-friendly” design guidelines.
State		
California Endangered Species Act (Fish and Game Code Section 2050 et seq.).	Species listed under this act cannot be “taken” or harmed, except under specific permit.	The SFERP site was analyzed and it was determined that SFERP construction or operation will not affect listed species and, therefore, not result in “take.”

TABLE 8.2-1
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Fish and Game Code Section 3511	Describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.	SFERP construction or operation will not result in “take.” Stacks and new transmission lines will be low in profile relative to other nearby structures and are not likely to result in significant bird strikes. New transmission lines will be constructed using “raptor-friendly” design guidelines.
Fish and Game Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	The SFERP site was analyzed and does not include features that would encourage or accommodate nest building. Any encountered nests would be avoided during the species’ breeding season.
Fish and Game Code Section 3503.5	Protects all birds of prey and their eggs and nests.	The SFERP site was analyzed and does not include habitat or other features that would likely attract birds of prey. Stacks and new transmission lines will be low in profile relative to other nearby structures and are not likely to result in significant bird strikes. New transmission lines will be constructed using “raptor-friendly” design guidelines. The SFERP site was analyzed and does not include features that would encourage or accommodate nest building.
Fish and Game Code Section 3513	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	SFERP construction or operation will not result in “take” of birds of prey, their nests, or eggs. Site features have been designed to avoid avian strikes. The SFERP site does not include features that would encourage or accommodate nest building.
Fish and Game Code Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	The SFERP site was analyzed and does not include likely habitat for fully protected mammal, amphibian, or reptile species.

TABLE 8.2-1
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Fish and Game Code Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.	The SFERP site was analyzed and does not include likely habitat for protected plant species.
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	The SFERP site was analyzed and does not include likely habitat for state-listed species.
California Fish and Game Code (Sections 1601 through 1607)	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG.	The SFERP site construction was analyzed and will not include alteration of any stream or channel.
California Environmental Quality Act (CEQA) (Public Resources Code Section 15380)	CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.	The Application for Certification (AFC) analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the SFERP AFC.
Warren Alquist Act (Public Resources Code Section 25000, et seq.)	Warren-Alquist Act is a CEQA-equivalent process implemented by the California Energy Commission (CEC).	The AFC analysis and process is CEQA-equivalent. All requirements under the Warren-Alquist Act are met with the analysis in the SFERP AFC.

Local and Other Jurisdictions

City and County of San Francisco General Plan

Environmental Protection	Objective 1 Achieve proper balance among the conservation, utilization, and development of San Francisco's natural resources.	SFERP is located and designed to avoid impacts to biological resources.
Environmental Protection	Policy 1.1 Conserve and protect the natural resources of San Francisco. The City and County must assure that its remaining natural resources are protected from misuse. The use of existing resources should provide maximum benefit for public use while preserving and protecting the natural character of the environment.	SFERP is located and designed to avoid biological resources.
Environmental Protection	Policy 1.2 Improve the quality of natural resources. To prevent contamination of natural resources, the City and County should support and comply with all anti-pollution standards of the region.	An erosion and sediment control plan will be prepared.

TABLE 8.2-1
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Environmental Protection	Policy 1.3 Restore and replenish the supply of natural resources. The City and County should undertake projects to acquire or create open space, cultivate more vegetation, replenish wildlife, and landscape man-made surroundings.	SFERP will not result in the removal of open space or native vegetation.
Environmental Protection	Policy 1.4 Assure that all new development meets strict environmental quality standards and recognizes human needs. Development projects should not disrupt natural or ecological balance, degrade the visual character of natural areas, or otherwise conflict with the objectives and policies of the Master Plan.	SFERP is located and designed to avoid impacts to biological resources.
Environmental Protection	Objective 3 Maintain and improve the quality of the Bay, ocean, and shoreline areas.	SFERP is located and designed to avoid biological resources. It will not use the Bay as a water source as do other local power plants.
Environmental Protection	Policy 3.3 Implement plans to improve sewage treatment and halt pollution of the Bay and ocean.	SFERP will use recycled water and combined sewer drains.
Environmental Protection	Objective 8 Ensure the protection of plant and animal life in the City.	SFERP is located and designed to avoid biological resources.
Environmental Protection	Policy 8.1 Cooperate with and otherwise support the CDFG and its animal protection programs.	SFERP will initiate informal consultation with CDFG, if needed.
Environmental Protection	Policy 8.2 Protect the habitats of known plant and animal species that require a relatively natural environment. Primarily encourages the continued management of established open areas like Golden Gate Park, beaches, the Presidio, and other areas with open space that provide potential natural habitat for plant and wildlife species.	SFERP is located and designed to avoid impacts to biological resources.
Environmental Protection	Policy 8.3 Protect rare and endangered species.	SFERP is located and designed to avoid impacts to biological resources.
Recreation and Open Space	Objective 1 Preserve large areas of open space sufficient to meet long-range needs of the bay region. This primary objective of this element is to preserve and promote the use of open space for recreation. This includes conservation of natural habitat.	SFERP is located and designed to avoid impacts to biological resources. The project will not involve the removal of open space.
Recreation and Open Space	Policy 2.13 Preserve and protect significant natural resource areas. The City and County should make efforts to preserve remaining open spaces that provide habitat for plant and wildlife species.	The project site is not characterized by unique natural features or open space that provides significant habitat for plant or wildlife species.

