

## 8.2 Biological Resources

This section describes biological resources near the Humboldt Bay Repowering Project (HBRP), and the potential effects of the project construction and operations on them. Section 8.2.1 discusses the affected environment, including a regional overview of biological resources, vegetation, sensitive plant communities, wetlands, wildlife, economically important wildlife species, special environmental areas, and special-status species. Section 8.2.1 also discusses methods and results of biological field surveys at the HBRP. Section 8.2.2 discusses the effects that construction and subsequent operation of the new facilities may have on special-status plant and animal species and sensitive habitats. Section 8.2.3 evaluates any potential cumulative impacts to biological resources in the project vicinity, and Section 8.2.4 addresses proposed mitigation measures that would avoid, minimize, or compensate for adverse impacts. Section 8.2.5 presents applicable laws, ordinances, regulations and standards (LORS). Section 8.2.6 presents agency contacts and Section 8.2.7 presents permit requirements and schedules. Section 8.2.8 contains references.

### 8.2.1 Environmental Setting

The following sections describe the biological conditions of the proposed HBRP site, beginning with a regional overview, the vegetation types, wetlands, and sensitive habitats present in the project vicinity, a description of wildlife observed, and a discussion of special-status species known to occur in the general region. Figure 8.2-1 presents biological resources in the region, documented special-status species locations, as well as designated Critical Habitat and sensitive environmental areas, including the Humboldt Bay National Wildlife Refuge (NWR), Elk River Wildlife Area, Eel River Wildlife Area, and Indian Island.

#### 8.2.1.1 Regional Overview

The proposed HBRP will be located on a 5.4-acre parcel within the 143-acre property owned by Pacific Gas and Electric Company (PG&E). Figures 8.2-1 and 8.2-2 show the location of the HBRP site within a 70-acre portion of the PG&E property that incorporates all the permanent and temporary HBRP work areas (the figures in this section show the boundary of the 70-acre portion of the PG&E property). Figure 8.2-2 is large-scale, foldout map and is in a map pocket at the end of this section. The property is in unincorporated Humboldt County approximately 3 miles south of the City of Eureka (Figure 8.2-1). The site is situated along the eastern shore of Humboldt Bay on Buhne Point. Buhne Point is directly across from the opening between the South Spit and Samoa Peninsula that separates the Pacific Ocean from Humboldt Bay. The community of King Salmon, established in the late 1940s, is immediately adjacent to the western boundary of the PG&E property.

The Humboldt Bay is the second largest estuary in California and provides a rich diversity of natural habitats, including tidal marshes, sloughs, and man-made channels, as well as intertidal flats, eelgrass beds, and deepwater estuarine habitats. The Humboldt Bay watershed encompasses approximately 225 square miles containing Douglas fir and redwood forests (primarily private landownership and commercial timber production east of Highway 101), pastured grasslands, wetlands, and rivers and creeks (tributaries to the Bay).

The Humboldt Bay NWR Complex is in the southern end of Humboldt Bay and consists of 4,604 total acres in 6 management units: Salmon Creek Unit (330 acres); Ma-le'l Dunes Unit

(260 acres); Lanphere Dunes Unit (500 acres); Castle Rock Island NWR (14 acres); Hookton Slough Unit/Humboldt Bay Unit (3,500 acres). Within this NWR Complex, the U.S. Fish and Wildlife Service (USFWS) manages and protects habitats such as open ocean (pelagic); coastal marsh; coastal mudflats; estuarine; riparian forest; brackish/freshwater wetlands; coastal sand dune; and coastal dune forest. The NWR attracts large numbers of waterfowl and shorebirds that nest along the coast and migratory birds from the Pacific Flyway during winter migrations.

There are no regulatory designated Significant Natural Areas or Designated Ecological Reserves within the HBRP project disturbance boundary; however, the Elk River Wildlife Area and South Spit Management Area are approximately 1 mile from the site (Figure 8.2-1). The South Spit is managed by the Bureau of Land Management (BLM), California Department of Fish and Game (CDFG), and Humboldt County for recovery of rare species (such as Western snowy plover and sand dune plant species) and recreation (beachcombing, fishing, birding, and hunting). The Eel River Wildlife Area is approximately 5 miles south of the site. The Headwaters Forest is located approximately 10 miles southeast of the site and primarily is comprised of North Coast Forest habitat. The biological resources in these areas would not be affected by the HBRP project activities or operations.

The climate in the Eureka area is maritime, with a mean annual temperature of 53 F (with extremes ranging from 21 to 87 F); mean annual yearly precipitation of 38 inches, and partial or full cloud cover two-thirds of the year on average (Western Regional Climate Center, 2006). The predominant wind directions are from the north, and the average wind speed is 7 miles per hour (Western Regional Climate Center, 2006).

### 8.2.1.2 Biological Survey Methods

Biological resources evaluated for HBRP project impacts include vegetation communities, wetlands, wildlife, and wildlife habitats in all the temporary and permanent project impact locations. The surveyed areas included the entire PG&E property (focusing on the proposed HBRP impact area), the Humboldt Bay shoreline, and an area within 1 mile of the project site. None of the linear features (gas pipeline, water supply line, electric transmission connections) leave the Humboldt Bay Power Plant property.

The general project vicinity is dominated by open agricultural lands interspersed with industrial, commercial, and residential uses. The survey efforts concentrated on the PG&E property and the Buhne Point/King Salmon spit. In residential and commercial areas, the surveys focused on "edge" areas where natural habitat or native species may persist. The field surveys were aided by aerial photographic interpretation, which helped identify land uses and extent of habitats. 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.

#### 8.2.1.2.1 Terrestrial Biological Resources Survey Methods

General habitat and wildlife field surveys were performed by CH2M HILL biologists Debra Crowe, Richard Crowe, and Plant Ecologist Virginia Dains on the following dates: March 29, April 10, 27, and 28, June 10 and 22, July 26 and 27, and August 2, 3, and 11, 2006. Wildlife surveys included evening periods on July 27 and August 3, to observe nocturnal animals such as bats, owls, and mammals. Surveys focused on special-status species, including nesting birds that occur only seasonally in the area. Results of wildlife surveys include observations of scat,

**LEGEND**

- Humboldt Bay Repowering Project Site
- Humboldt Bay Power Plant Boundary
- 2-Mile Radius
- State listed as Endangered
- Federally listed as Endangered
- Federally listed as Threatened

**Terrestrial Communities**

- Coastal Terrace Prairie
- Northern Coastal Salt Marsh
- Sitka Spruce Forest

**Animals**

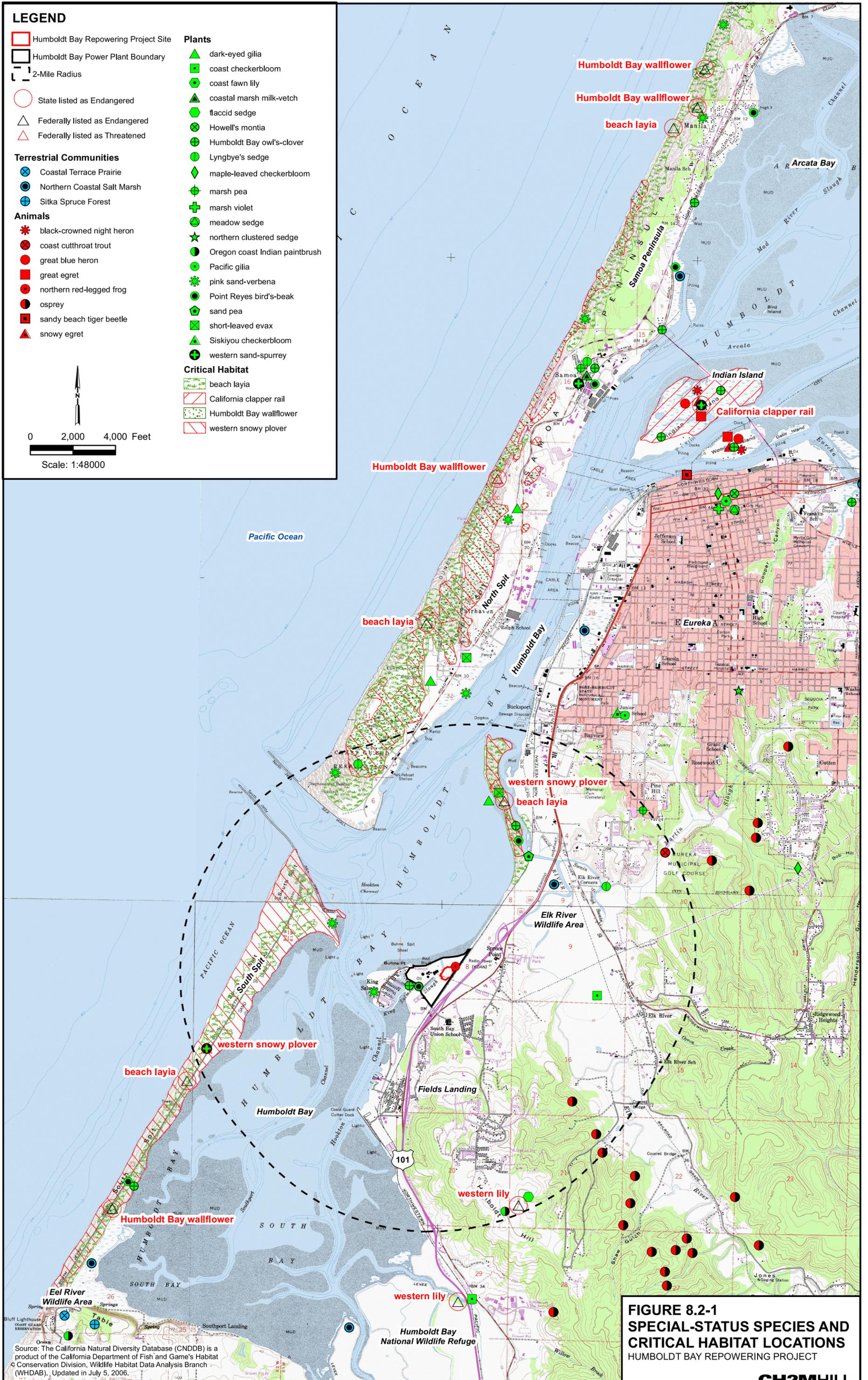
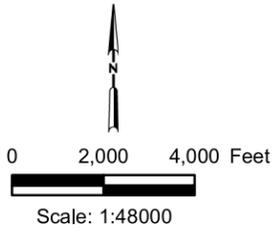
- \* black-crowned night heron
- x coast cutthroat trout
- great blue heron
- great egret
- northern red-legged frog
- osprey
- sandy beach tiger beetle
- ▲ snowy egret

**Plants**

- ▲ dark-eyed gilia
- coast checkerbloom
- coast fawn lily
- ▲ coastal marsh milk-vetch
- flaccid sedge
- x Howell's montia
- Humboldt Bay owl's-clover
- Lyngbye's sedge
- ◆ maple-leaved checkerbloom
- marsh pea
- + marsh violet
- meadow sedge
- ★ northern clustered sedge
- Oregon coast Indian paintbrush
- Pacific gilia
- ★ pink sand-verbena
- Point Reyes bird's-beak
- ◆ sand pea
- short-leaved evax
- Siskiyou checkerbloom
- western sand-spurrey

**Critical Habitat**

- beach layia
- California clapper rail
- Humboldt Bay wallflower
- western snowy plover



**FIGURE 8.2-1  
SPECIAL-STATUS SPECIES AND  
CRITICAL HABITAT LOCATIONS  
HUMBOLDT BAY REPOWERING PROJECT**

tracks, and other sign. Botanical surveys for rare plants were performed by Virginia Dains on April 26, and June 22, 2006 during blooming periods for rare species. Table 8.2-1 presents a list of plant species observed on the PG&E property. Table 8.2-2 presents a list of wildlife observed during the surveys. (Because of their length, these two tables are presented at the end of this section.) Tables 8.2A-1 and 8.2A-2 in Appendix 8.2A present the list of special-status species that were evaluated during field surveys for the project. California Natural Diversity Data Base (CNDDDB) "California Native Species Field Survey Forms" that record observations of special-status species during the field surveys are included in Appendix 8.2B. The qualifications of field biologists are provided in Appendix 8.2C.

Previous studies and portions of information from the following documents were used as references for additional occurrences of species at the HBRP site:

- Humboldt Bay Management Plan Draft Environmental Impact Statement, March 2006
- Sensitive Biological Resources Reconnaissance Survey, Humboldt Bay Power Plant Parking Lot Expansion Project, LSA, October 2002
- Humboldt Bay Independent Spent Fuel Storage Installation Environmental Report 2003
- Biological Assessment for the PG&E G/L 137B Gannon Slough Erosion Control Project, Humboldt County, September 2005
- Delineation of Waters of the United States – Parking Lot Expansion Project Area, Humboldt Bay Power Plant, LSA. 2002

#### 8.2.1.2.2 Wetland Delineation Methods

Wetland delineation surveys of the PG&E property and HBRP project area were conducted in the spring of 2006. Detailed observations and data collection for wetlands potentially regulated by the U.S. Army Corps of Engineers (USACE) and the California Coastal Commission (CCC) were made April 27-28, and June 22, 2006 by Richard Crowe and Virginia Dains. The delineation was completed in accordance with USACE 1987 manual (USACE, 1987). The data collected using USACE methods include wetland vegetation, soils, and hydrology that the CCC also requires for wetlands assessments described in the CCC's guidance document titled "Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone." A site visit with the CCC biologist, John Dixon, was conducted July 10, 2006, to review the site for potential jurisdictional CCC wetlands.

Wetland polygons and delineation data points were recorded with a geographical positioning system (GPS)(Trimble GeoXT). The corrected GPS data were fitted to a 2006 true-color aerial photograph.

A list of plant species observed on the property and their status as wetland indicator species gained from the National List of Plant Species that Occur in Wetlands: California (Region 0) (Reed, 1988) is provided in Table 8.2-1. Wetland vegetation species are classified into a spectrum of categories that indicate the probability of the species being found in wetlands, ranging from seldom (FACU) to almost always (OBL). These categories from Reed (1988) are listed in Table 8.2-3.

Field observations were supplemented with information on soils from the Soils of Western Humboldt County California (McLaughlin and Harradine, 1965), and previously completed

delineations in the vicinity of the project (LSA, 2002a). Historical photography (undated) and topographic mapping (1952) of the area surrounding Buhne Point prior to construction of the existing PG&E power plants were reviewed to estimate the extent of natural salt marsh habitats. During the mapping, both criteria for inclusion of wetlands under the USACE three-parameter method and the CCC one-parameter method for identifying wetlands were used.

TABLE 8.2-3  
Wetland Vegetation Categories

Code	Wetland Type	Comment
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU	Facultative Upland	Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).
UPL	Obligate Upland	Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in non-wetlands in the regions specified. If a species does not occur in wetlands in any region, it is not on the National List.

Plants may also be given one of the following modifiers to this classification:

“\*” = a tentative assignment into the category

NA = no agreement

NI = no indicator status based on limited information

“?” = a tentative assignment based on literature and not direct observation

“+” = assigned to the category but trending towards a wetter category

“-” = assigned to the category but trending towards a drier category

### 8.2.1.3 Vegetation Communities in the Project Area

Vegetation communities within a one-mile radius of the HBRP site (also referred as the project survey area) are described in this section. The primary vegetation communities in the area include grassland (including landscaped areas, pastures, and fallow fields), coastal dunes, mud flats and eelgrass beds, coyote brush scrub, North Coast forest, North Coast riparian forest, salt marsh, brackish or freshwater marsh, seasonal wetlands, and drainages. Habitats also include the open water and areas along the shoreline of Humboldt Bay. Small seasonal wetlands, drainage ditches, and CCC wetland habitats were delineated only for the PG&E property and not the entire project survey area within a 1-mile radius of the HBRP site. The wetland habitats are described below. Table 8.2-1 presents a list of plant species observed within the HBRP survey area.

Numerous avian, aquatic, and terrestrial wildlife species were observed utilizing the different upland and wetland habitats during the field surveys and wetland delineation

activities for HBRP. Table 8.2-2 presents a list of wildlife species observed utilizing the differing habitats described in this section.

The habitats and biological features identified on the PG&E property and an area 1 mile out from the proposed HBRP site are presented on aerial photo base maps at 1:6000 scale (Figure 8.2-2). The figures also include locations of HBRP project features, including proposed linear pipelines, temporary access and laydown areas, and transmission connections.

### 8.2.1.3.1 Upland Vegetation Communities

#### *Grassland Communities*

Grassland communities in the Buhne Point area reflect land uses ranging from fallow fields and vacant commercial lots to grazed, diked wetlands. Perennial pastureland in the Buhne Slough watershed is crossed with wet seasonal swales and dotted with freshwater marsh (shown as G2, Grassland type on Figure 8.2-2). Sweet vernal grass (*Anthoxanthum odoratum*), and common annuals such as soft chess (*Bromus mollis*), rip-gut brome (*Bromus diandrus*), and big quaking grass (*Briza maxima*) are dominant in higher and drier corners of the fields (shown as G). Annual grassland comprised of these species and annual herbs is also found on the restored dunes of the King Salmon spit (shown as G1).

Other grassland polygons mapped within the project survey area are lawns that are irrigated and managed for landscape uses and grasslands of weedy annuals found in ruderal parking areas adjacent to King Salmon Avenue (shown as G, Grassland type on Figure 8.2-2). Annual small-flowered lotus (*Lotus micranthus*), rat-tail fescue (*Vulpia myuros*), silver hairgrass (*Aira caryophyllea*), white sweet clover (*Melilotus alba*), yellow parentucellia (*Parentucellia viscosa*), and bur clover (*Medicago polymorpha*) are characteristic of these heavily compacted soils.