TABLE 8.2-1
Applicable Conservation Policies

Element	Goal/Policy	Conformance
The Sustainability Plan for the City of San Francisco		
Biodiversity	Goal 2 To protect and restore remnant natural ecosystems	SFERP is located and designed to avoid impacts to biological resources.
Biodiversity	Goal 3 To protect sensitive species and their habitats and support their recovery in San Francisco.	SFERP is located and designed to avoid impacts to biological resources.
Biodiversity	Goal 4 To maximize habitat value in developed and naturalistic areas, both public and private.	Not applicable. Project is in an industrial area.
San Mateo County General Plan		
Vegetative, Water, Fish and Wildlife Resources Policies	Policy 1.2 The County will protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.	SFERP is located and designed to avoid impacts to biological resources from NO _x .
Vegetative, Water, Fish and Wildlife Resources Policies	Policy 1.23 The County will regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement of vegetative, water, fish and wildlife resources.	SFERP is located and designed to avoid impacts to biological resources from NO _x .
Vegetative, Water, Fish and Wildlife Resources Policies	Policy 1.26 The County will ensure that development will minimize disruption of fish and wildlife and their habitats.	SFERP is located and designed to avoid impacts to biological resources from NO _x .
Vegetative, Water, Fish and Wildlife Resources Policies	Policy 1.27 The County will regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish, and wildlife resources; protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment; and protect and maintain the biological productivity of important plant and animal habitats.	SFERP is located and designed to avoid impacts to biological resources from NO _x .

Sources: Master Plan for the City and County of San Francisco (1995), The Sustainability Plan for the City of San Francisco (1997), and the San Mateo County General Plan (1986).

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
Plants					
Franciscan manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>franciscana</i>	FSC, 1A	Coastal scrub (serpentine).	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Evergreen shrub. Last recorded in 1942. Now only grown in cultivation. NO _x emissions will not impact serpentine habitat.
Presidio manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i>	FE, CE, 1B	Chaparral, coastal prairie, coastal scrub/serpentine outcrop.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Evergreen shrub. Currently known only from the Presidio area. NO _x emissions will not impact serpentine habitat.
San Francisco gumplant	<i>Grindelia hirsutula</i> var. <i>maritima</i>	FSC, 1B	Coastal bluff scrub, coastal scrub, valley and foothill grassland/sandy or serpentine.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Perennial herb. NO _x emissions will not impact serpentine habitat.
Marin western flax	<i>Hesperolinon congestum</i>	FT, CT, 1B	Chaparral, valley and foothill grassland/serpentine.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Annual herb. NO _x emissions will not impact serpentine habitat.
white-rayed pentachaeta	<i>Pentachaeta bellidiflora</i>	FE, CE, 1B	Valley and foothill grassland (often on serpentine).	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Annual herb. Currently known from one location near Highway 280. NO _x emissions will not impact serpentine habitat.
adobe sanicle	<i>Sanicula maritima</i>	FSC, 1B	Chaparral, coastal prairie, meadows and seeps, valley and foothill grassland/clay, serpentine.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Perennial herb. NO _x emissions will not impact serpentine habitat.
Santa Cruz microseris	<i>Stebbinsoseris decipiens</i>	FSC, 1B	Broadleaved upland forest, closed-coned coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland/open areas, sometimes on serpentine.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Annual herb. NO _x emissions will not impact serpentine habitat.
San Francisco owl's-clover	<i>Triphysaria floribunda</i>	FSC, 1B	Coastal prairie, coastal scrub, valley and foothill grassland/usually serpentine.	Low. Project area is industrial and has no native soils. May be found on San Bruno Mountain.	Annual herb. NO _x emissions will not impact serpentine habitat.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
Invertebrates					
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT	serpentine grassland with adult nectar sources and larval host plant (dwarf plantain and owls clover).	Low. Project area is industrial and has no native soils or associated nectar sources. Found on San Bruno Mountain.	NO _x emissions will not impact serpentine habitat.
Mission blue butterfly	<i>Icaricia icarioides missionensis</i>	FE	Dunes and grassland areas with <i>Lupinus</i> host plant.	Low. Project area is industrial and has no native soils or associated nectar sources. Found on San Bruno Mountain.	Restricted to 3 metapopulations including San Bruno Mountain in San Mateo County, Twin Peaks in San Francisco, and the vicinity of Skyline College in San Mateo County, California (Natureserve 2003). NO _x emissions will not impact serpentine habitat.
San Bruno elfin butterfly	<i>Incisalia mossii bayensis</i>	FE	Wooded canyons with cliffs and rocky outcrops. Stonecrop host plant.	Low. Project area is industrial and has no native soils or associated nectar sources. Found on San Bruno Mountain.	Current population restricted to San Bruno Mountain, Milagra Ridge, Montara Mountain, and Whiting Ridge (Natureserve 2003). Power plant emissions can adversely impact serpentine-associated nectar plant species.
callippe silverspot butterfly	<i>Speyeria callippe callippe</i>	FE	Dry woodlands, foothill grasslands, and chaparral communities. Violet host plant.	Low. Project area is industrial and has no native soils or associated nectar sources. Found on San Bruno Mountain.	Closest metapopulation found on San Bruno Mountain. NO _x emissions will not impact serpentine habitat.
Opler's longhorn moth	<i>Adela oplerella</i>	FSC	Serpentine grasslands with its larval food plant, California cream cups.	Low. Project area is industrial and has no native soils or associated nectar sources. Found on San Bruno Mountain.	NO _x emissions will not impact serpentine habitat.
Birds					
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FE, CE	Coastal, pelagic, and offshore islands. Breeding colonies typically on offshore islands.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
double-crested cormorant	<i>Phalacrocorax auritus</i>	CSC	Found along the coast and inland water bodies. Typically nest colonial in trees or rocky areas near water.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Long-billed curlew	<i>Numenius americanus</i>	FSC, CT, MB	Winter habitat is primarily open land near, wetland, and agricultural fields in the Central Valley.	Low. Project area is industrial and has no biological resources to attract wildlife.	Winters in Central Valley. Because of low structure height, potential for bird collisions is less than significant.
bank swallow	<i>Riparia riparia</i>	FSC, CT	Typically in riparian areas or near water. Colonial nester in burrows in coastal bluffs, cliffs, and banks.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
California least tern	<i>Sterna antillarum browni</i>	FE, CE	Coastal. Nest on sandy beaches and mud flats.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Bald eagle	<i>Haliaeetus leucocephalus</i>	FT, MB	Primary presence in California during winter migration. Associated with a variety of habitats. Nest sites typically found near water.	Low. Project area is industrial and has no biological resources to attract wildlife.	Platform nests in fork of tall tree or ledges. Migration season autumn through late winter. Because of low structure height, potential for bird collisions is less than significant.
Cooper's hawk	<i>Accipiter cooperii</i>	CSC	Woodland and otherwise forested areas.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT, CSC	Coastal. Sandy beaches and mudflats.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
northern harrier	<i>Circus cyaneus</i>	CSC	Wetlands, marshes, and open fields.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
white-tailed kite	<i>Elanus leucurus</i>	FSC, FP, MB	Abundant in California's Central Valley where it is commonly associated with riparian and open habitats.	Low. Project area is industrial and has no biological resources to attract wildlife.	Typically breed between January and August. Their platform nests are located in trees or shrubs. Primarily a local resident and is known to form communal roosts in the fall and winter. Because of low structure height, potential for bird collisions is less than significant.
saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	FSC, CSC	Dense marsh and riparian vegetation.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Loggerhead shrike	<i>Lanius ludovicianus</i>	FSC, CSC, MB	Typically associated with open lowland and foothill scrub or riparian woodland habitats with adequate hunting perches.	Low. Project area is industrial and has no biological resources to attract wildlife.	Largely nonmigratory and has been known to defend year-round territories. Nests are typically well-concealed and built in dense shrubs or trees. In California the breeding period typically begins in March and may extend into August. Because of low structure height, potential for bird collisions is less than significant.
Red knot	<i>Calidris canutus</i>	FSC	Coastal. Sandy beaches and mudflats.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Vaux's swift	<i>Chaetura vauxi</i>	FSC, CSC	Woodland areas near water. Old growth coniferous and deciduous forest. Cavity nester.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Black swift	<i>Cypseloides niger</i>	FSC, CSC	Woodland and riparian areas near water. Cliff nester, often behind waterfalls.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Little willow flycatcher	<i>Empidonax traillii brewsteri</i>	CE, MB	Associated with dense willow riparian vegetation.	Low. Project area is industrial and has no biological resources to attract wildlife.	Breeding May-September. Because of low structure height, potential for bird collisions is less than significant.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
American peregrine falcon	<i>Falco peregrinus anatum</i>	FD, CE, MB	Typically found along mountain ranges, river valleys, and coast lines. Nests are simple scrapes and often located on cliff ledges or other platform surfaces.	Low. Project area is industrial and has no biological resources to attract wildlife.	The breeding season typically begins in March. Because of low structure height, potential for bird collisions is less than significant.
Black oystercatcher	<i>Haematopus bachmani</i>	FSC	Typically found along rocky coasts and island areas.	Low. Project area is industrial and has no biological resources to attract wildlife.	Breeding typically begins in the late spring. Because of low structure height, potential for bird collisions is less than significant.
Harlequin duck	<i>Histrionicus histrionicus</i>	FSC, CSC	Habitat includes a variety of aquatic areas in the northwestern US and Canada. Typically breeds along mountain streams and lakes. Nonbreeding birds often found offshore.	Low. Project area is industrial and has no biological resources to attract wildlife.	Current distribution is rare in California. Because of low structure height, potential for bird collisions is less than significant.
Marbled godwit	<i>Limosa fedoa</i>	FSC	Breeding habitat typically found on the plains of Canada and the northern US. Nonbreeding habitat includes coastal areas.	Low. Project area is industrial and has no biological resources to attract wildlife.	Significant migration along the California Coast. Because of low structure height, potential for bird collisions is less than significant.
Lewis' woodpecker	<i>Melanerpes lewis</i>	FSC, MB	Associated with open forest and oak woodlands. Found along riparian woodland corridors in Central California.	Low. Project area is industrial and has no biological resources to attract wildlife.	Cavity nester. Breeding season begins in mid-April. Because of low structure height, potential for bird collisions is less than significant.
whimbrel	<i>Numenius phaeopus</i>	FSC	Nesting areas found in the tundra areas of the far north. Nonbreeding habitat includes coastal areas.	Low. Project area is industrial and has no biological resources to attract wildlife.	Found along the Pacific Coast in the winter. Because of low structure height, potential for bird collisions is less than significant.
Ashy storm-petrel	<i>Oceanodroma homochroa</i>	FSC, CSC	Open ocean. Typically nests on islands.	Low. Project area is industrial and has no biological resources to attract wildlife.	The Farallon Islands off of San Francisco are a crucial nesting location. Because of low structure height, potential for bird collisions is less than significant.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
Black skimmer	<i>Rynchops niger</i>	FSC, CSC	Found along coastal areas and sometimes on inland freshwater areas. Primarily nest on protected sandy.	Low. Project area is industrial and has no biological resources to attract wildlife.	Primarily breeds in southern California. Because of low structure height, potential for bird collisions is less than significant.
Rufus hummingbird	<i>Selasphorus rufus</i>	FSC, MB	Occur in coniferous forest and riparian woodlands in the Central Valley with nearby nectar sources.	Low. Project area is industrial and has no biological resources to attract wildlife.	Typically breed in California March-July. Build cup nest in trees, shrubs. Because of low structure height, potential for bird collisions is less than significant.
Allen's hummingbird	<i>Selasphorus sasin</i>	FSC	Coastal chaparral, brushland, and forests edges.	Low. Project area is industrial and has no biological resources to attract wildlife.	Because of low structure height, potential for bird collisions is less than significant.
Elegant tern	<i>Sterna elegans</i>	FSC, CSC	Found along coastal areas and occasionally on inland lakes. Typically nest on sandy beaches.	Low. Project area is industrial and has no biological resources to attract wildlife.	Currently known to breed in only five sites in southern California and northwestern Mexico. San Francisco is part of the nonbreeding range. Because of low structure height, potential for bird collisions is less than significant.
Tricolored blackbird	<i>Agelaius tricolor</i>	CSC, MB	Associated with wetland areas with dense vegetation such as cattails, tule, bulrush. Forage in grassland and agricultural fields.	Low. Project area is industrial and has no biological resources to attract wildlife.	Nest in large colonies. Breeding season is April-July; however has also been reported in October and November. Because of low structure height, potential for bird collisions is less than significant.
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	FSC, CSC, MB	Habitats includes open grassland habitat with fossorial mammal burrows, often associated with ground squirrels.	Low. Project area is industrial and has no biological resources to attract wildlife.	Utilize small mammal burrows for cover and natal dens. Breeding season is typically from February through August. Because of low structure height, potential for bird collisions is less than significant.