#### *Coastal Dune Habitat*

Coastal dune communities are found on King Salmon spit, South Spit across Humboldt Bay, and at the mouth of the Elk River north of Buhne Point. A small patch of sand dune is also found inside the shoreline revetment at the northern end of the PG&E property. Several characteristic dune endemic species include seashore bluegrass (*Poa douglasii*), yellow sand verbena (*Abronia latifolia*), and beach bursage (*Ambrosia chamissonis*) as well as invasive dune species including sea fig (*Carpobrotus chilensis*).

Habitats along the King Salmon spit have been restored or created as part of a shoreline stabilization project (Pickart, 1988). Several assemblages of native and non-native species may be present as part of this Northern Dune Scrub community.

#### *Coyote Brush Scrub*

Much of the scrub vegetation established along roadsides, vacant lots, fencerows and field borders in the Buhne Point area is dominated by coyote brush (*Baccharis pilularis*) with emergent red alder (*Alnus rubra*), arroyo or Sitka willow (*Salix lasiolepis*, *S. sitchensis*), Himalayan and California blackberry (*Rubus discolor*, *R. ursinus*), and scotch broom (*Cytisus scoparius*). The herbaceous cover is represented by annual bromes or other weedy perennials such as fennel (*Foeniculum vulgare*) or pampas grass (*Cortaderia selloana*). This community is attributable to Northern Coyote Brush Scrub phase of Franciscan Coastal Scrub (Holland, 1986) or the Coyote Brush-California Blackberry/Weedy herb [*Baccharis pilularis*-*Rubus*

*ursinus*/weedy herb] association (CNDDDB, 2003). All of these areas are regularly or recently disturbed by clearing or grazing and may be transitional to the North Coast forest communities.

### ***North Coast Forest***

Douglas fir (*Pseudotsuga menziesii*) dominates the forests in the Buhne Point area in association with Bigleaf maple (*Acer macrophyllum*), Sitka spruce (*Picea sitchensis*), underlain with shrubs such as wax myrtle (*Myrica californica*) or the escaped ornamental Spanish heather (*Erica lusitanica*). Most sites support rich growths of herbaceous perennials such as sword fern (*Polystichum munitum*) or perennial grasses. The Douglas fir-Bigleaf Maple/Sword Fern [*Pseudotsuga menziesii*-*Acer Macrophyllum*/*Polystichum munitum*] association (CNDDDB, 2003) could be attributable to these communities. The North Coast forest is found in the fringes of residential and agricultural areas east of Highway 101 within 1 mile of the project site, and represents patchy forest remnants and forest re-growth.

### ***North Coast Riparian Forest***

In the Buhne Point area, several small streams that arise from Humboldt Hill support North Coast Riparian Forest. Components of this vegetation type include red alder (*Alnus rubra*), big-leaf maple (*Acer macrophyllum*), and arroyo or Sitka willows (*Salix lasiolepis* and *S. sitchensis*). Broad-leaved herbs such as elk's clover (*Aralia californica*), fireweed (*Epilobium angustifolium*), and cow parsnip (*Heracleum lanatum*) are present along with pink-flowering current (*Ribes sanguineum* var. *glutinatum*), Nootka rose (*Rosa nutkana* var. *nutkana*), and double honeysuckle (*Lonicera conjugialis*). On the hillside of Buhne Point, Douglas fir and Sitka spruce are also components of this red alder riparian community. The riparian stand may be attributable to the Red Alder/Salmonberry-Blue Elderberry [*Alnus rubra*/*Rubus spectabilis*-*Sambucus racemosa*] association. This community is considered rare and worthy of consideration by CNDDDB (2003).

### ***Developed Areas***

Manmade developed areas mapped in the Buhne Point area include industrial, commercial, roads, residential, school, and pier land uses. These areas are typically paved, graveled, or asphalted and do not provide significant suitable habitat for plant or wildlife species in the region.

#### **8.2.1.3.2 Wetlands and Water Resources**

Field investigations identified six habitat types that meet the criteria for federal jurisdiction according to Section 404 of the Clean Water Act. These include open waters of the Bay and tide channels, mudflats, salt marsh, freshwater marsh, riparian, and man-made seasonal wetlands and drainages (Figure 8.2-1). In addition, areas identified as wetlands under the jurisdiction of the CCC were delineated on the PG&E property (Figure 8.2-3).

### ***Open Water, Dredged Tidal Channel***

The intake and discharge channels of Humboldt Bay Power Plant and open waters of Humboldt Bay are considered navigable waters under the jurisdiction of the USACE. The Humboldt Bay Power Plant cooling water intake channel was constructed as an extension of King Salmon Slough that provides boat access to the King Salmon marina and boat slips. Humboldt Bay is separated from the Pacific Ocean by the South Spit and the Samoa Peninsula (aka North Spit) and includes the Arcata Bay in the northern reaches and the South Bay in the southern reach.

### ***Mudflats and Eelgrass Beds***

Large intertidal mudflats are found in Humboldt Bay surrounding the King Salmon spit and Buhne Point. The intertidal areas are both unvegetated flats and eelgrass (*Zostera pacifica* and *Z. marina*) communities that are exposed only during low tide. Intertidal mudflats/eelgrass habitats are wetlands that have great importance to the health of the Humboldt Bay environment (CICORE, 2004). Many shorebirds and waterfowl were observed foraging in the mudflats during the field surveys (see Table 8.2-2).

### ***Northern Coastal Salt Marsh***

Northern coastal salt marsh is found within the lower floodplain of Buhne Slough. Characteristic species in this community include pickleweed (*Salicornia virginica*), cordgrass (*Spartina densiflora*), and seaside arrowgrass (*Triglochin maritima*). In the upper elevations of the salt marsh, these species are mixed with saltgrass (*Distichlis spicata*), spearscale (*Atriplex triangularis*), tufted hairgrass (*Deschampsia caespitosa*) and coastal gumweed (*Grindelia stricta*) to form the species rich high marsh. Salt marshes in the Buhne Point area may be attributed to Pickleweed Wetland [*Salicornia* spp.], Common Pickleweed-Saltgrass [*Salicornia virginica*-*Distichlis spicata*], or Common Pickleweed-Gumplant [*Salicornia virginica*-*Grindelia stricta*] associations that are tracked by CNDDDB (2003).

Buhne Slough was diverted from its natural outlet in Humboldt Bay by construction of the King Salmon boat entrance channel and installation of a tide gate in the levee across from the King Salmon Avenue bridge. The salt marshes at the mouth of Buhne Slough may have been drained prior to construction of the King Salmon resort community in the 1940s and 1950s (Graves, 1995).

### ***Fresh or Brackish Water Marsh***

Other wetlands in the upper Buhne Slough watershed are fed by seasonal or perennial rainfall runoff and/or the presence of high ground water tables. Cattail marshes (*Typha latifolia*) ringed with black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) and arroyo willow (*Salix lasiolepis*) are found at the mouths of small streams entering the basin east of the highway. Other freshwater wetland species common to the area include Pacific oenanthe (*Oenanthe sarmentosa*), straight-beaked buttercup (*Ranunculus orthorhynchus*), and giant horsetail (*Equisetum telmateia* ssp. *braunii*).

### ***Seasonal Wetlands and Drainages***

In the Buhne Point area, many natural seasonal wetlands are found in pastureland east of the Highway 101. Seasonal wetlands are identified by a dominance of hydrophytic vegetation and then examined for evidence of ponding or saturation of soils. Seasonal wetlands are also found in grassland and landscape areas where depressions develop. These depressions retain rainwater and promote wetland vegetation species.

Man-made drainage ditches cut into fill are often found in the grassland and developed areas, especially along roadsides, to drain stormwater from human occupied areas. They are often located so that they drain to adjacent wetland or waterbodies in the project survey area. Some ditches are vegetated with wetland plant species such as emergent pacific oenanthe (*Oenanthe sarmentosa*) or fringed in Himalayan blackberry (*Rubus discolor*) and coyote brush (*Baccharis pilularis*), and others are grass-lined or maintained and kept free of aquatic and riparian vegetation. The drainages are potentially subject to regulation under the USACE and/or the CCC.

Deeper ponding seasonal wetlands can provide breeding habitat for frogs, toads, and salamanders, as well as aquatic invertebrates and larvae. Shallow seasonal wetlands can provide habitat for wildlife moving between deeper aquatic habitats used for foraging. Drainage ditches can provide marginal habitat for wildlife and provide movement corridors and foraging opportunities. Wildlife that may use vegetated portions of ditches/canals include egrets, herons, song birds, raccoon, opossum, and coyotes that feed on crayfish, tadpoles, frogs, and mosquito fish. Mallard ducks and other migratory waterfowl may use deeper ditches that have some remaining cover, and a variety of bird species could use patches of vegetation in the ditches as nest sites.

#### ***California Coastal Commission Wetlands***

The CCC regulates areas that have only one or two of the three typical wetland parameters (wetland vegetation, soils, and hydrology) within the Coastal Zone, in addition to areas that the USACE also regulates. The CCC wetlands with boundaries extending beyond the USACE 3-parameter method were defined only on the presence of positive criteria for hydrophytic vegetation. The CCC wetland areas were only identified in detail on the PG&E property (Figure 8.2-3) and are not all shown on the regional habitat maps for this project as these areas may be extensive and dynamic throughout the Coastal Zone. Dominant plants in these CCC wetlands were ryegrass (*Lolium perenne*), common aster (*Aster chilensis*), and bird's foot trefoil (*Lotus corniculatus*). All of these are facultative (FAC) indicator species that are relatively tolerant of annual mowing. Both ryegrass and bird's foot trefoil are commonly planted pasture species with a quick regrowth response. Often the boundaries between CCC wetlands and uplands were diffuse, marked only by slight changes in elevation or no change in elevation, reflecting different subsoil conditions, or management practices. Uplands generally had rough cat's tongue (*Hypochaeris radicata*), mowed sweet vernal grass (*Anthoxanthum odoratum*), or big quaking grass (*Briza maxima*) as a dominant or co-dominant species.

#### **8.2.1.4 Special-Status Species**

A list of special-status plant and animal species was compiled for the HBRP project area based upon the following references: the 2006 CDFG CNDDDB; California Native Plant Society's (CNPS) Electronic Inventory; a USFWS/National Marine Fisheries Service (NMFS) species list for Fields Landing, Humboldt County; Arcata USFWS; informal consultations with agency personnel; and project-specific onsite field surveys. Comprehensive lists of special-status plant and wildlife species compiled from the agency lists is provided in Appendix 8.2A. Table 8.2A-1 presents the list of special-status plant species evaluated for the project. Table 8.2A-2 presents the list of special-status animal species evaluated. The lists include species listed as threatened or endangered that have special requirements under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) and other non-listed special-status species that could become listed in the future. Species on the CDFG list of Bird Species of Special Concern are intended for use as a management tool and for information; they have no special regulatory status. The tables include the habitat types that could support special-status species as well as the potential for occurrence in the project impact area.

Preliminary surveys, habitat evaluations, and aerial photographs suggest that the HBRP site and proposed linear project features are not directly located in designated or protected sensitive areas as they are located in previously disturbed land areas zoned industrial; however, the site is adjacent to the Humboldt Bay, which is an important area for the many

migratory and resident waterfowl and shorebirds and aquatic species of the Bay. Tables 8.2-4 and 8.2-5 present pared-down lists of the special-status plant and wildlife species, respectively, that were determined to occur on site, or whose habitat(s) and/or known distribution are present in the HBRP project area, that were evaluated for potential impacts from HBRP construction and operations. Other special-status species that were included on the USFWS, CDFG, and CNPS lists whose habitats or known distribution do not occur in the project area are included in Appendix 8.2A, but were not evaluated in detail further.

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 Fields Landing, Eureka, and Arcata South U.S. Geological Survey (USGS) quadrangles and from onsite field surveys are shown on Figure 8.2-1.

Preliminary discussions with USFWS ecological services indicate formal consultation should not be required for the HBRP project, as it was designed to avoid direct impacts to the Bay and listed species and their habitats (Goldsmith, 2006). Informal consultation (that would most likely result in a letter of concurrence indicating the HBRP would not adversely affect federal listed species) would be completed in late 2006. A Biological Assessment would be prepared that would be used in the informal consultation procedure with the USFWS and/or NMFS. In addition, a take permit under California Fish and Game Code 2081 is most likely not required as no state listed species would be adversely affected or harmed.

#### 8.2.1.4.1 Special-Status Plants

The Humboldt Bay region is rich in California native plants due to a diversity of unique habitats within a narrow geographic area. Habitats that range from many salt, brackish, and freshwater marshes and wetlands, to dunes, forests, coastal sage scrub, and riparian habitats are found within a one-mile radius of Buhne Point (Sawyer, 2006). Loss or alteration of these habitats has contributed to the endangerment of several native plant species.

Information acquired from the CNDDDB, CNPS, USFWS, and other sources resulted in a list of special-status plant species that could occur in the Humboldt Bay vicinity (see Table 8.2A-1 in Appendix 8.2A). Table 8.2A-1 lists the special-status plant species known to occur in the Buhne Point vicinity, along with their status by regulating agencies, and describes the habitats where they are found. Most of these species are associated with natural habitats that were once prevalent in the Humboldt Bay and project vicinity, but have since been lost to extensive development and farming practices.

Botanical surveys were conducted during the appropriate blooming periods for the special-status plants to determine if they occur in the project impact areas and to further characterize the potential of available habitat within adjacent areas on the PG&E property and in the area 1 mile from the HBRP site. Extensive habitat modification, landscape maintenance, weed control, and drainage practices have kept the HBRP site unsuitable for many plant species. Table 8.2-4 presents a pared-down list of special-status plants that were evaluated for project impacts, including the habitat requirements and potential to occur on the site. None of the plants on Tables 8.2A-1 or 8.2-4 are known to occur in disturbed ruderal grassland, lawns, seasonal wetland habitats, landscaping, or other areas of commercial land use that are found within the HBRP project area, as they are primarily associated with coastal strand vegetation on sand dunes, coastal salt marsh, and coastal sage

scrub habitats, fresh or brackish water marshes, or moist forest communities that are not found on the HBRP site (see discussion in Appendix 8.2A following Table 8.2A-1). All but one of the plant species in Table 8.2A-1 occur in habitats similar to those that are found on the PG&E property outside, but adjacent to, HBRP work areas.

TABLE 8.2-4  
Special-status Plants Known to Occur in the Humboldt Bay Power Plant Area (compiled from USFWS, CNDDDB, CNPS)

Scientific name Common Name	Status* Fed/CA/CNPS	General Habitat Description	Flowering Time	Potential Occurrence In The HBRP Project Area or Adjacent Habitats
<i>Castilleja ambigua</i> <i>ssp. humboldtiensis</i> Humboldt Bay owl's clover	-/-1B	Coastal salt marsh	April - August	One population found during April 2006 surveys adjacent to HBRP parking along King Salmon Ave. No potential habitat in the HBRP work areas. Potential habitat is present in two small tidal salt marshes west of King Salmon Ave.
<i>Cordylanthus</i> <i>maritimus ssp</i> <i>palustris</i> Point Reyes bird's beak	-/-1B	Coastal salt marsh	June- October	Previously known population present on PG&E property adjacent to HBRP parking along King Salmon Ave. No potential habitat in the HBRP work areas. No additional populations found in April or July 2006.

\* CNPS 1B plants are considered rare and endangered in California and elsewhere.

Two special-status plant species were observed during the botanical surveys from April through July, 2006, Humboldt Bay owl's clover (*Castilleja ambigua ssp. humboldtiensis*) and Point Reyes bird's beak (*Cordylanthus maritimus ssp palustris*). Humboldt Bay owl's clover and Point Reyes bird's beak are considered rare and endangered in California and elsewhere by CNPS (2001). These plants were found in coastal salt marsh habitat adjacent to the proposed HBRP parking area along King Salmon Avenue. CNDDDB California Native Species Field Survey Forms that record observations of these plants are included in Appendix 8.2B.

#### ***Humboldt Bay owl's clover (Castilleja ambigua ssp. Humboldtiensis)(CNPS 1B)***

A population of Humboldt Bay owl's clover was recorded on PG&E property during April 2006 as part of the HBRP floristic surveys. It is found with a known population of Point Reyes bird's beak as discussed below. The nearest previously known population of Humboldt Bay owl's clover was found in 1986 in salt marsh at the mouth of the Elk River and Swain Slough in the vicinity of the U.S. Highway 101 bridge. This population was relocated in 2002 (CDFG, 2006) and found to be extant. Humboldt Bay owl's clover is an annual plant that has bright purplish-red flower parts when in bloom from April until August. When not in flower and having dried and set seed, plants are relatively hard to discern. The species is partially parasitic, attaching to the roots of salt grass or other high marsh plants to gain nutrients. Humboldt Bay owl's clover also is found in Marin and Mendocino counties.

The PG&E population of Humboldt Bay owl's clover is located in a small (75 feet by 75 feet) patch of salt marsh south of King Salmon Avenue and adjacent to King Salmon Slough (Figures 8.2-1 and 8.2-3). The site is immediately east of a proposed HBRP remote parking area along King Salmon Avenue. The plants numbered less than 200 individuals in an area

equal to 1,076 square feet. A CNDDDB California Native Species Field Survey form for this new population is provided in Appendix 8.2B. No other populations of Humboldt Bay owl's clover were found on the PG&E property or are expected to occur there.

***Point Reyes bird's beak (Cordylanthus maritimus ssp. palustris) (CNPS 1B)***

The small patch of salt marsh that receives some tidal influence along King Salmon Slough that supports Humboldt Bay owl's clover also supports a known population of Point Reyes bird's beak (*Cordylanthus maritimus ssp. palustris*) (Figures 8.2-1 and 8.2-3). This population was found in 2002 during preliminary resource surveys for a PG&E parking lot expansion north of King Salmon Avenue (LSA, 2002b). On discovery in 2002, the Point Reyes bird's beak population was estimated to occur within a 1,250 square foot area (25 feet by 50 feet) and number 250 plants. The mapped area for the Point Reyes bird's beak recorded in July 2006 was determined to be 1,076 square feet and numbers of individuals were estimated at between 250 and 350 individuals. A CNDDDB California Native Species Field Survey form for this population is provided in Appendix 8.2B.