TABLE 8.2-2
Special-Status Species Potentially Occurring in SFERP Project Area

Common Name	Scientific Name ^a	Status ^b	Primary Habitat ^d	Potential Occurrence in Project Area	Comments
Ferruginous hawk	<i>Buteo regalis</i>	FSC, MB	Associated with a variety of habitats but commonly found in open grassland areas.	Low. Project area is industrial and has no biological resources to attract wildlife.	Uncommon winter resident in California. Breeding typically from March-July. Use large stick nests in trees. Because of low structure height, potential for bird collisions is less than significant.

SOURCE: California Dept. of Fish and Game, 2003; California Native Plant Society, 2001.

Notes:

^a Scientific names are based on the following sources: AOU (1983); Jennings (1983); Zeiner et al. (1990a-c).

^b Status. Status of species relative to the Federal and California State Endangered Species Acts and Fish and Game Code:

Federal Status

FE Federally listed as endangered.

FT Federally listed as threatened.

FPE Proposed endangered.

FPT Proposed threatened.

Candidate for listing as federally endangered or threatened. Proposed rules have not yet been issued because they have been precluded at present by other listing activity.

FD Delisted from Federal threatened or endangered status.

FSC Federal Species of Special Concern. Proposed rules have not yet been issued because they have been precluded at present by other listing activity.

MB Migratory Bird Treaty Act. of 1918. Protects native birds, eggs, and their nests.

California Status

CE State listed as endangered. Species whose continued existence in California is jeopardized.

CT State listed as threatened. Species that although not presently threatened in California with extinction are likely to become endangered in the foreseeable future.

CSC California Department of Fish and Game "Species of Special Concern." Species with declining populations in California.

FP Fully protected against take pursuant to the Fish and Game Code Sections 3503.5, 3511, 4700, 5050, 5515.

Other Status

CNPS California Native Plant Society Listing (does not apply to wildlife species).

Plants, rare, threatened or endangered in California and elsewhere and are rare throughout their range. According to CNPS, all of the plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

^c Season. Blooming period for plants. Season of use for animals. RES = Resident; SUMR = Summer; WNTR = Winter.

^d Primary Habitat. Most likely habitat association.

TABLE 8.2-3
Summary of Permanent and Temporary SFERP Project Impacts on Biological Resources During Construction.

Location	Project Work	Construction Zone Size	Time Requirements	Habitat Type	Sensitive Biological Resources	Impacts	
						Temporary	Permanent
Power plant site	Removal of existing structures and grading for footprint construction	4.5 acres	Start 2 nd Quarter 2005	Paved	None	None	Development of 4.5 acres of previously developed land and ruderal patches
Construction laydown area	Construct compacted gravel pad or use existing surface	10 acres	Start 2 nd Quarter 2005	Gravel	None	10 acres	None
Natural gas pipeline	Open pipeline trench to local tie-in location	A tie-in with the existing PG&E San Francisco Load Center located at the corner of Illinois and 23 rd streets. Will require a 250-foot of open trench contained within the plant site and adjacent PG&E substation.	Start 4 th Quarter 2005	Paved	None	None	None
Potable water supply line	Open pipeline trench to local tie-in location	A tie-in with an existing city main located at the corner of Illinois Street and 23 rd Street.	Start 4 th Quarter 2005	Paved	None	None	None
Process water supply line	Open pipeline trench and box culvert to local tie-in location	A tie-in with a City combined sewer system to a new treatment plant located within the site.	Start 4 th Quarter 2005	Paved	None	None	None
115-kV transmission lines	Transmission tower footings, construction and maintenance	300 feet long; contained within the plant site and adjacent PG&E Substation.	Start 2 nd Quarter 2005	Paved	None	None	Because of low structure height, potential for bird collisions is less than significant.