Point Reyes bird's beak is an annual herb that is partially parasitic on saltgrass or other high marsh species. Humboldt Bay populations of this special status plant are also found at the Elk River spit approximately 2 miles north of the project site. Its current range includes populations in Sonoma and Marin counties as well as coastal Oregon. Its former range included Alameda, Santa Clara, and San Mateo counties. Surveys for Point Reyes bird's beak in other salt marsh or diked salt marsh habitats on the PG&E property yielded no new populations. No other populations of the plant are expected to be found in the HBPR work area or adjacent habitats.

**8.2.1.4.2 Special-Status Wildlife**

Information acquired from the CNDDDB, USFWS, NMFS, and other sources resulted in the list of special-status wildlife species whose occurrence has been previously recorded in Humboldt County (Table 8.2A-2 in Appendix 8.2A). Wildlife species that have suitable habitat and/or distribution, or have been recorded or observed in the project vicinity, are included in Table 8.2-5. Their potential for occurrence is dependent on available suitable habitat on the project site and in adjacent habitats. The potential for species occurrence is low on site due to the predominance of intensive development and ruderal habitats that characterize the area. Special-status animal species are primarily limited to the North Coast forest, salt marshes, tidal flats, and marine environments of the Humboldt Bay. The following paragraphs briefly describe the special-status animals that occur on site or in adjacent habitats and the potential for project-related impacts to occur during construction and operation. (Note: the abbreviations after the scientific name refer to the regulatory status of the species. These are further clarified in Table 8.2A-2 in Appendix 8.2A).

TABLE 8.2-5  
Special-Status Wildlife Species Known to Occur or Have Potential to Occur on or Adjacent to the HBRP Site

Common Name Scientific Name	Status	Occurrence in Project Area	On HBRP Project Site?
Tidewater goby <i>Eucyclogobius newberryi</i>	Federal Endangered, California Species of Special Concern	May be found in tributaries to Humboldt Bay. Requires shallow lagoons and coastal streams, waters of coastal lagoons, estuaries, and marshes; historically ranged from Del Norte to San Diego counties.	No suitable habitat (streams, sloughs, channels, marshes, or bay habitats) on project site.

TABLE 8.2-5  
Special-Status Wildlife Species Known to Occur or Have Potential to Occur on or Adjacent to the HBRP Site

Common Name Scientific Name	Status	Occurrence in Project Area	On HBRP Project Site?
Northern red-legged frog <i>Rana aurora aurora</i>	California Species of Special Concern	Observed throughout the PG&E property in grassland and marsh habitats. Breeding habitat may be in deeper water of the freshwater marsh in the northeast corner and drainage ditch between the proposed HBRP site and laydown area.	Potential breeding habitats on the PG&E property in brackish marsh and drainage ditches.
Bald eagle <i>Haliaeetus leucocephalus</i>	Federal delisted, California endangered, Fully-Protected Bird	Observed foraging along water intake channel by power plant operator in July 2006. May forage and nest in Humboldt Bay region.	Observed foraging in intake channel and Humboldt Bay. No nesting habitat within 1 mile of the site.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	Federal Threatened, California Species of Special Concern	USFWS designated Critical Habitat with sandy nesting habitat occurs on the South Spit approximately 1 mile west of the project site across Humboldt Bay. Populations known to winter in the Humboldt Bay area.	Forage habitats are adjacent to Humboldt Bay Power Plant site along the Humboldt Bay shoreline.
California brown pelican <i>Pelecanus occidentalis californicus</i>	Federal Endangered, California Endangered, Fully-Protected Bird	Forage in Humboldt Bay. Nesting habitat includes undisturbed islands offshore south of the Humboldt Bay region. Adults with young occur in the Bay after the breeding season in late winter.	Observed foraging in Humboldt Bay at Humboldt Bay Power Plant discharge location and roosting along rocky shoreline during surveys from April through August 2006. No nesting habitat in project area.
Osprey <i>Pandion haliaetus</i>	Migratory Bird, California Species of Special Concern	Forage in and around Humboldt Bay. Suitable nesting habitat occurs southeast of the site, east of Fields Landing.	Observed foraging in salt marsh northeast of site and Humboldt Bay. No nesting habitat within 1 mile of the site.
Double-crested cormorant <i>Phalacrocorax auritus</i>	Migratory Bird, California Species of Special Concern	One of three known nesting colonies occurs on the ruins of the old wharf in Arcata Bay. May roost and forage from hard shore structures along shoreline outside project area.	Observed flying over PG&E property during field surveys. No nesting habitat within 1 mile of the site.
Great (Common) egret <i>Ardea alba</i>	Migratory Bird	Forage in and around Humboldt Bay. Known to nest in cypress grove on Indian Island 5 miles north of site. No nesting colonies observed within 1 mile of site.	Observed foraging in salt marshes at edge of Buhne Slough and along Humboldt Bay shoreline hard shore. No nesting colonies observed within 1 mile of the site.
Great blue heron <i>Ardea herodias</i>	Migratory Bird	Forage in and around Humboldt Bay. Known to nest in cypress grove on Indian Island 5 miles north of site. No nesting colonies observed within 1 mile of site.	Observed foraging in salt marshes at edge of Buhne Slough and along Humboldt Bay shoreline hard shore. No nesting colonies observed within 1 mile of the site.

#### 8.2.1.4.3 Special Status Fish

Bays and estuaries are known to be important nursery and refuge areas for marine fishes. At least 115 species of bottom living and open water fishes are known to occur in Humboldt Bay. An exhaustive list of fish species and analysis of the fisheries resource in Humboldt Bay can be found in the Humboldt Bay Management Plan (Humboldt Bay Harbor, Recreation, and Conservation District, 2006). The only fish observed on the HBRP site were planted mosquito fish (*Gambusia* sp.) in a small ponding area at the culvert where Buhne Slough meets King Salmon Avenue. Estuary fish species are expected to occur in the Humboldt Bay Power Plant intake and discharge channels. A bald eagle was observed by Humboldt Bay Power Plant security personnel foraging for fish in the intake channel July 2006.

The HBRP is adjacent to the Humboldt Bay and stormwater from the project area currently flows to the Bay through Buhne Slough and the intake/discharge channels. The Humboldt Bay Power Plant warm water effluent also flows to the Bay and is currently monitored through a National Pollutant Discharge Elimination System (NPDES) permit from the North Coast Regional Water Quality Control Board (NCRWQCB). The NCRWQCB is charged with protecting the beneficial uses and water quality throughout coastal Northern California. Sediments in salmonid producing streams are a major concern to NCRWQCB, where approximately 59 percent of the North Coast Region drains into streams that are impaired by an excessive amount of sediment (NCRWQCB, 2006). Buhne Slough and the intake/discharge channels, the closest tributaries to the HBRP site that drains to Humboldt Bay, do not contain gravel and cobble essential for salmonid breeding and rearing of young.

During construction of HBRP, appropriate Best Management Practices (BMPs) will be developed specifically for the site conditions and will be implemented pursuant to the Storm Water Pollution Prevention Plan (SWPPP) and Drainage, Erosion, and Sedimentation Control Plan (DESCP). These BMPs are designed to avoid and/or minimize sedimentation into the waterways that could otherwise affect fish and other estuarine species through siltation of eggs, benthic invertebrates, aquatic insect larvae, or aquatic vegetation. No native fish that occur in the Humboldt Bay or in Buhne Slough or intake/discharge channels would be affected by HBRP construction or operation as no direct impacts to the Bay or slough would occur. In addition, sediments from construction activities would be

#### *Tidewater Goby (Eucyclogobius newberryi) (FE)*

The tidewater goby, a fish species endemic to California, is found primarily in waters of coastal lagoons, estuaries, and marshes. Its habitat is characterized by brackish water (somewhat salty, from 0 to 25 parts per trillion [ppt]) in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant. They burrow in the soft mud, making small caves where the eggs are laid by the females and the males protect them until they hatch. Breeding occurs when water temperatures are approximately 60 to 65° F, typically from April/May through July, and some years into November/December. The gobies feed on benthic invertebrates, crustaceans, snails, and aquatic insect larvae. Predators of the gobies include large mouth bass (*Micropterus* sp.), black bass (*Micropterus* sp.), sunfish (*Mola mola*), and channel catfish (*Ictalurus punctatus*). Tidewater gobies live only in California, and historically ranged from Tillas Slough (mouth of the Smith River, Del Norte County) to Agua Hedionda Lagoon (northern San Diego County) (USFWS website, 2006, available at <http://www.fws.gov/cno/arcata/es/fish/goby.html>). They are currently found across their known, historic range, but in fewer locations than historically occurred.

The HBRP site is outside the range of this species, although it is known from at least one tributary to the Humboldt Bay and was included on the list of species from USFWS (Appendix 8.2A). The closest Critical Habitat unit is in Southern California. No impacts to tidewater gobies in the Bay will occur from construction or operation of HBRP.

#### ***Coho Salmon (Oncorhynchus kisutch) (FE) (CT)***

The Southern Oregon/Northern California coast coho salmon are anadromous (adults migrate from a marine environment into the fresh water streams and rivers of their birth) and semelparous (spawn only once and then die). Coho spend the first half of their lifecycle rearing in streams and small freshwater tributaries. The remainder of their lifecycle is spent foraging in estuarine and marine waters of the Pacific Ocean prior to returning to their stream of origin to spawn and die (National Oceanic and Atmospheric Administration [NOAA], 2006). Unlike other Pacific salmon species, where the majority of production comes from large spawning populations in a few river basins, coho salmon spawners use numerous small streams. North American coho salmon populations are widely distributed along the Pacific coast and spawn in tributaries to most major river basins from the San Lorenzo River in Monterey Bay, California, to Point Hope, Alaska, and through the Aleutian Islands. The diversity of habitats utilized by coho salmon coupled with the inadequacy of existing species distribution maps makes it extremely difficult to identify all specific stream reaches, wetlands, and water bodies essential for the species. Freshwater Essential Fish Habitat for coho salmon consists of four major components, (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors (Pacific Coast Salmon Plan, 1999). The PG&E property and proposed HBRP site is within the evolutionarily significant units (ESUs) for the Southern Oregon/Northern California Coasts Coho Salmon, which include rivers and tributaries such as the Elk River, Salmon Creek, Freshwater Creek, and Mad River, all of which are tributaries to Humboldt Bay. However, no impacts to coho salmon will occur from construction or operation of HBRP because no direct impacts to salmon-bearing water bodies will occur and protection measures and BMPs to eliminate sedimentation into the bay will reduce the potential for indirect impacts further.

#### ***Northern California Steelhead (Oncorhynchus mykiss) (FT) (CT)***

Steelhead are the anadromous form of rainbow trout, a salmonid species native to western North America and the Pacific Coast of Asia. Steelhead are similar to some Pacific salmon in their life cycle and ecological requirements. Unlike Pacific salmon, steelhead do not necessarily die after spawning and are able to spawn more than once. In California, most steelhead spawn from December through April in small streams and tributaries where cool, well oxygenated water is available year round. The life history of steelhead differs from that of Pacific salmon principally in two aspects: juveniles have a longer fresh water rearing requirement (usually one to three years) and both adults and juveniles are much more variable in the amount of time they spend in fresh and salt water. There are two basic life history types of steelhead: *stream-maturing* steelhead, which enter fresh water with immature gonads and consequently must spend several months in the stream before they are ready to spawn; and *ocean-maturing* steelhead, which mature in the ocean and spawn relatively soon after entry into fresh water (McEwan, D. and T. Jackson, 1996). The PG&E property is within the ESU for the Northern California Steelhead, which includes Humboldt Bay and rivers and tributaries flowing into the Bay. No direct impacts to steelhead-bearing water bodies will occur. No impacts to steelhead will occur from construction or operation of HBRP because no direct impacts to steelhead-bearing water bodies will occur and

protection measures and BMPs to eliminate sedimentation into the Bay will reduce the potential for indirect impacts to the furthest extent feasible.

#### ***California Coastal Chinook Salmon (*Oncorhynchus tshawytscha*) (FT)***

Like the coho salmon the Chinook are anadromous (adults migrate from a marine environment into the fresh water streams and rivers of their birth) and semelparous (spawn only once and then die). Chinook salmon are easily the largest of any salmon, with adults often exceeding 40 pounds; with individuals over 120 pounds being reported. Chinook salmon are very similar to coho salmon in appearance while at sea (blue-green back with silver flanks), except for their large size, small black spots on both lobes of the tail, and black pigment along the base of the teeth. Like the northern California steelhead the Chinook salmon has evolved in to two distinct races. One race, described as the “stream type” Chinook, is found most commonly in headwater streams. Stream type Chinook salmon have a longer freshwater residency, and perform extensive offshore migrations before returning to their natal streams in the spring and summer months. The second race is called the “ocean type” Chinook, which is commonly found in coastal streams in North America. Ocean-type Chinook typically migrate to sea within the first three months of emergence, but they may spend up to a year in freshwater prior to emigration. Ocean-type Chinook tend to utilize estuaries and coastal areas more extensively for juvenile rearing. Populations of Chinook salmon south of the Columbia River drainage appear to consist predominantly of ocean-type fish (NOAA 2006). Like the coho the diversity of habitats utilized by Chinook salmon coupled with the inadequacy of existing species distribution maps makes it extremely difficult to identify all specific stream reaches, wetlands, and water bodies essential for the species at this time (Pacific Coast Salmon Plan, 1999). The proposed project site is within the ESUs for the California Coastal Chinook salmon which begins just above Redwood Creek to the north and ends just south of Santa Rosa, California which encompasses Humboldt Bay in its entirety. No impacts to steelhead will occur from construction or operation of HBRP because no direct impacts to steelhead-bearing water bodies will occur and protection measures and BMPs to eliminate sedimentation into the Bay will reduce the potential for indirect impacts to the furthest extent feasible.

#### **8.2.1.4.4 Special-Status Amphibians and Reptiles**

Other species that depend on aquatic resources for portions of their life history have a limited potential to occur on the PG&E property, including reptile and amphibian species. The site does not support habitat for any life stages of loggerhead, green, leatherback, and olive ridley sea turtles, although they may feed in the eelgrass beds of the Humboldt Bay. One special-status amphibian is known to occur on the HBRP site; the Northern red-legged frog, a California Species of Special Concern. This species is not listed or protected under FESA or CESA but are considered a management species.

#### ***Northern Red-Legged Frog (*Rana aurora aurora*) (CA Species of Special Concern [CSC])***

The Northern red-legged frog is reddish-brown or brown, gray, or olive, with dark banding on the legs and red coloring on the underside of the legs. It is approximately 1.5 to 3 inches in size. Its range is from Mendocino County in northern California through Oregon and Washington into southwest British Columbia. The federal threatened California red-legged frog (*Rana aurora draytonii*) overlaps the range of Northern red-legged frog in Mendocino County. Like other frogs, they occur in ponds and marshes, preferably with vegetation cover, but can be highly terrestrial when they forage. They require permanent or

semi-permanent bodies of water for breeding and tadpoles require 4 to 5 months for metamorphosis. Breeding is usually in January and February. The Northern red-legged frog is known to occur in the Humboldt Bay NWR where studies researching malformations have been conducted (Bettaso, 2004). The Northern red-legged frog was observed throughout the PG&E property in grassland and marsh habitats during the field surveys. Breeding habitat may be in deeper waters of the freshwater marsh in the northeast corner and drainage ditch between the proposed HBRP site and laydown area.

#### 8.2.1.4.5 Special-Status Birds

More than 250 bird species have been documented to use the Humboldt Bay. Many of Humboldt Bay's birds are migratory and may only stop to rest and feed, while others spend the winter or breeding season. The salt marshes and sand dunes along the Humboldt Bay provide suitable habitat for many nesting and foraging birds, including special-status species, such as the Western snowy plover which nests on the South Spit (Figure 8.2-1).

The HBRP area is adjacent to the Bay and salt marshes where bird species (e.g., osprey, killdeer, ducks, herons, egrets, shorebirds) are often found foraging and nesting. The landscape areas and areas with some vegetation on the site provide suitable nesting for a variety of songbirds. Red-winged blackbirds, Anna's hummingbird, black phoebe, mourning dove, and house finches are routinely observed at the site, indicating they most likely nest in the landscape areas. Ground nesting birds such as killdeer may nest in gravel areas. Many migratory bird species were observed during field surveys (see Table 8.2-2), including raptors, shorebirds, waterfowl, and passerines. Shorebirds are abundant in the salt marsh fringes and along tidal mud flats adjacent to the marshes during the winter and spring months. Representative shorebirds observed during surveys include Western sandpiper (*Calidris mauri*), black-neck stilt (*Himantopus mexicanus*), willet (*Catoptrophorus semipalmatus*), marbled godwit (*Limosa fedoa*), whimbrel (*Numenius phaeopus*), red-necked phalarope (*Phalaropus lobatus*), common snipe (*Gallinago gallinago*), greater yellow-legs (*Tringa melanoleuca*), long-billed dowitcher (*Limnodromus scolopaceus*), common egret (*Ardea alba*), and great blue heron (*Ardea herodias*). Double-crested cormorants (*Phalacrocorax auritus*), black-crowned night-heron (*Nycticorax nycticorax*), bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*) were observed foraging for fish in the intake/discharge channels on the Humboldt Bay Power Plant site. Foraging raptors observed during surveys include osprey, bald eagle, Northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), and red-shouldered hawk (*Buteo lineatus*). Representative waterfowl observed included mallard (*Anas platyrhynchos*) with young, gadwall (*Anas strepera*), American widgeon (*Anas americana*), ring-necked duck (*Aythya collaris*), and Northern shoveler (*Anas clypeata*). Table 8.2-2 presents a complete list of wildlife observed on the site during field surveys.