● SPECIAL STATUS SPECIES LOCATIONS

- ADOBE SANICLE - 1
- ALKALI MILK-VETCH - 2
- ANGEL ISLAND MOLE - 3
- BANK SWALLOW - 4
- BAY CHECKERSPOT BUTTERFLY - 5
- BEACH LAYIA - 6
- BENT-FLOWERED FIDDLENECK - 7
- BLACK-CROWNED NIGHT HERON - 8
- BUMBLEBEE SCARAB BEETLE - 9
- BURROWING OWL - 10
- CALIFORNIA BLACK RAIL - 11
- CALIFORNIA CLAPPER RAIL - 12
- CALIFORNIA LEAST TERN - 13
- CALIFORNIA RED-LEGGED FROG - 14
- CALIFORNIA SEABLITE - 15
- CALIFORNIA TIGER SALAMANDER - 16
- CALLIPPE SILVERSPOT BUTTERFLY - 17
- CASPIAN TERN - 18
- COASTAL TRIQUETRELLA - 19
- COMPACT COBWEBBY THISTLE - 20
- DIABLO HELIANTHELLA - 21
- DOUBLE-CRESTED CORMORANT - 22
- FRAGRANT FRITILLARY - 23
- FRANCISCAN MANZANITA - 24
- KELLOGG'S HORKELIA - 25
- MARIN WESTERN FLAX - 26
- MARSH SANDWORT - 27
- MIMIC TRYONIA - 28
- MISSION BLUE BUTTERFLY - 29
- MONARCH BUTTERFLY - 30
- MONTARA MANZANITA - 31
- NORTHERN COASTAL SALT MARSH - 32

- NORTHERN HARRIER - 33
- POINT REYES BIRD'S-BEAK - 34
- PRESIDIO CLARKIA - 35
- PRESIDIO MANZANITA - 36
- ROBUST SPINEFLOWER - 37
- ROSE LINANTHUS - 38
- ROUND-HEADED CHINESE HOUSES - 39
- ROUND-LEAVED FILAREE - 40
- SALINE CLOVER - 41
- SALT-MARSH HARVEST MOUSE - 42
- SALT-MARSH WANDERING SHREW - 43
- SALTMARSH COMMON YELLOWTHROAT - 44
- SAN BRUNO ELFIN BUTTERFLY - 45
- SAN BRUNO MOUNTAIN MANZANITA - 46
- SAN FRANCISCO BAY SPINEFLOWER - 47
- SAN FRANCISCO CAMPION - 48
- SAN FRANCISCO GUMPLANT - 49
- SAN FRANCISCO LESSINGIA - 50
- SAN FRANCISCO OWL'S-CLOVER - 51
- SAN FRANCISCO POPCORN-FLOWER - 52
- SANTA CRUZ MICROSERIS - 53
- SANTA CRUZ TARPLANT - 54
- SERPENTINE BUNCHGRASS - 55
- SNOWY EGRET - 56
- SOUTHERN SEA OTTER - 57
- TIBURON INDIAN PAINTBRUSH - 58
- TIBURON JEWEL-FLOWER - 59
- TIDEWATER GOBY - 60
- TOMALES ISOPOD - 61
- VALLEY NEEDLEGRASS GRASSLAND - 62
- WESTERN POND TURTLE - 63
- WESTERN SNOWY PLOVER - 63
- WHITE-RAYED PENTACHAETA - 64
- WHITE-TAILED KITE - 65

SAN BRUNO MOUNTAIN STATE PARK

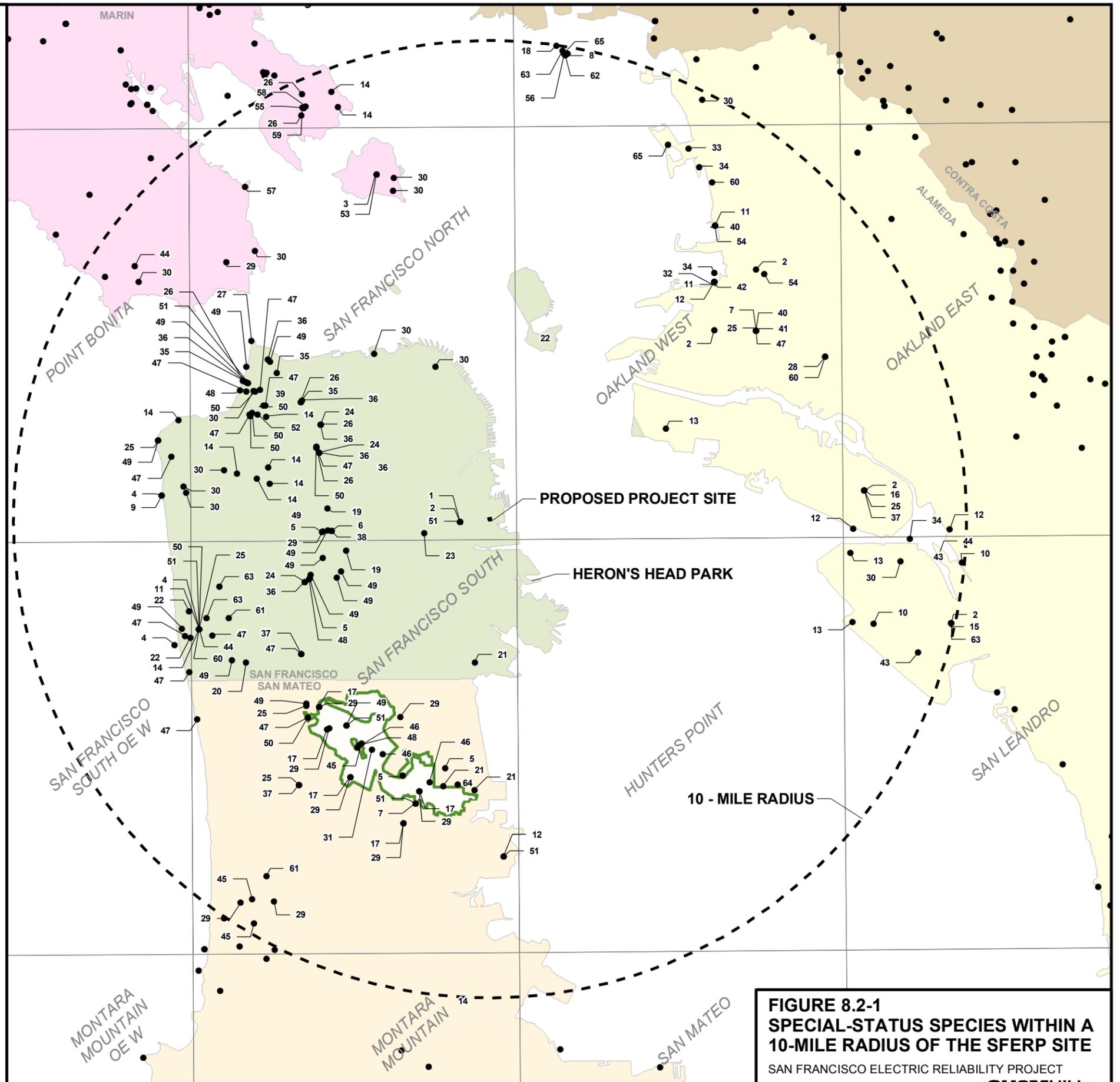
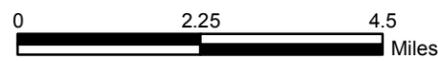
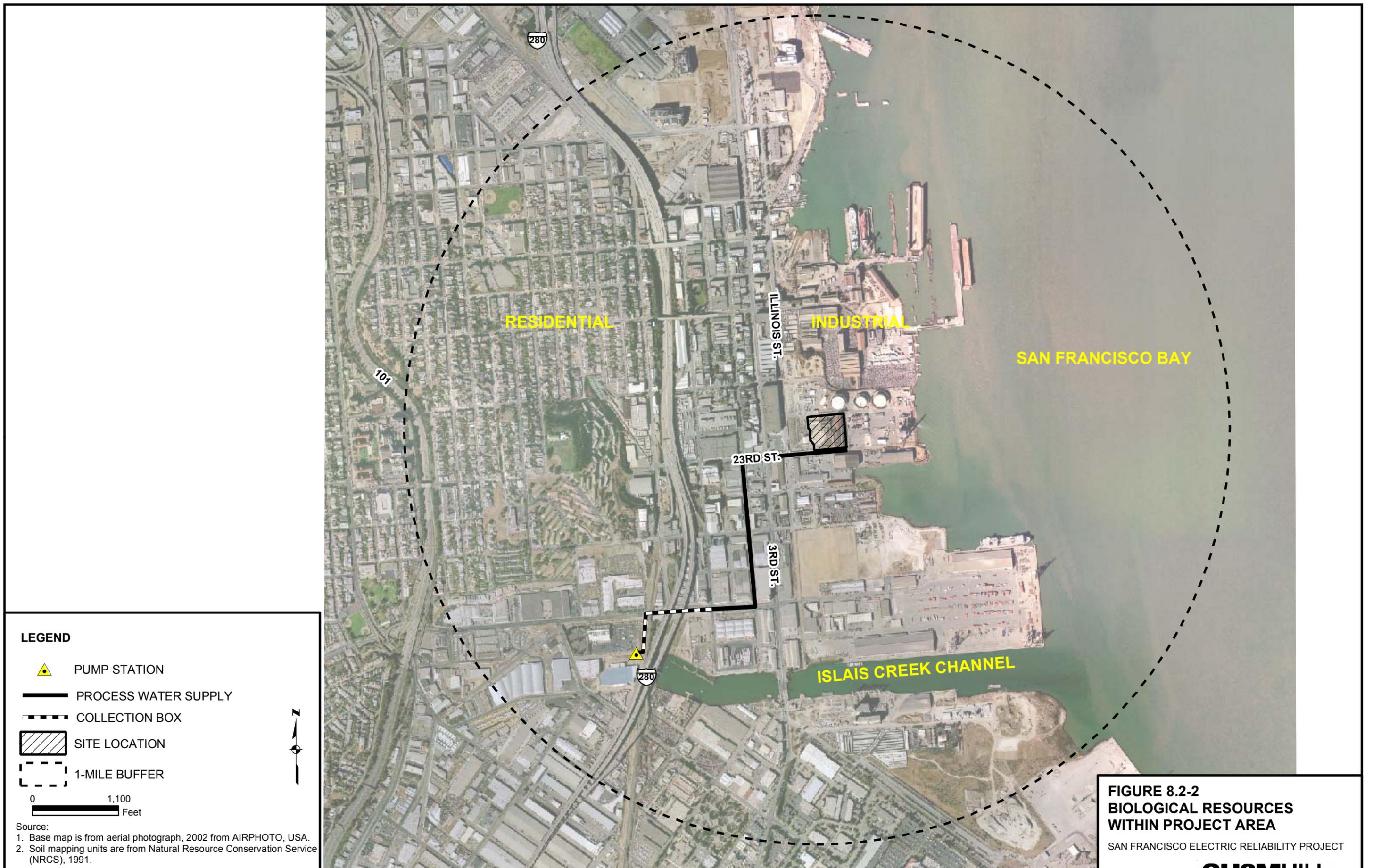


FIGURE 8.2-1
SPECIAL-STATUS SPECIES WITHIN A
10-MILE RADIUS OF THE SFERP SITE
 SAN FRANCISCO ELECTRIC RELIABILITY PROJECT
CH2MHILL



LEGEND

-  PUMP STATION
-  PROCESS WATER SUPPLY
-  COLLECTION BOX
-  SITE LOCATION
-  1-MILE BUFFER

0 1,100
Feet



Source:
 1. Base map is from aerial photograph, 2002 from AIRPHOTO, USA.
 2. Soil mapping units are from Natural Resource Conservation Service (NRCS), 1991.

FIGURE 8.2-2
BIOLOGICAL RESOURCES
WITHIN PROJECT AREA
 SAN FRANCISCO ELECTRIC RELIABILITY PROJECT