Migratory birds are protected under the federal Migratory Bird Treaty Act. Nesting birds and their nest sites are protected under Fish and Game Code Section 3503. Federal-listed and state-listed birds, as well as special-status birds known to nest in the vicinity of the HBRP site are addressed in the following paragraphs.

#### *Western Snowy Plover (Charadrius alexandrinus nivosus) (FT, CSC)*

The western snowy plover nests in colonies on sandy beaches along the west coast of the United States and southern Baja California. Nest sites are typically scrapes in flat, open sandy areas devoid of vegetation or driftwood. Snowy plovers often return to the same

location year after year to nest and raise young. Plovers feed on invertebrates in mud flats, marshes, and kelp wracks. Western snowy plover breeding season is from March to mid-September. Critical habitat units for the Western snowy plover are located within 1 mile west of the site along the South Spit (Subunit CA-4A) (Figure 8.2-1). The South Spit is owned by the State of California and managed by the BLM for wildlife protection and viewing, hunting, clamming, and fishing (BLM, 2002). Humboldt County parks also enacted an ordinance to reduce impacts to breeding plovers (USFWS, 2006) and installed symbolic fencing at Clam Beach during the breeding season (per Section 271-3 of the County Code). The sandy dunes of the Eel River Wildlife Area and gravel bars along the Eel River (approximately 5 to 8 miles south of the PG&E property) support breeding plovers (Colwell et al., 2002). Western snowy plovers are assumed to be using the sand dunes on the south spit during the breeding season annually. No Western snowy plovers were observed during field surveys that included the eastern shoreline of the Humboldt Bay near King Salmon.

***California Brown Pelican (Pelecanus occidentalis) (FE, CE, FP)***

The California brown pelican nesting sites are restricted to undisturbed islands in the Gulf of California to the Santa Barbara Islands in Southern California, well south of the Humboldt Bay region. Nesting is colonial on islands without mammal predators or human disturbance. Non-breeding pelicans range along the Pacific Coast from the Gulf of California to Washington and southern British Columbia. Adults with young occur in the Humboldt Bay after the breeding season. They feed on surface fish in open waters of the Bay (primarily northern anchovy, with some Pacific mackerel and Pacific sardine). The California brown pelican is a common visitor of Humboldt Bay, foraging for fish in the open waters. Brown pelicans were observed from April through August 2006, foraging in Humboldt Bay at the Humboldt Bay Power Plant water discharge location and roosting along the rocky shoreline. The HBRP does not support forage habitat and they do not nest on site.

***Bald Eagle (Haliaeetus leucocephalus) (FD, CE)***

Bald eagles typically breed in Northern California and north, but migrate during the winter. Nesting habitat includes large trees near a permanent water source, such as the North Coast Forest habitat east of Highway 101. Breeding occurs February through July. They hunt for fish, waterfowl, and mammals, often competing with osprey for prey. The closest bald eagle nest to the site was recorded in 2005, approximately 4.5 miles southeast of the PG&E property along Willow Brook Drainage (CDFG, 2006). The nest tree is a 250 to 300-foot tall redwood within sight of the Humboldt Bay. Although bald eagles were observed foraging on fish in the intake channel, no eagles nest on site.

***Osprey (Pandion haliaetus) (Migratory Bird Treaty Act [MBTA])***

The osprey is a medium- to large-sized raptor with worldwide distribution. It is primarily a fish eating specialist, but will also take small mammals, birds, reptiles, amphibians and invertebrates. Ospreys breed from March to September and routinely nest on platforms of sticks at the top of large snags, on cliffs, or on human made structures. Ospreys use rivers, bays, lakes, reservoirs, estuaries, and surf zones to catch fish near the surface of the water. Known nesting locations are southeast of Buhne Point well away from Humboldt Bay but they are known to forage in the water of the Bay (Figure 8.2-1). Ospreys were observed flying over the PG&E site and foraging in the Humboldt Bay during spring 2006 surveys. No osprey or other raptor nests were observed on the site or within 1 mile of the site.

*Great-Blue Heron (Ardea herodias), Great (Common) Egret (Ardea alba), Double-Crested Cormorant (Phalacrocorax auritus) (MBTA, CSC)*

Great-blue herons and common egrets were routinely observed foraging in salt marshes at edge of Buhne Slough and along Humboldt Bay shoreline. Great-blue herons are known to nest in a cypress grove on Indian Island 5 miles north of site. One of three known common egret nesting colonies occurs on the ruins of the old wharf in Arcata Bay. Double-crested cormorants were routinely observed flying over PG&E property (which extends out into the Bay) during field surveys, most likely moving between forage habitats in the open water of the Bay. There are no known or observed nesting colonies for any of these species within 1 mile of the site. No direct impacts to nesting or forage habitats will occur from HBRP. Construction activities are not expected to discourage foraging in adjacent habitats.

#### 8.2.1.4.6 Marine Mammals

Harbor seals (*Phoca vitulina geronimensis* or *richardsi*) and California sea lions (*Zalophus californicus*) are common in the Humboldt Bay. All marine mammals are federally protected by the Marine Mammal Protection Act. No marine mammals use the HBRP or Humboldt Bay Power Plant sites for resting or feeding. Construction activities would not occur in the Humboldt Bay and no marine mammals are expected to be adversely affected from HBRP. Protection measures and BMPs, such as restrictive fencing and sediment controls developed specifically for the project would avoid impacts to marine mammals that may travel through the Bay.

#### 8.2.1.5 Biological Resources of Commercial or Recreational Value

The Humboldt Bay attracts thousands of migratory ducks, geese, swans, and shorebirds in the winter months and is one of the prime birding areas of the state. Humboldt Bay is one of the most important stopover areas along the Pacific Flyway for more than 250 bird species, including 80 different kinds of water birds and four endangered species that regularly visit the Bay. The Bay and surrounding areas are prized recreational bird watching areas and each year the city of Arcata sponsors a birding festival called Godwit Days where there are numerous birding and wildlife observation tours throughout the area all through the year (Humboldt Baykeeper, 2006). Wildlife observation and waterfowl hunting are the principal public uses of the Humboldt Bay NWR Complex (Humboldt Bay NWR, 2006) located approximately 5 miles south of Buhne Point. The total number of visitors averages 15,000 to 17,000 per year.

Humboldt Bay is one of California's largest and most biologically important coastal estuaries. Its wetlands, intertidal mudflats and marshes provide essential habitat for a great diversity of life, with 141 invertebrate species, 115 fish species and 251 bird species using its waters and shores. Sport and commercial fishing in and around the Bay is a significant part of the local economy and cultural heritage. The area boasts a productive commercial salmon and albacore fishing fleet as well as a large Dungeness crab harvests. Humboldt Bay also produces 90 percent of all of the oysters harvested in California (Humboldt Baykeeper, 2006).

#### 8.2.1.6 Humboldt Bay Power Plant Biological Resources

The 143-acre PG&E Humboldt Bay Power Plant property (the figures in this section show a 70-acre portion of this property) is entirely within the Coastal Zone and is zoned Coastal-Dependent Industrial. The PG&E property is located in the southwest quarter of Section 8, and partially within the northwest quarter of Section 17, both in Township 4 North, Range 1 West. The property is bordered on the north by the Humboldt Bay shoreline, on the

south and east by the decommissioned Northwestern Railroad tracks, Highway 101, and agricultural grazing lands, and on the west by the community of King Salmon (Figure 8.2-1).

Section 3.60 of the Humboldt Bay Area Plan of the Humboldt County Local Coastal Plan presents Area Plan Maps that define the Humboldt Bay Power Plant site as Industrial/Coastal Dependent (MC) and the southern portion as Resource Dependent (MR)/Commercial Recreation (CR). The HBRP site is within all three categories. The HBRP site is also designated as Farmed Wetland (or Transitional Agricultural Land), which is a wetland that has been farmed but where wetland vegetation typical of non-farmed wetlands predominate if farming is discontinued. In Humboldt County, these wetlands are typically diked former tidelands.

Currently, the PG&E property supports the existing Humboldt Bay Power Plant, which includes two operating fossil fuel power plants (referred to as Units 1 and 2) and an inoperable nuclear power plant (referred to as Unit 3) that was closed in 1973. Units 1 and 2 are currently in operation using once-through cooling and will be decommissioned after the HBRP is constructed and operational. Units 1, 2, and 3 currently pump 52,000 gallons per minute (gpm) of water from the Bay, which is circulated through the cooling systems once, and discharged back to the Bay. When Units 1 and 2 are decommissioned, the once-through cooling water needs will be reduced by 39,100 gpm (a 75 percent reduction). Although the HBRP will facilitate stopping the once-through cooling water cycling at Units 1 and 2, a detailed analysis for decommissioning Units 1 and 2 is not part of this current AFC process. The nuclear power plant Unit 3 was also constructed to use once-through cooling during its operations and will continue to circulate a minimum amount of water (12,900 gpm) for dilution purposes. The new HBRP will not use any water from the Bay and will not discharge cooling water to the Bay. The cooling water intake channel was constructed as an extension of King Salmon Slough (also known as Fisherman's Channel on historic maps) that still flows through King Salmon, providing boat access to the marina and boat slips. Currently, permitted discharge of surface stormwater runoff from the Humboldt Bay Power Plant occurs via a storm drain system which flows through the circulating water discharge channel into the Humboldt Bay.

Vegetation communities on the 70-acre portion of the PG&E property primarily include developed paved or graveled areas (primarily where the three existing power plants are located), maintained grassland, riparian, coyote brush scrub, coastal salt marsh, freshwater emergent marsh, and seasonal wetlands. Wildlife observed on the PG&E property are presented on Table 8.2-2, as well as the location and habitat each were observed in. The remaining portion of the 143-acre PG&E property includes open waters of the Bay, tidal mudflats, and salt marsh south of King Salmon Avenue. The area supporting the Humboldt Bay Power Plant facilities is relatively flat with wetland habitats surrounding the developed areas. The seasonal wetlands and drainages on the property most likely fall under the jurisdiction of the USACE and CCC. The site is within the Coastal Zone and also supports additional wetlands that fall under the jurisdiction of the CCC.

#### 8.2.1.6.1 Terrestrial Communities

##### *Grassland Communities*

Within the HBRP project area, landscaped grasslands dominated by sweet vernal grass are found south of the intake canal and east of the discharge canal (shown as Lds, Landscape type on Figure 8.2-2). Both of these areas are mowed during the summer months, which promotes the growth of several low growing perennials such as beach strawberry (*Fragaria chiloensis*), bird's foot trefoil (*Lotus corniculatus*), common plantain (*Plantago lanceolata*), and

rough cat's ear (*Hypochaeris radicata*). During summer and fall, these herbs are a conspicuous component of the area's managed grasslands. Grasslands within the salt marsh communities on PG&E property may be attributable to the Vernal Grass-Tufted Hairgrass [*Anthoxanthum odoratum-Deschampsia caespitosa*] association tracked by CNDDDB (2003).

Other grassland polygons mapped within the HBRP project survey area are lawns that are irrigated and managed for landscape uses and grasslands of weedy annuals found in ruderal parking areas adjacent to King Salmon Avenue (shown as G, Grassland type on Figures 8.2-2). Annual small-flowered lotus (*Lotus micranthus*), rat-tail fescue (*Vulpia myuros*), silver hairgrass (*Aira caryophyllea*), white sweet clover (*Melilotus alba*), yellow parentucellia (*Parentucellia viscosa*), and bur clover (*Medicago polymorpha*) are characteristic of these heavily compacted soils.

Approximately 27 acres of grassland/landscape habitat is found on the PG&E property, and approximately 2 acres of this are within the HBRP project area.

### ***Coastal Dune Habitat***

A small patch of sand dune is found inside the shoreline revetment at the northern end of the PG&E property. This area is limited in extent but distinct from the surrounding grasslands. It is habitat for several characteristic dune endemics including seashore bluegrass (*Poa douglasii*), yellow sand verbena (*Abronia latifolia*), and beach bursage (*Ambrosia chamissonis*), as well as invasive dune species including sea fig (*Carpobrotus chilensis*).

There is no Coastal Dune habitat within the HBRP project impact areas.

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

Within the PG&E property, approximately 0.02 acres of coyote brush scrub is found along the northern half of Buhne Point on the steep cliffs facing Humboldt Bay. The HBRP project area has no coyote brush scrub vegetation and none will be affected by construction.

### ***North Coast Riparian Forest***

On the PG&E property, a stand of North Coast riparian vegetation is established on the steep south-facing flank of Buhne Point. This stand is contiguous with a depression and drainage swale that connects to salt marshes along King Salmon Avenue (Figures 8.2-2 and 8.2-3). Douglas fir and Sitka spruce are also components of this hillside red alder riparian community. This riparian stand may be attributable to the Red Alder/Salmonberry-Blue Elderberry [*Alnus rubra/Rubus spectabilis-Sambucus racemosa*] association. This community is considered rare and worthy of consideration by CNDDDB (2003).

The dense riparian area, and numerous landscaped features throughout the site that have similar species and structure, support common wildlife species such as; Anna's hummingbird (*Calypte anna*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), tree swallow, barn swallow, scrub jay (*Aphelocoma coerulescens*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), American robin (*Turdus migratorius*), cedar waxwing (*Bombycilla cedrorum*), European starling (*Sturnus vulgaris*), savannah sparrow (*Passerculus sandwichensis*), fox sparrow (*Passerella iliaca*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), house sparrow (*Passer domesticus*), brown-headed cowbird (*Molothrus ater*), Northern oriole (*Icterus galbula*), house finch (*Carpodacus mexicanus*), and American goldfinch (*Carduelis tristis*). Like the marsh areas it can be assumed that the dense riparian

and landscaped areas can host many opportunities for nesting bird species as well as forage or denning habitats for mule deer, raccoons, voles, and opossums.

North Coast riparian vegetation on the PG&E property is approximately 3.6 acres in extent. No North Coast riparian habitat is present within the HBRP project impact area.

### *Developed Areas*

On the PG&E property, approximately 19 acres consists of industrial land uses including existing Humboldt Bay Power Plant facilities, roads, parking, and storage areas that are over asphalt or concrete. Most of the HBRP facilities will be constructed within this developed area on the PG&E property to avoid and/or minimize impacts to adjacent wetland habitats. These developed habitats represent 3.3 acres of the HBRP project area.

#### 8.2.1.6.2 Wetlands and Water Resources

Field investigations identified six habitat types that meet the criteria for federal jurisdiction according to Section 404 of the Clean Water Act. These include open waters of the Bay and tide channels, mudflats, salt marsh, freshwater marsh, and man-made seasonal wetlands and drainages (Figures 8.2-1 and 8.2-3). In addition, areas identified as wetlands under the jurisdiction of the CCC were delineated on the PG&E property (Figure 8.2-3). Of these waters and wetland types, impacts from construction of HBRP would only occur in man-made seasonal wetlands and drainages, a small portion of freshwater marsh, and CCC wetland habitat. Table 8.2-6 presents a summary of the potential jurisdictional wetlands within the HBRP construction areas. The draft wetland delineations for the HBRP project areas will be submitted to the USACE and CCC for verification. The final wetland acres and mitigation requirements will be determined during the verification process with both agencies, which could result in changes in wetland acreages presented in this analysis. The verification process is expected to occur in September/October 2006.

TABLE 8.2-6  
Summary Of Waters Of The U.S. and Wetlands Within the 70-acre Portion of PG&E Property

Wetland Type	Number of Features	Total Size (Acres)
CCC Wetland Vegetation Areas	11	5.69
Seasonal Wetland	14	0.31
Drainage Ditch	8	0.31
Emergent Marsh (Fresh, Salt, Riparian)	8	20.03
Open Water Channel	2	4.27
Total	43	30.61

### *Open Water, Dredged Tidal Channel*

The intake and discharge channels of Humboldt Bay Power Plant and waters of Humboldt Bay are found on PG&E property consisting of approximately 4.3 acres of open water and dredge channel habitat. The unvegetated channel is lined with rip-rap along the banks and is routinely dredged to maintain boating access for the community of King Salmon and is considered navigable waters by USACE. Double-crested cormorants (*Phalacrocorax auritus*),

California brown pelicans (*Pelecanus occidentalis*), black-crowned night herons (*Nycticorax nycticorax*), mallards (*Anas platyrhynchos*) and belted kingfishers (*Ceryle alcyon*) were observed foraging, swimming, and loafing within the channels. No open water habitat is found in the HBRP project area and none will be affected during construction or operation.

### ***Mudflats and Eelgrass Beds***

There are no eelgrass or mudflats within the 70-acre portion of PG&E property or HBRP project area; however, an eelgrass supporting mudflat is found on the remaining portion of PG&E property between the King Salmon channel and diked marsh to the east. The mudflat is abruptly replaced by salt marsh vegetation at the upper reaches. Many shorebirds and waterfowl were observed foraging in the mudflats (Table 8.2-2).

### ***Northern Coastal Salt Marsh***

Northern coastal salt marsh is found within the lower floodplain of Buhne Slough. Buhne Slough was diverted from its natural outlet in Humboldt Bay when the King Salmon boat entrance channel was constructed. A tide gate in the channel's levee drains water from Buhne Slough through a culvert under King Salmon Avenue to the boat channel. The salt marshes at the mouth of Buhne Slough may have been drained prior to construction of the King Salmon resort community in the 1940s and 1950s (Graves, 1995).

The vegetation in the drained marsh most likely consisted of tufted hairgrass, and perennial pasture grasses such as velvet grass (*Holcus lanatus*), and tall fescue (*Festuca arundinacea*). Grasslands would have been interspersed with low areas supporting seasonal ponding dominated by species such as brass buttons (*Cotula coronopifolia*) and spikerush (*Eleocharis macrostachya*). Coyote brush scrub had formed on higher interfluves. This vegetation was inundated when a levee broke during the winter of 2003-2004 and reinstated tidal action to the area (Willis, 2006). During July 2006, a temporary patch to the levee system was placed on a property east of PG&E and has once again isolated the majority of Buhne Slough marshes from the tide.

During the two years since reinstatement of tidal flooding, the diked salt marsh of Buhne Slough on PG&E property has been recolonized by a sparse population of pickleweed (*Salicornia virginica*) and spearscale (*Atriplex triangularis*). Other salt marsh species are present in lesser abundance. Patches of coyote brush scrub that was killed by inundation remain on the site. The recolonization of the area by marsh species will stop if levee repairs become permanent. Though the salt marshes north of King Salmon Avenue are not directly inundated by tidal action, seepage of groundwater during high tide is likely to affect local hydrology. This was especially noted in marshes west of the intake channel.

Tidally inundated salt marsh vegetation is present on PG&E property south of King Salmon Avenue, on the north bank of the King Salmon channel, and in the area between the channel south of King Salmon Avenue and the diked marshes. This area also has mudbank habitat. These two small patches of salt marsh differ from each other in species composition reflecting individual examples of diverse high marsh and pickleweed-cordgrass marsh.



A diverse number of wildlife species were observed inhabiting the salt and freshwater marsh habitats surrounding the Humboldt Bay Power Plant site, including: great blue heron (*Ardea herodias*), great egret (*Casmerodius albus*), snowy egret (*Egretta thula*), cattle egret (*Bubulcus ibis*), black-crowned night heron, Canada goose (*Branta Canadensis*), mallard, gadwall (*Anas strepera*), American widgeon (*Anas americana*), killdeer (*Charadrius vociferus*), black oystercatcher (*Haematopus bachmani*), willet (*Catoptrophorus semipalmatus*), whimbrel (*Numenius phaeopus*), western sandpiper (*Calidris mauri*), common snipe (*Gallinago gallinago*), black phoebe (*Sayornis nigricans*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), Say's phoebe (*Sayornis saya*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), bushtit (*Psaltiriparus minimus*), and marsh wren (*Cistothorus palustris*). In addition, raptors such as northern harrier (*Circus cyaneus*), red-tail hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and osprey (*Pandion haleaetus*) were observed foraging near the marshes. Mammals also forage in these areas, including raccoon (*Procyon lotor*), river otter (*Lontra canadensis*), Virginia opossum (*Didelphis virginiana*), and mule deer (*Odocoileus hemionus*). Pacific tree frog (*Hyla regilla*), Northern red-legged frogs (*Rana aurora aurora*), and northern alligator lizard (*Gerrhonotus caeruleus*) were observed in and along the fringes of the marshes. Several of the species mentioned above utilize these marsh habitats for nesting and raising of young. Adult mallards with young were observed in the fresh and salt marsh habitats. In addition, numerous marsh wrens were observed displaying territorial aggression which is indicative of nesting behavior.

A total of approximately 16 acres of Northern Salt Marsh including diked wetlands is found on the 70-acre portion of PG&E property. No Northern Salt Marsh habitat will be affected in the HBRP project area.

#### ***Fresh or Brackish Water Marsh***

Other wetlands in the upper Buhne Slough watershed are fed by seasonal or perennial rainfall runoff and/or the presence of high ground water tables. Cattail marshes (*Typha latifolia*) ringed with black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) and arroyo willow (*Salix lasiolepis*) are found at the mouths of small streams entering the basin east of the highway. Other freshwater wetland species common to the area include Pacific oenanthem (*Oenanthe sarmentosa*), straight-beaked buttercup (*Ranunculus orthorhynchus*), and giant horsetail (*Equisetum telmateia* ssp. *braunii*).

On the PG&E property, two fresh or brackish water marshes are found in the northeastern portion of the site (Figure 8.2-3). These two marsh habitats differ in dominant plant species, but both have high cover in alkali bulrush (*Scirpus maritimus*). The upper marsh (FM-1) is fringed with cattail, brass buttons (*Cotula coronopifolia*), pickleweed and saltgrass. The open water supports a dense population of ditch-grass (*Ruppia maritima*). Ditch-grass Wetland [*Ruppia* spp.] is tracked by CNDDDB (2003). Wildlife species observed using the freshwater marshes are described in Table 8.2-2 and the previous section on salt marsh habitats.

The lower elevation marsh (SM-6) in the far northeastern corner of the PG&E property is transitional to salt marsh and has a dense stand of pickleweed and saltgrass bordered by Himalayan blackberry bramble (*Rubus discolor*) and upland grassland dominated by sweet vernal grass.

A total of approximately 3.9 acres of fresh and brackish marsh are present on the 70-acre portion of PG&E property. A 0.054-acre portion of the freshwater marsh (FM-1) will be

permanently lost under the HBRP footprint where the emergency fire water tanks and boundary fence will be located. No other fresh or brackish marsh habitat is found in the HBRP project impact areas.

### *Seasonal Wetlands and Drainages*

Of the six wetland types found on the PG&E property, the primary impacts to wetlands include seasonal wetlands and open drainages that flow from the existing Humboldt Bay Power Plant site and along roadsides, occur in the HBRP impact areas.

In the Buhne Point area, many seasonal wetlands are found in pastureland east of the highway. Seasonal wetlands mapped on the PG&E property were first identified by a dominance of hydrophytic vegetation and then examined for evidence of ponding or saturation of soils. Within the HBRP project area, seasonal wetlands and drainages were mapped in detail and are shown on Figure 8.2-3. Table 8.2-6 presents the total acreage for each of these habitats on the 70-acre portion of PG&E property. There are 14 seasonally ponded wetlands (0.31 acre) within the HBRP area that are potentially subject to regulation under the USACE and/or the CCC.

Drainage ditches cut into fill were found in the northern and eastern flanks of the property as well as along King Salmon Avenue. These are sharply incised up to 4 feet in depth (with most less than 1-foot deep) with square cut banks and clear boundaries to surrounding uplands. The ditches are vegetated with wetland plant species such as emergent pacific oenanthe (*Oenanthe sarmentosa*) or fringed in Himalayan blackberry (*Rubus discolor*) and coyote brush (*Baccharis pilularis*). These "waters" are man-made and may be cleared of vegetation and sediment to maintain drainage by PG&E or Humboldt County road crews. A total of 8 drainages encompassing 0.31 acre were delineated on the 70-acre portion of PG&E property, with 7 of the drainages encompassing 0.29 acre within the proposed HBRP project area. The drainages are potentially subject to regulation under the USACE and/or the CCC.

The drainage ditches within the project area varied from densely vegetated to grass lined features that provide marginal habitat for wildlife. Within the densely vegetated drainage ditches northern red-legged frogs (*Rana aurora aurora*) and Pacific tree frogs were observed. Pacific tree frogs were also observed throughout the variety of habitats on the PG&E property. The deeper drainages may provide foraging, hiding, and nesting opportunities for a variety of bird species.

### *California Coastal Commission Wetland Jurisdiction*

The CCC retains jurisdiction over wetland habitats in the Coastal Zone, which include wetlands under the jurisdiction of the USACE, as well as areas that have one or more wetland parameters typically not regulated by USACE (CCC, 1994). CCC wetlands with boundaries extending beyond the USACE 3-parameter method were defined only on the presence of positive criteria for hydrophytic vegetation. Dominant plants in these CCC wetlands were ryegrass (*Lolium perenne*), common aster (*Aster chilensis*), and bird's foot trefoil (*Lotus corniculatus*). All of these are facultative (FAC) indicator species that are relatively tolerant of annual mowing. Both ryegrass and bird's foot trefoil are commonly planted pasture species with a quick regrowth response. Often the boundaries between CCC wetlands and uplands were diffuse, marked only by slight changes in elevation or no change in elevation, reflecting different subsoil conditions, or management practices. Uplands generally had cat's tongue (*Hypochaeris radicata*), mowed sweet vernal grass

(*Anthoxanthum odoratum*), or big quaking grass (*Briza maxima*) as a dominant or co-dominant species. Figure 8.2-3 shows the boundaries of the delineated CCC wetland areas. A total of 11 CCC wetland areas encompassing 5.69 acres were delineated on the 70-acre portion of PG&E property, with 9 of the CCC wetlands encompassing 4.45 acres within the proposed HBRP project area.

The majority of CCC wetlands were found along the southern and eastern portions of the historically disturbed areas supporting the Humboldt Bay Power Plant facilities. In particular, the proposed HBRP construction laydown area and eastern portion of the temporary access road are in areas that contain fill material put in place when Humboldt Bay Power Plant was constructed. These areas are primarily grassland that is routinely mowed and maintained for security, aesthetics, and fire control. The area also supports several landscape berms constructed within the grassland area that are planted with ornamental trees and shrubs.

#### 8.2.1.7 HBRP Site and Temporary Construction Use Areas

The proposed HBRP site will be located on the PG&E property adjacent to the existing Humboldt Bay Power Plant facilities (Figure 8.2-2). The permanent footprint of HBRP will require 5.4 acres of developed areas and grassland south of the existing facilities. The temporary laydown area (2.44 acres), two remote parking areas (0.96 acre and 0.34 acre), and temporary access road (3.47 acres), totaling 7.21 acres, are within disturbed grassland or paved/graveled areas. A total of 12.6 acres of land will be used during construction of HBRP.

The entire 5.4-acre HBRP project site is disturbed, having been altered historically by the existing power plant facilities or disturbance from its construction (including fill to level the site) in the 1950s. Nearly half of the proposed construction area is under asphalt or concrete and existing facilities. The remainder of the project area along the southern border is grassland with ruderal plant species, or landscaping, and is managed with irrigation and mowing for security, screening, and fire protection. Sweet vernal grass (*Anthoxanthum odoratum*) provides much of the dominant cover throughout the undeveloped grassland area. Italian ryegrass (*Lolium perenne*), bird's foot trefoil (*Lotus corniculatus*), and Bristly ox tongue (*Picris echioides*), along with low growing annuals such as bur clover (*Medicago polymorpha*), annual bluegrass (*Poa annua*), cut-leaf geranium (*Geranium dissectum*) are also present. Lawn grasses dotted with English daisy (*Bellis perennis*) are found in landscaped areas adjacent to buildings inside the fenced grounds.

The grassland area receives rain runoff from the adjacent Humboldt Bay Power Plant site through shallow, excavated drainages that flow to Buhne Slough. These drainages show wetland characteristics and may be under both jurisdictions of USACE and CCC. The grassland also supports wetland vegetation dominated by facultative wetland plant species (plants that are equally likely to grow in wetlands or uplands) that meet the criteria for CCC wetland areas. Figure 8.2-3 presents the draft wetland delineation of both USACE and CCC wetlands on the PG&E property (the final wetland delineation acreage will be determined after the USACE/CCC wetland verification process). The locations of HBRP project features were chosen to avoid significant direct impacts to Buhne Slough or associated fresh and salt water marsh habitats surrounding the developed areas used by Humboldt Bay Power Plant. None of the HBRP features are proposed to encroach on salt marsh or freshwater marsh habitats.

The HBRP linear features, including the electric transmission connection (a 150-foot-long 115-kilovolt (kV) connector and a 100-foot-long 60-kV connector), and a gas interconnection will be located within the proposed HBRP footprint. These features would not affect additional habitats outside the HBRP footprint described above. The water supply pipeline would be constructed in the temporary access road (see description below) to connect the site with the Humboldt Community Services District (HCSD).

The HBRP will require a new temporary access road to bring workers and equipment to the site during construction. The existing access road to Humboldt Bay Power Plant will be unavailable for use by HBRP construction workers and equipment, for security purposes and the simultaneously scheduled activities at Unit 3 will require a secure, uninterrupted roadway. The new temporary HBRP access road will extend from King Salmon Avenue, following the southern bank of the intake channel to the HBRP site (Figure 8.2-2). Most of the new access road will be in grassland habitat (along the intake channel) and will extend through the grassland and CCC wetland vegetation areas immediately adjacent to the southern boundary of the HBRP site. East of the fenced grounds between the power plant entrance road along the intake canal and Buhne Slough are ornamental plantings of gum trees (*Eucalyptus* sp.), Monterey cypress (*Cupressus macrocarpa*) and Monterey pine (*Pinus radiata*), and irrigated hedgerows of Rhododendron underlain with sweet vernal grass. A portion of the temporary access road will be restored to CCC wetlands after construction is complete. The stormwater will be collected from the HBRP site and the outfall will be located in this restored area, which should augment surface run-off hydrology to the restored wetland area. Stormwater that is required to go through the oil water separator due to oily sheen will be diverted to the HCSD and not to the wetland areas. No detention pond is proposed for HBRP. Sections 7.0 (Water Supply) and 8.15 (Water Resources) describe the stormwater system in more detail.

The temporary construction laydown area is located north of the proposed HBRP site in grassland/CCC wetland habitat (Figure 8.2-3). This area also contains drainage and three seasonal wetlands. Two lined, boiler washdown treatment ponds are located in the southern portion of the proposed laydown area that were used historically by Humboldt Bay Power Plant. The ponds will be removed and this area will be used for construction laydown. Once construction of HBRP is complete, PG&E may need to use the entire HBRP construction laydown area for laydown and staging for the demolition of Units 1, 2, and 3. The demolition activities may require use of the area for several years. The temporary laydown area may be restored to CCC wetlands after the demolition activities are complete. Mitigation for the temporary loss of wetland habitats in the HBRP laydown area will include wetland restoration and enhancement on the PG&E property (see Mitigation and Monitoring Section).

Two temporary remote parking areas are required for construction personnel and equipment. A 0.34-acre linear remote parking area along the south side of King Salmon Avenue is compacted gravel and two seasonal wetlands occur immediately adjacent (Figure 8.2-3). These wetlands will be avoided and fenced during construction (Figures 8.2-2 and 8.2-3). This parking area will be used periodically to park large trucks and equipment off King Salmon Avenue.

A second remote parking area approximately 0.96-acre in size is located on the north side of King Salmon Avenue at the west base of Buhne Point near the community of King Salmon

(Figure 8.2-3). This area contains broken pavement and will be used for construction worker parking and possible staging of equipment. The lot is unmanaged and overgrown with weedy annuals such as rat-tail fescue (*Vulpia myuros*), big quaking grass (*Briza maxima*), silver hair grass (*Aira caryophyllea*), and perennial orchard grass (*Dactylis glomerata*). Pampas grass (*Cortaderia selloana*), false-garlic (*Nothoscordum inodorum*) ornamental iris, fennel (*Foeniculum vulgare*), and Himalayan blackberry (*Rubus discolor*) are among the escaped or naturalized species found in this area. A row of Monterey cypress (*Cupressus macrocarpa*) appears in historical photos of the area as plantings along the abandoned Buhne Drive. A roadside drainage located between King Salmon Avenue and the parking area will be avoided.

Construction workers would be required to walk from the offsite temporary construction parking lot to the HBRP site during peak construction activities. A narrow graveled path currently exists along the perimeter fence of the Humboldt Bay Power Plant that is used by the security guards. An extension of this path would come off the parking lot and follow the security fence across the intake channel to the HBRP site (Figure 8.2-3). Portable foot bridges would be placed across the intake channel and two drainages that are part of the wetlands in the western portion of the property. The foot bridges would not require ground disturbance and would span and avoid the banks of the intake channel and drainages. No impacts to wetlands or intake channel would occur from the foot path.

## 8.2.2 Environmental Consequences

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of project construction, operation, and maintenance of the HBRP Project. Construction of HBRP would begin in spring 2008 and extend through summer 2009. This section describes the potential effects of construction activities on the habitats, wetlands, and special-status species at the proposed 5.4-acre HBRP site, as well as along the 7.2-acres established for the temporary access road, construction laydown, and parking areas.

### 8.2.2.1 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 HBRP:

- 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 designation
- 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 natural wetlands, marshes, riparian woodlands, and other wildlife habitat
- Removal of trees designated as heritage or significant under County or local ordinances.

## 8.2.2.2 Potential Effects of HBRP Construction

### 8.2.2.2.1 Loss and Disturbance of Wildlife Habitat

Construction of HBRP will result in the permanent loss and temporary disturbances to habitats within the PG&E property. The functional use of the HBRP site as wildlife habitat is moderate, although adjacent areas provide suitable habitats for a wide variety of plant and animal species typical to the Humboldt Bay area. The once-tidal salt marshes, including Buhne Slough, provide forage and nesting opportunities for waterfowl and shorebirds. Landscape trees provide nesting opportunities for a variety of passerines such as red-winged blackbird, mourning dove, hummingbird, house finch, American goldfinch, and Northern oriole. Landscaped areas also provide cover for wildlife such as raccoon, California ground squirrel, black-tailed hare, and fence lizards.

Table 8.2-7 presents a list of the habitats that would be affected along with the acreage of temporary and permanent impacts.

TABLE 8.2-7  
Habitats Affected by Temporary and Permanent Construction Activities

Project Feature	Habitat Type	Acreage of Affected Habitat (rounded)	
		Permanent	Temporary
HBRP Footprint including the gas and transmission connections	Grassland with landscaping and wetlands	2.1	0.0
	Developed (part of Humboldt Bay Power Plant area)	3.3	0.0
	Seasonal Wetlands	0.07	0.0
	Drainages	0.03	0.0
	Freshwater Marsh	0.05	0.0
	Coastal Commission Wetlands (within grassland)	0.61	0.0
Temporary Construction Laydown	Grassland with landscaping	0.0	1.8
	Developed	0.0	0.6
	Seasonal Wetlands	0.0	0.01
	Coastal Commission Wetlands	0.0	1.37
Temporary Access Road and water pipeline	Grassland with landscape	0.0	3.2
	Developed	0.0	0.2
	Seasonal Wetlands	0.0	0.02
	Drainages	0.04	0.0
	Coastal Commission Wetlands	0.35	1.13
Remote Parking Areas	Developed (paved and/or graveled lots)	0.0	1.0

#### 8.2.2.2.2 Effects on Special-Status Species

The Humboldt Bay and surrounding open land areas provide habitat for several special-status plants and animals. Figure 8.2-1 shows the locations of rare species known to occur within in the Humboldt Bay and area surrounding the site. Although special-status species are found in the vicinity of the site, they are primarily restricted to the aquatic and shoreline habitats along the Humboldt Bay. The following paragraphs briefly describe potential HBRP impacts that could occur to special-status species that have suitable habitat, were observed during surveys, or are known to be present on site or in adjacent habitats. Protection measures that were developed to protect these species are included in Section 8.2.4. Additional mitigation or protection measures may be required by CCC, USFWS, CDFG, NMFS, or California Energy Commission (CEC) during informal/formal consultations. Mitigation and protection measures will be detailed in the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) that will be overseen by the CEC staff biologist. A draft outline of the BRMIMP is included in Appendix 8.2D.

##### *Special-Status Plants*

Populations of Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humbolttiensis*) and Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*) are found in close proximity to one of the HBRP parking areas along King Salmon Avenue (Figure 8.2-3). The existing parking lot south of King Salmon Avenue is proposed for use as a truck parking area during construction, no storage of materials or equipment will occur. The period of construction activity adjacent to these plant populations may last up to 2 years. While no work is proposed that will directly impact these populations, the proximity to actively used work areas could lead to losses. These endangering factors include:

- The potential for increased foot traffic through the salt marsh for recreation (fishing or just looking at the waterway). Increased foot traffic could cause direct losses as well as compaction of the soil and increased erosion.
- Increases in human activity in the area can lead to an increase in illegal trash disposal into King Salmon Slough (part of the Humboldt Bay Power Plant intake channel). This can endanger plants as flotsam becomes lodged in the marsh at high tide smothering the plants and their host species.
- Oil or gas runoff from vehicle and equipment parking can impact the water quality in the slough or salt marsh
- Increased vehicular traffic along King Salmon Avenue and entrance roads to the parking area could increase the potential for accidents where vehicles may leave the road and end up in the marsh, impacting the integrity of the habitat or the plants directly.

Although direct impacts to Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humbolttiensis*) or Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*) may be considered significant under the California Environmental Quality Act (CEQA, no direct impacts are expected. Measures to protect this population are described in Section 8.2.4.

##### *Special-Status Wildlife*

Potential impacts to wildlife from construction and operation of HBRP is low. Table 8.2-8 summarizes the potential HBRP project effects on special-status wildlife species.

TABLE 8.2-8  
Potential Effects on Special Status Species Having the Potential to Occur on or Adjacent to the HBRP Site

Common Name Scientific Name	Status	Potential HBRP effects
Tidewater goby <i>Eucyclogobius newberryi</i>	Federal Endangered, California Species of Special Concern	No suitable habitat on project site. No impacts to potential tidewater goby habitat (steams, sloughs, channels, marshes, or bay habitats) are expected from HBRP.
Northern red-legged frog <i>Rana aurora aurora</i>	California Species of Special Concern	No direct impacts to potential breeding habitats on the PG&E property. Potential for loss of individuals during construction activities.
Bald eagle <i>Haliaeetus leucocephalus</i>	Federal delisted, California endangered, Fully-Protected Bird	No direct impacts to nesting or forage habitats. Construction is not expected to discourage foraging in adjacent habitats. Low potential for collisions with transmission connectors.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	Federal Threatened, California Species of Special Concern	No direct impacts to nesting areas on the South Spit or forage habitats adjacent to site along the Humboldt Bay shoreline. Construction activities and noise are not expected to disturb nesting or foraging birds in Humboldt Bay. Low potential for collisions with transmission connectors.
California brown pelican <i>Pelecanus occidentalis californicus</i>	Federal Endangered, California Endangered, Fully-Protected Bird	No direct impacts to nesting or forage habitats. Construction activities and noise are not expected to disturb nesting or foraging birds in Humboldt Bay. Low potential for collisions with HBRP transmission connectors.
Osprey <i>Pandion haliaetus</i>	Migratory Bird, California Species of Special Concern	No direct impacts to nesting or forage habitats. Construction is not expected to discourage foraging in adjacent habitats. Low potential for collisions with transmission connectors.
Double-crested cormorant <i>Phalacrocorax auritus</i>	Migratory Bird, California Species of Special Concern	No direct impacts to nesting or forage habitats. Construction is not expected to discourage foraging in adjacent habitats. Low potential for collisions with transmission connectors.
Great (Common) egret <i>Ardea alba</i>	Migratory Bird	No direct impacts to nesting or forage habitats. Construction is not expected to discourage foraging in adjacent habitats. Low potential for collisions with transmission connectors.
Great blue heron <i>Ardea herodias</i>	Migratory Bird	No direct impacts to nesting and forage habitats. Construction is not expected to discourage foraging in adjacent habitats. Low potential for collisions with transmission connectors.

### Tidewater Goby

Neither construction nor operation of HBRP is expected to adversely affect populations of tidewater gobies or other fish in the Bay. Stormwater discharges from the site would flow to the Bay after meeting the NPDES stormwater discharge requirements that would not adversely affect the beneficial uses of the Bay. Construction BMPs will minimize sedimentation during construction activities. No direct impacts to special-status fish are expected during construction or operation of HBRP.

### Northern Red-Legged Frog

The Northern red-legged frog is found throughout the Humboldt Bay Power Plant and proposed HBRP sites in grassland, marsh, and drainages. No direct impacts to potential

breeding habitats (deeper drainage ditch and emergent marshes) on the PG&E property will occur and silt fencing will be installed between the aquatic habitats and the HBRP disturbance areas. There is a potential for the loss of individual frogs during construction activities. A biological monitor will be on site during construction to conduct pre-disturbance surveys in front of construction equipment. If any frogs are found, the biological monitor will relocate them outside the project disturbance area to the emergent marsh habitat in the northeast corner of the site or to Buhne Slough. As part of the BRMIMP, daily monitoring results will be submitted to the CEC in the monthly compliance reports that include observations of wildlife harmed or killed by construction activities.

#### **Resident and Migratory Birds**

The landscaped areas on site and remote parking provide nesting substrate for small songbirds. Any open bare or gravelly areas also provide nesting substrate for ground nesters such as killdeer. If construction or demolition activities occur during nesting season (typically March through August), take of nests and or young could occur. To avoid and minimize impacts to nesting birds, nesting substrate for songbirds (taller plants) is proposed to be removed outside of the nesting season (non-nesting season typically September through February) as much as possible before construction activities begin. A biological monitor would conduct preconstruction surveys and monitor the site continuously for bird nesting activities beginning late February prior to site clearing and grading. In accessible areas, nest materials would be removed if no eggs have been laid. Tree removal should be conducted prior to the nesting season as nests would be inaccessible to the biological monitor. The project disturbance areas will be routinely inspected for nesting activities throughout construction. Any active nests found in or adjacent to disturbance areas would be flagged and the area immediately around the nest protected from construction equipment. Overall construction activities of HBRP should not be affected by nests onsite, rather the protection and monitoring of the nests would allow construction activities to continue. These nests would be monitored and results included in the monthly compliance reports to the CEC. In addition, construction workers would be trained to identify nests and eggs (in particular nests and eggs of killdeer that are often attracted to graveled work areas).

#### **Western Snowy Plover**

Western snowy plovers are known to nest on the South Spit west of the site (Figure 8.2-1). No direct impacts to nesting plovers will occur from construction of the HBRP as no sand dunes (nesting habitat) occur on site and they do not nest on the site. Nesting surveys will be conducted by the monitoring biologist during construction to determine if casual access by construction workers could adversely affect any nesting birds along the Humboldt Bay shoreline. If nests are found, the workers would be notified and given guidance so that the nests would be avoided. In addition, the existing cyclone fence that surrounds the Humboldt Bay Power Plant site will remain in place during all construction activities.

#### **California Brown Pelican**

The California brown pelican roosts in several areas of the Bay and were observed foraging along the Bay shoreline and may forage in the Humboldt Bay Power Plant intake and discharge channels. They feed exclusively on fish in the Bay and do not forage on site. No direct impacts to brown pelicans are expected from construction of the HBRP. There is a low potential for collisions with transmission connectors as the birds fly over the site between forage areas.

### Bald Eagle

Bald eagles occasionally forage in the open waters of the intake/discharge channels on the Humboldt Bay Power Plant site. No nest sites or forage habitat for the eagles would be affected by project construction. Eagles are not expected to be affected by construction activities. There is a low potential for collisions with transmission connectors as the birds fly over the site between forage areas.

#### 8.2.2.3 Effects on Wetlands and Water Resources

The HBRP layout was designed to avoid impacts to significant natural water and wetland resources, such as emergent marsh, sloughs, and open water. The only wetlands impacted by the project include man-made seasonal wetlands and drainages and areas that meet the criteria for CCC wetland vegetation. All of the wetlands affected are located in areas that were historically filled for development of Humboldt Bay Power Plant in the 1950s. Table 8.2-9 presents a summary of the impacts to wetlands on the HBRP project site and temporary construction use areas. A conceptual wetland mitigation plan to compensate for the unavoidable wetland impacts is presented in Section 8.2.4. The wetland acreages in Table 8.2-9 and conceptual wetland mitigation plan may change after the USACE and CCC wetland verification for the site. A detailed wetland mitigation plan will be prepared and submitted to the CEC, USACE, CCC, CDFG, and USFWS for approval. Permits from the USACE and CCC will be obtained prior to the start of construction.

TABLE 8.2-9

Summary of Waters of the U.S. and Wetlands Impacts Within the 12.6-acre HBRP Construction Areas.

Wetland Type	Number of Features	Total Size (Acres)	HBRP Permanent Impact	HBRP Temporary Impact	Not Affected
CCC Wetland Vegetation Areas	9	5.69	0.96	2.49	2.23
Seasonal Wetland	14	0.31	0.07	0.029	0.21
Freshwater Marsh	1	2.35	0.05	0.0	2.29
Drainage Ditch	7	0.31	0.07	0.00	0.23
<b>Total</b>	<b>31</b>	<b>8.66</b>	<b>1.15</b>	<b>2.52</b>	<b>4.96</b>

There would be no operational cooling water intake from the Bay or discharge from HBRP, as HBRP will use a closed-loop cooling system, and therefore no adverse impact to marine biological resources or water quality is expected to occur from this source. Once HBRP is operational, the once-through cooling used in Units 1 and 2 would be stopped. Benefits to aquatic biological resources in the intake and discharge channels, as well as within Humboldt Bay, are expected to occur when the water cycling is significantly reduced (from 52,000 gpm to 12,900 gpm) as the Bay will be returned to a more natural state.

Water will be applied to the site for dust control during construction. Sediment washed into surface waters would be potentially harmful to water quality of the adjacent Bay. PG&E would be required to have a SWPPP as part of compliance with a construction NPDES permit. The permit specifies BMPs to avoid sediment runoff and erosion that would cause

water quality degradation. Water used during hydrostatic test activities to test pipeline integrity will be discharged to the sanitary sewer system and not to open land or waterways. Water from dewatering activities will be discharged to the sewer system or a Low Threat Discharge Permit will be obtained from the NCRWQCB.

Stormwater from the HBRP site during operations will be diverted to the area south of the HBRP site where wetland restoration is planned in the grassland habitat. Clean stormwater would be released through a new pipeline and outfall along the southeastern boundary of the site. This stormwater would provide supplemental hydrology to the area proposed for restoration of wetland habitat. Stormwater releases would be monitored under an NPDES permit from the NCRWQCB. The stormwater system will not require a detention pond.

#### 8.2.2.2.4 Effects of Construction Noise on Wildlife

The estimated noise levels from HBRP construction activities were determined through monitoring background noise levels at the existing operating Humboldt Bay Power Plant and the nearest residential receptors to determine if adverse effects could occur to wildlife (see Section 8.7 for further details on modeling and analyses). Once background noise levels were obtained, the construction noise levels were modeled and noise contours developed to determine changes in background noise levels at sensitive areas. A literature search was performed to determine potential impacts noise could have on wildlife.

The effects of noise on wildlife vary if the noise is intermittent or continuous. In addition, wildlife generally respond to noise generated from human activity in one of three ways: avoidance, habituation, or attraction. Intermittent or impulse noise can be described as sporadic, high intensity acoustical events lasting less than a few seconds or as long as a few minutes. Intermittent noise is typically loud and sudden, including construction activities (e.g., pile driving, dump trucks). There is considerable evidence to suggest that such impulse noises can result in adverse physical (e.g., ear trauma), physiological and behavioral effects on wildlife. Specific effects of noise on wildlife are highly dependent on the particular characteristics of the noise and whether a visual or physical stimulus is associated with it. Adding a fear-producing activity (e.g., pile driving, vibrations near ground nest sites, or a crane swinging overhead) to the source of noise will result in a more extreme response to the noise (Larkin, 1996).

Noise from construction activities could temporarily discourage wildlife from foraging and nesting immediately adjacent to the project site and remote laydown/parking area. Many bird species rely on vocalization during the breeding season to attract a mate within their territory. Noise levels from certain construction and demolition activities could reduce the reproductive success of nesting birds. Construction equipment typically include pile drivers, cranes, excavators, backhoes, front-end loaders, dump trucks, fork lifts, compactors, bulldozers, and various support vehicles such water trucks (dust control), fueling/service vehicles, and pickup trucks (see Tables 8.7-7 and 8.7-8 for typical noise levels from common construction equipment at various distances).

For construction activities, Table 8.7-8 presents the estimated maximum noise levels at sensitive noise receptor locations, including the Humboldt Bay. Major construction activities would occur during normal daytime shifts, 6 days per week for a period of 18 months. Maximum construction noise levels would be range between 73 and 88 dBA, depending on the activity level, at 50 feet from operating equipment (for example, in the nearest salt

marsh). Maximum noise levels between 73 and 88 dBA would occur at the intake channel. Further west into the salt marshes across King Salmon Avenue, maximum construction noise levels would vary between 55 and 70 dBA. Maximum construction noise levels of on the South Spit approximately 1 mile northwest of HBRP would clearly be less than 50 dBA. The existing elevation of Buhne Point would remain in place during construction activities at HBRP and may act as a barrier to attenuate some noise at the Bay from construction. These maximum construction noise levels will not occur throughout the construction period; most of the time noise levels will be lower.

The special-status Northern red-legged frog occurring on the proposed HBRP site would not be adversely affected by construction noise. The special-status birds in Humboldt Bay would not be adversely affected by construction noise since noise levels would be low in the Bay. The project would therefore not cause a significant adverse impact to wildlife in terms of construction noise.

### 8.2.2.3 Potential Effects of HBRP Operations

Potential impacts to biological resources from HBRP operations and permanent structures were evaluated to include operational noise, the electric transmission connectors, HRSG stacks, water supply and discharge, and facility lighting.

#### 8.2.2.3.1 Effects of Operational Noise on Wildlife

Continuous noise lasts for a prolonged period of time with essentially no interruptions. A series of impulse noises (e.g., helicopter rotors, freeway traffic) may resemble continuous noise in their effects. Operation noises from the proposed HBRP would be considered continuous noise for this analysis. Natural continuous noises are part of every environment and some wildlife species have developed adaptations for noise long before the advent of modern technology, and in some instances natural ambient sounds, along with diverse vegetation structure, can reduce the direct effects of human noises on wildlife. For example, natural waterfalls can have continuous noise levels of 76 decibels A-weighted (dBA), and many species of wildlife occupy areas with waterfalls. In general, both mammals and birds can suffer temporary hearing impairment from 24-hour exposure to noise levels of 80 to 110 decibels (dB) (California Department of Transportation [Caltrans] et al., 1995). Continuous sound pressure levels at 70 dB are considered a safe limit to wildlife (Bowles, 1995). The USFWS indicated an acceptable continuous operation noise level of 60 dBA would not adversely affect nesting Yuma clapper rail in the Salton Sea area (USFWS, 2003).

The Humboldt Bay Power Plant site currently supports an operating power plant and there is ongoing continuous traffic noise on Highway 101 immediately southeast of the site. These noise sources typically operate 24 hours per day, 7 days per week and together contribute noise to the area. Current ambient background noise levels are shown in Tables 8.7-3, 8.7-4, and 8.7-5 in the Noise Section 8.7.

Operation of the HBRP will produce continuous noise, as described in Section 8.7, but would be similar to the existing contributions of the Humboldt Bay Power Plant at adjacent areas that may have wildlife species present. When HBRP is operating and Humboldt Bay Power Plant is closed, there will be a net reduction in noise levels at the site. Operations noise from HBRP is estimated to be less than 80 dBA at the boundary between the HBRP site and adjacent marshes immediately to the south and northeast, and less than 70 dBA at the

proposed HBRP fence boundary with Humboldt Bay. Noise levels would decrease less than 60 dBA in the salt marsh west of King Salmon Avenue and are further reduced to less than 50 dBA at the sand dunes northwest of the site. Continuous low level noise from HBRP operations will not adversely impact wildlife, as wildlife usually becomes accustomed to routine background noise. This is also evidenced by the birds (migratory and residents) and other wildlife currently occupying the salt marshes and shoreline habitats adjacent to the operating Humboldt Bay Power Plant.

#### 8.2.2.3.2 Avian Collision and Electrocutation Hazards

Tall structures that are part of the HBRP that could potentially result in bird collisions will include the exhaust stacks, which will be bundled in two groups of five and will be 75 feet tall, the two 60-kV connector supports, at 75 to 90 feet high, and the 115-kV connector support, that will be 50 feet high.

The Humboldt Bay attracts many migratory and resident birds that forage in habitats adjacent to the site. Migratory birds that are attracted to the Bay as forage and resting habitat use the shoreline, Humboldt Bay NWR, Arcata Bay, and tidal marshes and pastures surrounding the site. Birds flying between habitats could collide with power plant structures such as stacks and transmission lines during low visibility periods of fog and rain. Most bird 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 and tree lines) or when inclement weather forces them down closer to the ground. Bird collisions with the new electrical transmission connection are expected to be rare due to relatively low pole/tower heights (50 to 90 feet). The HBRP stack height is below the height of the existing 120-foot-tall power plant stacks and the existing electric transmission lines.

Bald eagles, osprey, herons, egrets, hawks, and large water birds may fly over the transmission lines and stacks to forage in grassland/pasture areas east of the site and Highway 101. Because the site is adjacent to high bird use habitats, the standard method of avoiding potential adverse impacts would be to install bird flight diverters (BFDs) on the new 115-kV and 60-kV transmission connections to add protection for the birds by allowing better avian visualization of the thinner top wires during fog and rain events and reduce avian collisions with the wires. BFDs are preformed high-impact PVC spirals that thread onto the top wires. Studies have shown BFDs may reduce avian collisions by 57 percent to 89 percent (Avian Power Line Interaction Committee [APLIC], 1994). Because of the relatively low structure height and lack of guy wires, and the proposed plan to use BFDs, the potential for bird collisions with stacks, poles, electric conductor wires, structures, and towers of the HBRP is considered less than significant. In addition, PG&E's transmission line monitoring program show there is no history of bird strikes in the area (Best, 2006).

Electrocutation hazards occur when the wing span of large raptors (eagles, osprey, hawks), herons, egrets, and cranes simultaneously contact two conductors of different phases, or a conductor and a ground wire. The installation of the aboveground transmission connection and supports will be constructed according to "raptor-friendly" guidelines (APLIC, 1996). The 60-kV and 115-kV electrical connections for HBRP will be constructed with at least a 5.5-foot span between conductor wires, where possible. The transmission line is not

expected to increase avian electrocutions in the area. Risk of electrocution is not expected to be significant since the site does not attract large numbers of birds. In addition, the “raptor-friendly” design would reduce potential impacts to less than significant.

#### 8.2.2.3.3 Operational Effects on Wetlands and Water Resources

Water for the new HBRP power plant operations will be supplied through an existing 6-inch diameter pipeline from a PG&E groundwater well located offsite and through a new 4-6-inch potable pipeline that will be constructed in the temporary access road area (Figure 8.2-3). The new pipeline will tie into an existing HCSD pipeline in King Salmon Avenue. The pipeline will be constructed at the same time as the access road. The access road will be restored to preconstruction conditions once construction activities are complete.

Industrial and landscape water will require approximately 2.7 acre-feet per year. Engine cooling will take place using an air radiator system. This is a closed-loop cooling system in which cooling water from the engines circulates through tube bundles with fins that radiate heat and are cooled by air circulation provided by fans, as in a conventional automobile engine. The engine cooling water circuits are filled from isolated maintenance water tanks. During maintenance, the cooling water is pumped back to the tanks to enable water to be reused without discharge. In contrast with evaporative cooling systems that circulate and evaporate water, concentrating chemical constituents until the water must be discharged, the closed loop cooling system entails very little evaporation, and recycles the water repeatedly. For this reason, this system does not require the routine discharge of cooling water. In addition, one direct result of developing the HBRP is that Units 1 and 2 will cease operation. This will result in a 75 percent reduction of the current water intake from the Bay from 52,000 gpm to 12,900 gpm. Once the demolition of Unit 3 is complete, once-through cooling will cease entirely.

Since the new HBRP will not use ocean water for cooling, there will be no mechanism to entrain fish or other biota as a result of the withdrawal of water from Humboldt Bay for operations. In addition, the HBRP will not discharge cooling water back to the Bay, thereby eliminating potential for impacts to aquatic species from warm water discharges. Benefits to aquatic species in Humboldt Bay may occur when Units 1 and 2 are decommissioned, which would significantly reduce the use of once-through cooling water from the Bay. Any required analyses addressing entrainment of fish, aquatic invertebrates, and ichthyoplankton when Units 1 and 2 go offline will be presented in a separate document at that time.

Sanitary wastewater from sinks, toilets, showers and other sanitary facilities will be collected by gravity, discharged to Lift Station No. 3 and pumped to the existing 4-inch sewer piping system that serves the project site.

Stormwater drainage is of two types: (1) clean stormwater from project areas not subject to contamination and (2) stormwater from project areas with tanks, equipment or activities that could potentially have oil or chemical contamination. The storm drainage system includes catch basins for collecting stormwater and an underground piping system. Effluent will be conveyed and discharged into the drainage system in accordance with 40 CFR Part 43 and the requirements of the Project's NPDES permit. Area drains from lubricating oil and diesel tank areas that could potentially contain oil, will be collected in one of four water collection sumps strategically positioned around the project site. Sump water will routinely be checked for level and contamination (oil sheen or physical contamination) and pumped

to the oil water separator. Cleaned water from the oil water separator will be discharged to the Humboldt Community Services District.

Current stormwater discharges from areas outside the HBRP area will continue to discharge at their current locations. Stormwater draining areas within HBRP that do not have equipment, tanks, or loading areas for oil or chemicals will be collected in a new stormwater drainage system and discharged to a new discharge point southeast of the project (Figure 8.2-2). This runoff will be used to enhance wetland restoration areas adjacent to the southeast boundary of the HBRP site.

#### 8.2.2.3.4 Effects of Lighting

Bright night lighting could disturb wildlife that occur in the Humboldt Bay (e.g., nesting birds, foraging birds and mammals, and flying insects). Night lighting is also suspected to attract migratory birds to areas and, if the lights are on tall buildings or heat recovery steam generator (HRSG) stacks, collisions could occur. However, the existing Humboldt Bay Power Plant has extensive lighting that has been in operation since the 1950s. The HBRP lighting will meet the requirements for security, operations and maintenance, and safety, and will be hooded and pointed downwards and away from the Bay to minimize impacts to nesting birds and other wildlife in the Bay. The new HBRP lighting will reduce the ongoing effects to the Bay wildlife that currently occurs and may be a benefit to birds in the area by increasing the suitability of nesting habitats along the shoreline.

#### 8.2.2.3.5 Operational Effects on Special-Status Species

##### *Special-Status Plants*

The two populations of special-status plants known to occur near the HBRP, the Humboldt Bay owl's clover and Point Reyes bird's beak, are located near one of the temporary construction parking areas and are not on the Humboldt Bay Power Plant 70-acre owner-controlled area. Once the HBRP is constructed, project-related use of the parking area will end and there will be no further project-related impact to these populations during project operation.

##### *Special-Status Wildlife*

###### *Aquatic Species*

Project operation will not adversely affect populations of tidewater gobies or other fish in the Bay. Stormwater discharges from the site would ultimately flow to the Bay after meeting the NPDES stormwater discharge requirements and would not adversely affect the beneficial uses of the Bay. No direct impacts to special-status fish are expected during operation of HBRP.

Benefits to fish and aquatic organisms will occur with cessation of the once-through cooling system currently operating at Units 1 and 2 of Humboldt Bay Power Plant, which would occur once HBRP is operational. This system brings water directly from the Bay through the intake channel, which cycles once through the existing Humboldt Bay Power Plant before being discharged to the effluent channel in the Bay. Since the new HBRP Project will not use ocean water for cooling, there will be no mechanism to entrain fish or other biota as a result of the withdrawal of water from the Bay for operations. Entrainment of fish, aquatic invertebrates, and ichthyoplankton will be reduced significantly when Units 1 and 2 of Humboldt Bay Power Plant are non-operational and HBRP is operating with its air radiator cooling system. In

addition, reducing the cycling of water through the existing system will benefit the Humboldt Bay ecosystem by returning the water conditions to a more natural state.

#### **Northern Red-Legged Frog**

The Northern red-legged frog is found on the Humboldt Bay Power Plant property and proposed HBRP sites in grassland, marsh, and drainages. No direct impacts to potential breeding habitats (deeper drainage ditch and emergent marshes) on the PG&E property will occur. Stormwater discharges from the site would meet the NPDES stormwater discharge requirements that would not adversely affect these habitats.

#### **Western Snowy Plover**

No adverse impacts to nesting Western snowy plover are expected from operation of the HBRP as the noise levels are estimated to be 70 dBA within the boundaries of the 5.4-acre parcel. There will be no noise impacts to Critical Habitat for the Western snowy plover, which is located more than a mile from the project site on South Spit. There is a low potential for birds to collide with the new transmission connectors, and this has not been a significant concern on the Humboldt Bay Power Plant site. Bird flight diverters attached to the connecting lines would decrease the potential for snowy plovers to collide with the lines during fog and rain events.

#### **California Brown Pelican**

The California brown pelican feed exclusively on fish in the Bay and do not forage on the HBRP site. No direct impacts to brown pelicans are expected from operation of HBRP. The continuous low noise levels from operations are not expected to adversely affect pelicans near the site as they are most likely accustomed to the noise from the existing Humboldt Bay Power Plant. There is a low potential for birds to collide with the new transmission connectors, and this has not been a significant concern on the Humboldt Bay Power Plant site. Bird flight diverters attached to the connecting lines would decrease the potential for brown pelicans to collide with the lines during fog and rain events.

#### **Bald Eagle**

Bald eagles occasionally forage in the open waters of the intake/discharge channels on the Humboldt Bay Power Plant site. No nest sites or forage habitat for the eagles would be affected by project operation and eagles are not expected to be affected by operational noise. There is a low potential for birds to collide with the new transmission connectors, and this has not been a significant concern on the Humboldt Bay Power Plant site. Bird flight diverters attached to the connecting lines would decrease the potential for bald eagles to collide with the lines during fog and rain events.

### **8.2.2.4 Impacts to Trees**

All of the trees on the proposed project site were planted as landscape trees after construction of the Humboldt Bay Power Plant (Figure 8.2-2). These landscape trees represent a mixture of native and nonnative species. The majority of landscape berms and trees along the proposed temporary access road would not be removed during construction and will functionally act as a visual screen from adjacent properties during operations. In the southern and eastern boundary of the proposed HBRP site, several landscape berms and trees would be removed to facilitate large equipment access to the site. These landscape areas support ornamental plantings of gum trees (*Eucalyptus* sp.), Monterey cypress, Monterey pine, and irrigated hedgerows of rhododendron underlain with sweet vernal

grass. None of the trees are heritage tree species. Once HBRP activities are complete, new landscape areas will be constructed between the HBRP site and railroad and planted for a visual screen from adjacent properties. A list of native evergreen trees and shrubs that could be used in the landscaped visual screening is presented in Table 8.2-10. The table includes wetland indicator status for each species as the landscape areas may include potential CCC wetland habitats adjacent to or surrounding the berms.

TABLE 8.2-10  
Native Evergreen Trees And Shrubs Suitable for Visual Screen And Landscape Berms at the HBRP Site

Scientific Name	Common Name	Life Form	Wetland Indicator
<i>Myrica californica</i>	wax-myrtle	Shrub	FAC+
<i>Rhamnus californica</i>	California coffeeberry	Shrub	NI
<i>Rhododendron macrophyllum</i>	California rose-bay	Shrub	NI
<i>Abies grandis</i>	grand fir	Tree	NI
<i>Arbutus menziesii</i>	madrono	Tree	NI
<i>Cupressus lawsoniana</i>	Port Orford cedar	Tree	
<i>Picea sitchensis</i>	Sitka spruce	Tree	FAC
<i>Pseudotsuga menziesii var. menziesii</i>	Douglas-fir	Tree	NI
<i>Sequoia sempervirens</i>	coast redwood	Tree	NI
<i>Thuja plicata</i>	western red cedar	Tree	FAC+
<i>Tsuga heterophylla</i>	western hemlock	Tree	FACU
<i>Umbellularia californica</i>	California bay	Tree	FAC
<i>Arctostaphylos columbiana</i>	redwood manzanita	Tree, Shrub	NI
<i>Chrysolepis chrysophylla</i>	golden chinquapin	Tree, Shrub	NI
<i>Lithocarpus densiflorus</i>	tanoak	Tree, Shrub	NI

### 8.2.2.5 Biological Resources of Commercial or Recreational Value

No impacts to the Humboldt Bay sport/commercial/recreational hunting and fishing livelihoods will occur with construction or operation of HBRP. No changes to the Bay would occur. Although not part of the detailed biological analyses for HBRP, once HBRP is operational, the existing Humboldt Bay Power Plant Units 1 and 2 warm water discharges would be eliminated. This cessation of once-through water use would decrease any incidental entrainment of aquatic biota from the Bay. In addition, elimination of the warm water effluent would benefit the Humboldt Bay ecosystem by returning the water conditions to a more natural state. The Humboldt Bay recreational fish species would most likely benefit from reducing the water cycling.

The HBRP would not affect the recreational birding in the Humboldt Bay region, as there will be no change in current public access opportunities to the shoreline. The HBRP will not affect the public trail along the shoreline.

### 8.2.3 Cumulative Impacts

The HBRP will permanently convert up to 5.4 acres of developed and weedy annual grassland, which exist on the proposed site, to an industrial use. Because the site is zoned and previously used for industrial uses, this is considered an insignificant change in regards to wildlife habitat impacts. Developed lands in Humboldt County are not universally considered significant beneficial habitat for wildlife, although they provide seasonal forage for some species.

The associated gas pipeline, water pipelines, and electric transmission connections for the HBRP are located within the main project site and within existing developed rights-of-way and easements and will not result in permanent loss of significant wildlife habitat or cause significant adverse impacts to biological resources individually or cumulatively.

Benefits to some special-status species in Humboldt Bay may occur with demolition of Humboldt Bay Power Plant Units 1 and 2. The natural state of the Bay has been altered by the warm water discharges since the 1950s. The cessation of warm water discharges from decommissioning Units 1 and 2 will likely result in benefits to the aquatic species of Humboldt Bay. Natural conditions in the Bay are expected to improve when returned to a more natural state, and with decreased water pumping from the Bay, entrainment of ickthyoplankton would also be reduced.

### 8.2.4 Proposed Mitigation and Monitoring

The following sections describe proposed mitigation and protection measures intended to avoid and minimize project effects or compensate for potential adverse effects of the HBRP on biological resources. A Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) will be developed for HBRP prior to ground breaking that addresses how specific mitigation and protection measures for special-status species will be implemented during construction. The BRMIMP will also define any monitoring plans for impacts that could affect species and habitats, such as construction monitoring for red-legged frogs and nesting birds, and monitoring wetland restoration activities and success criteria, and it will document the effectiveness of mitigation and protection measures through monthly compliance reports to the CEC.

#### 8.2.4.1 General Project Construction

The following measures would be implemented for HBRP construction area:

- Provide Worker Environmental Awareness Training (WEAT) for construction personnel that identify the sensitive biological resources and protection measures required to minimize project impacts during construction and operation. This will include measures to protect species in habitats adjacent to the site.
- Provide construction monitoring by a qualified Designated Biologist and onsite Biological Monitors during construction activities near sensitive habitats.
- Prepare a BRMIMP that outlines how PG&E will implement the mitigation/protection measures developed in order to maintain any action authorized, by state or federal lead agencies and is not likely to jeopardize the continued existence of endangered or threatened species. The BRMIMP outline is presented in Appendix 8.2D.

- Avoid sensitive habitats and species during construction by retaining existing boundary fence line and developing construction exclusion zones and fencing around sensitive areas as needed.
- Conduct additional preconstruction surveys for sensitive species in potential impact areas during the winter and spring before construction grading begins, particularly within areas that have nesting substrate (shrubs, trees, and tall vegetation). Surveys would also focus on ground nesters such as killdeer and other shorebirds.
- Prepare monthly construction monitoring and compliance reports that analyze the effectiveness of the mitigation/protection measures. These reports will be submitted to the CEC on a monthly basis.
- All areas not required for permanent easements and development would be restored to preconstruction conditions, including topography, hydrology, topsoil, and, if appropriate, revegetation that focuses on erosion control. The restoration would be determined by PG&E as the property owner.

#### 8.2.4.2 Worker Environmental Awareness Training

A site-specific WEAT program will be designed to inform all onsite personnel of the sensitive biological resources, restrictions, protection measures, and individual responsibilities associated with the Project. The WEAT would focus on construction activities that could adversely affect shorebirds that nest in the salt marshes adjacent to the site and California brown pelicans that occur in the Bay. In addition, BMPs to avoid wetlands and to control sedimentation into the Humboldt Bay would be emphasized. The WEAT will be administered in an onsite and/or classroom setting and will include an oral, video, and written materials presentation. The presentation will include the types of construction activities that could impact biological resources and the measures developed to avoid such impacts. It will also include appropriate contact procedures and personnel information. The program includes information regarding encounters with wildlife and dealing with situations involving biological resources. Special emphasis will be placed on explaining the protection measures developed for the Project and the consequences of noncompliance.

#### 8.2.4.3 Special-Status Plant Species

Specific mitigation/protection measures were developed that focus on providing environmental awareness training, avoiding sensitive habitats, and biological monitoring to relocate individual Northern red-legged frogs that may wander into disturbance areas. The following are protective measures that would be implemented to protect sensitive species found during preconstruction surveys and construction monitoring activities.

To protect populations of Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humboltiensis*) and Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*) and decrease the potential for impacts the following measures will be taken:

- The salt marsh habitat will be fenced with semi-permanent 'cyclone' type fencing prior to the start of construction.

- The area will be signed as an environmentally significant area; no entrance into the area will be allowed.
- An environmental monitor shall inspect the fence weekly to ensure it is in place and in good condition.
- Fencing contractors shall be employed with the contingency that they will be able to repair fences within 48 hours upon notification by the environmental monitor that an environmentally significant area fence has been opened or altered to allow access.
- Environmental monitors will remove, as needed, debris that is lodged in the salt marsh and dispose of it offsite.
- Best Management Practices will be employed to prevent drainage of toxins into the waterway or marsh.
- In the event of a roadway accident involving vehicles or equipment that directly impacts sensitive plant populations or their habitats, a restoration plan will be developed and implemented within the next appropriate growing season that addresses physical and biological elements, and provides for a five-year monitoring protocol and measurable success criteria.

If implemented, these mitigation measures reduce the potential impacts to special status plants to insignificant levels.

#### 8.2.4.4 Foraging and Migratory Birds

The HBRP site and transmission connections are located adjacent to the Humboldt Bay, which supports many migratory and resident birds that forage in the Bay, along the shoreline, or in the salt marsh and tidal mudflats. These birds typically do not forage over the site but may fly over the site while moving from forage areas. The HBRP could slightly increase the number of avian collisions in the area. With implementation of the following mitigation measures impacts to migratory and resident foraging birds are expected to be less than significant.

1. Design “raptor-friendly” 60-kV and 115-kV electric transmission connectors, 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 shielded safety lighting that points downward and away from the Humboldt Bay on the exhaust stacks and structures to reduce avian collisions and disturbance to wildlife in the Bay from lights.
3. Install BFDs on the new 115-kV and 60-kV transmission connectors to reduce avian collisions with conductor wires.

#### 8.2.4.5 Resident Nesting Birds

Potential impacts from construction activities on resident nesting birds would primarily occur from temporary construction noise and grading the site. Ground nesting birds such as

killdeer nest on the open ground with sparse vegetation. All ground areas will be surveyed prior to any construction activities and initial grading. In addition, surveys and nest material removal (only prior to any eggs being laid) will be conducted routinely during monitoring of the HBRP construction period to reduce the likelihood of new nests being constructed in proposed disturbance areas. If new active nests are found, they would be flagged and protected, and construction disturbance would be postponed in the immediate area until young have fledged.

#### 8.2.4.6 Wetland Compensation and Protection Measures

The following mitigation and protective measures are proposed to avoid impacts to USACE and/or CCC wetlands to the furthest extent feasible and to compensate for impacts that could not be avoided. In addition, protective measures were developed to avoid impacts to habitats of aquatic species in the Humboldt Bay (e.g., fish, phytoplankton, zooplankton, and marine mammals). The primary wetland avoidance and protection measures include:

1. Avoid direct impacts to tidal and salt marsh habitats with design of the site layout and laydown areas.
2. Minimize impacts to wetlands through biological assistance during site plan design.
3. Restore wetland habitats in temporary construction areas.
4. Restore wetland habitat in areas historically filled by Humboldt Bay Power Plant to compensate for the permanent loss of wetland habitats under the HBRP footprint.
5. Implement BMPs and erosion control in the temporary impact areas, especially near the shoreline, drainages, and waterways.

##### 8.2.4.6.1 Implementation Sequence

Wetland impact avoidance was a primary goal for the initial site layout. Direct permanent and temporary impacts to tidal and salt marsh habitats were eliminated from early variations of the plan. Use of existing paved or graveled areas, and reuse of existing Humboldt Bay Power Plant facility sites was maximized in the placement of the HBRP facility footprint and laydown areas. Detailed wetland delineations were used to further refine the location of permanent and temporary facilities. The acreages of wetlands discussed here are included in the draft wetland delineation for HBRP and may change slightly after the CCC and/or USACE conduct their respective verification processes. The final wetland impact assessment and mitigation plan will be presented in the BRMIMP and USACE permit application once the wetland verification is complete.

Minimization of impacts to wetlands in adjacent, offsite land areas will be accomplished through implementation of BMPs, erosion control, and biological monitoring for compliance during construction in the temporary impact areas, especially near the shoreline, drainages, and waterways. A SWPPP and DESCP will be prepared for the HBRP that describes detailed BMPs to protect wetland habitats adjacent to work areas. The SWPPP and DESCP will be included as appendices or attachments to the BRMIMP.

The goal of this conceptual wetland mitigation plan is to identify mitigation opportunities within the project area and PG&E property that will lead to a 'no net loss' of wetland function through enhancement of wetland values by in-kind and out-of-kind creation,

restoration, and enhancement mitigation measures. The permanent loss of USACE and CCC wetlands was minimized to the furthest extent feasible. Unavoidable temporary and permanent wetland losses and proposed mitigation are summarized in Table 8.2.11. Figure 8.2-4 shows the proposed locations for onsite wetland mitigation, as well as the size of each potential mitigation area. Table 8.2-12 describes the potential onsite mitigation areas proposed to compensate for permanent and temporary impacts to wetland habitats from HBRP construction.

TABLE 8.2-11  
Wetland Impacts and Mitigation (acres)

	Coastal Commission Wetland	Drainages	Seasonal Wetlands	Riparian, Salt and Freshwater Marshes	Total
Total Wetland Acreage	5.691	0.306	0.308	19.904	26.352
Wetlands Avoided	2.233	0.232	0.206	19.850	22.588
Temporary Impacts	2.494	0.000	0.029	0.000	2.523
Mitigation Ratios	1:1	1.5:1	2:1	2:1	
Mitigation Acreage for Temporary Impacts	2.494	0.0	0.058	0.0	2.552
Permanent Impacts	0.961	0.074	0.072	0.054	1.161
Mitigation Ratios	1:1	1.5:1	2:1	2:1	-
Mitigation Acreage for Permanent Impacts	0.961	0.111	0.144	0.108	1.324
<b>Total Mitigation Acreage Needed</b>	<b>3.455</b>	<b>0.111</b>	<b>0.202</b>	<b>0.108</b>	<b>3.876</b>

PG&E would protect these mitigation areas in perpetuity through a conservation easement or other land use restrictions determined and implemented by PG&E.

TABLE 8.2-12  
Potential Onsite Wetland Mitigation Areas

Proposed Mitigation Area	Area Available (acres)	Description of Mitigation Area	Timing for Mitigation
MIT-1	0.61	Northwest corner of property, paved remote parking lot. Remove asphalt and <u>create</u> salt marsh contiguous with RM-1 and SM-5 and place under conservation easement. Compensates permanent loss of seasonal wetlands, drainages, freshwater marsh	After Construction
MIT-2	1.03	South of remote parking, pull out fill and <u>restore</u> wetland contiguous with SM-5 and RM-1. Compensates for permanent loss of Coastal Commission wetland, seasonal wetland, drainage ditch, and freshwater marsh habitats.	Before Construction

TABLE 8.2-12  
Potential Onsite Wetland Mitigation Areas

Proposed Mitigation Area	Area Available (acres)	Description of Mitigation Area	Timing for Mitigation
MIT-3	2.26	Area contains existing salt marsh (SM-5) contiguous with RM-1 and MIT-1 and MIT-2. <u>Enhance</u> wetland by removing invasive cord grass and place under conservation easement. Mitigates temporary impacts to Coastal Commission wetland and seasonal wetland habitats.	Before Construction
<b>Total</b>	<b>3.90</b>		

In addition to the proposed mitigation areas described above, PG&E proposes to restore the temporary construction access road and parking area (encompassing up to 2.58 acres) after construction is complete. This area would be restored by removing geotech fabric and gravel and revegetated with native species. The area is separated into three proposed restoration areas (REST-1 through REST-3 on Figure 8.2-4 and Table 8.2-13), which could incorporate shallow swales and depressions that support wetland vegetation. Native wetland plant species would be planted in the swales and depressions and would increase wetland functionality on the PG&E property and region. Portions of REST-1 currently support CCC wetland vegetation, while REST-2 and REST-3 are uplands adjacent to salt marsh and CCC wetland habitats. Although these restoration areas would increase wetland habitat values in the region, portions may be used for planting HBRP visual landscape screening trees/shrubs and could also be accessed in the future for periodic maintenance of underground infrastructure, and therefore would not be placed under a conservation easement or other prohibitive restrictions.

TABLE 8.2-13  
Additional Areas Evaluated For Restoration After Construction Is Complete

Proposed Mitigation Area	Area Available (acres)	Description of Mitigation Area	Timing for Mitigation
REST-1	1.19	Temporary access road around HBRP. Construct swale and restore to Coastal Commission wetland habitat. Area contains existing pipelines and may be used for visual landscape screening. Rainfall and HBRP stormwater runoff to provide hydrology.	After Construction
REST-2	0.46	Upland portion of temporary access road/parking area with landscape trees. Restore area to preconstruction conditions and construct shallow swale and/or depressions that would be planted with wetland vegetation. Hydrology from rainfall and possibly DD-2.	After Construction
REST-3	0.93	Linear upland portion of temporary access road. Restore area to preconstruction conditions and construct shallow swale and/or depressions that would be planted with wetland vegetation. Hydrology from rainfall.	After Construction
<b>Total</b>	<b>2.58</b>		

### 8.2.4.6.2 Objectives of the Plan

The objectives of this plan are to (1) replace permanent losses of wetlands and wetland vegetation with newly created wetlands adjacent to existing wetlands on PG&E property, (2) enhance existing wetlands adjacent to created wetlands to improve potential special status plant and wildlife habitat, (3) expand seasonal wetland and wetland vegetation into existing uplands, and (4) potentially restore seasonal wetlands and wetland vegetation temporarily impacted.

#### *Objective 1: Wetland Mitigation Sites for Permanent Impacts*

Objective 1 is to replace permanent losses of wetlands and wetland vegetation with newly created wetlands. Mitigation for the permanent loss of 0.961 acre of CCC wetland vegetation (ratio of 1:1), 0.074 acre of drainages (ratio of 1.5:1), 0.072 acre of seasonal wetland (ratio of 2:1), and 0.054 acre of freshwater marsh (ration of 2:1) under the HBRP footprint (for a total of 1.324 acres of required mitigation) will be accomplished by the creation of wetlands in two potential mitigation sites along King Salmon Avenue on the PG&E property. A total of 1.324 acres of salt marsh or brackish marsh wetlands and CCC wetland vegetation will be created and placed in permanent conservation easements to compensate for the loss of 1.161 acres permanently lost under the HBRP footprint. The sites for wetland creation are identified as Mitigation Area 1 (MIT-1) and Mitigation Area 2 (MIT-2), which together total 1.63 acres. These new wetland areas would be contiguous with the existing salt marsh (SM-5/MIT-3), which is proposed for enhancement by exotic plant removal and planting with native wetland plant species (see below). Table 8.2-14 lists native plants found both in the vicinity of the project and available in the nursery trade that maybe used in mitigation plantings.

TABLE 8.2-14  
Native Wetland Plants found on the PG&E Humboldt Power Plant Property Suitable as Revegetation Stock

Scientific Name	Common Name	Life Form	Wetland Indicator
<i>Artemisia douglasiana</i>	mugwort	Perennial herb	FAC+
<i>Aster chilensis</i>	common California aster	Perennial herb	FAC
<i>Deschampsia cespitosa</i>	tufted hair-grass	Perennial herb	FACW
<i>Distichlis spicata</i>	saltgrass	Perennial herb	FACW
<i>Epilobium ciliatum</i>	willowherb	Perennial herb	FACW
<i>Festuca rubra</i>	red fescue	Perennial herb	FAC
<i>Hordeum brachyantherum</i>	meadow barley	Perennial herb	FACW
<i>Juncus bufonius</i>	toad rush	Annual herb	FACW
<i>Juncus effusus</i>	common bog rush	Perennial herb	FACW+
<i>Juncus patens</i>	common rush	Perennial herb	FAC
<i>Lupinus rivularis</i>	riverbank lupine	Perennial herb	FAC
<i>Ranunculus orthorhynchus</i>	straight-beaked buttercup	Perennial herb	FACW
<i>Scirpus microcarpus</i>	mountain bog bulrush	Perennial herb	OBL
<b>Native Wetland Plants for Shrub-Dominated Sites</b>			
<i>Carex obnupta</i>	slough sedge	Perennial herb	OBL
<i>Picea sitchensis</i>	Sitka spruce	Tree	FAC
<i>Rosa nutkana</i> var. <i>nutkana</i>	Nootka rose	Shrub	FAC*
<i>Rubus spectabilis</i>	salmon berry	Shrub	FAC+
<i>Salix sitchensis</i>	Sitka willow	Tree, Shrub	FACW+

Wetland Mitigation Areas

Name	Acres
MIT-1	0.61
MIT-2	1.03
MIT-3	2.26
REST-1	1.19
REST-2	0.45
REST-3	0.93



**FIGURE 8.2-4**  
**POTENTIAL WETLAND**  
**MITIGATION RESTORATION SITES**  
 HUMBOLDT BAY REPOWERING PROJECT

Mitigation area 1 (MIT-1) is 0.61 acre in extent and is currently paved and proposed to be used as a remote temporary construction parking lot for HBRP along King Salmon Avenue. MIT-1 is located in the eastern half of the temporary remote parking lot. The western half of the parking lot would not be restored as wetland. Wetland creation in this area would be accomplished through the removal of the parking lot asphalt and fill down to the level of adjacent salt marsh wetlands, reshaping the landscape to support shallow drainages and depressions, and revegetating the area with native wetland plant species. Surface runoff and tidally affected groundwater are potential sources of hydrology at this site.

Mitigation area 2 (MIT-2) is 1.03 acres in extent and consists of disturbed uplands found in the west portion of the PG&E property adjacent to the community of King Salmon. The area is bounded on the north by the paved remote parking area, to the west and south by a roadside drainage canal along King Salmon Avenue, and to the east by salt marsh (SM-5/MIT-3) and riparian wetlands (RM-1). A patch of CCC wetland vegetation runs diagonally across the eastern half of MIT-2 and is not included in the estimate of potential mitigation area. It is probable that this area was salt marsh prior to the construction of the King Salmon Resort (currently known as the King Salmon community) in the early 1950's. The disturbed fill that underlies the site was too heavy in solid debris to penetrate with a hand auger, though soil core samples taken from adjacent areas revealed native marsh soil at approximately 6 feet below the surface. The vegetation at this site is grassland dominated by sweet vernal grass and dotted with pampas grass, coyote bush, rattlesnake grass and other ruderal species. The mixed fill that makes up the site has resulted in a chaotic mosaic of vegetation with no organized drainages or consistent ecological transitions. Drainage over the site is by surface flow trending toward the south. Sources of water available at MIT-2 include tidally and seasonally affected groundwater, surface runoff from the parking area, and a roadside drainage.

Target functions for the proposed wetland creation in MIT-2 differ from those of the seasonal wetlands and CCC wetland vegetation that will be permanently lost. Creation of out-of-kind wetlands in this area has the advantage of being part of a larger, contiguous perennial wetland system and performing needed functions of water storage during the rainy season. The existing wetlands along the east side of King Salmon Avenue do not effectively function in water storage, as King Salmon Avenue is flooded occasionally during the winter months. The addition of potentially 1 to 2 acre feet of storage in newly created wetlands upstream of the road will help alleviate these flooding problems. The value of this wetland function to local residents of the King Salmon community will be greater than that of isolated seasonally ponded depressions or CCC wetland vegetation. Expanding this habitat will also contribute to the habitat quality for northern red-legged frog and other resident water related biota.

### ***Objectives 2 and 3: Wetland Mitigation Sites for Temporary Impacts***

Objective 2 is to enhance existing wetlands adjacent to created wetlands to improve potential special status plant and wildlife habitat. Objective 3 is to expand seasonal wetland and wetland vegetation into existing uplands. To meet these objectives, temporary impacts of 2.52 acres of CCC wetland vegetation and seasonal wetlands that would be lost under the temporary laydown and access road would be mitigated through enhancement of an existing 2.26-acre salt marsh (MIT-3/SM-5) on the PG&E property. Additional mitigation requirements for the remaining 0.26 acre of temporary impacts would be accomplished by

restoring wetland areas (MIT-1 and MIT-2 areas) that were historically filled on the PG&E property and proposed as creation/restoration for permanent wetland loss discussed above.

Mitigation Area 3 (MIT-3) consisting of 2.26 acres of existing salt marsh (identified as SM-5 on the wetland delineation) is located in the northwest corner of the PG&E property. SM-5 contains a non-native invasive plant dense-flowered cordgrass (*Spartina densiflora*) that encroaches on native vegetation areas. Elimination of dense-flowered cordgrass from this salt marsh could improve habitat for special status plants and northern red-legged frogs. This noxious weed species is likely to be an early colonizer of wetland creation sites, indicating the mitigation areas could require maintenance in the future. Restoration activities and removal of this plant could be accomplished prior to and during construction of HBRP. The source of hydrology in this area is ground water seepage, periodic flooding of brackish water, drainage from Humboldt Bay Power Plant, and rainfall.

#### ***Objective 4: Restore Wetland Habitats Temporarily Affected***

Objective 4 is to restore seasonal wetlands and CCC wetland vegetation temporarily impacted by the project. Because the restoration areas described here may require maintenance of underground pipelines in the future, conservation easements to protect wetlands in perpetuity would not be feasible, however, the areas would function as wetland habitat for plants and wildlife.

Restoration area 1 (REST-1), consisting of 1.19 acres, is located along the eastern side of the proposed permanent HBRP project boundary in the temporary access road. This site was also dominated by CCC wetland vegetation with small seasonal wetland depressions and drainages. Restoration of this area would be accomplished through the removal of the temporary road fill, reshaping the landscape to support shallow drainages and depressions, and revegetating the area with native wetland plant species. The source of water in these areas will remain rainfall and surface runoff. An additional source of water from the reconfigured HBRP storm drain outfall would enhance wetland restoration within REST-1. This would likely result in a portion of the restored wetlands being wetter than the FAC dominated CCC wetland vegetation that the site currently supports. Although described here as a potential wetland restoration area, REST-1 area contains existing underground pipelines that may require periodic maintenance. In addition, the area may be planted with native shrubs and trees such as Sitka spruce (FAC) or salmonberry (FAC) for visual screening from adjacent properties.

Restoration area 2 (REST-2) consisting of 0.46 acre is located in uplands within the temporary access road. The existing trees in REST-2 would be removed for construction of the access road and worker parking. REST-2 would be reshaped to form shallow depressions and a swale that would collect surface run-off, or the outfall from drainage DD-2 and DD-3.

Restoration area 3 (REST-3) consisting of 0.93 acre is located in uplands along the linear portion of the temporary access road coming off of King Salmon Avenue. The water supply pipeline would be constructed in this general area along the intake canal berm. REST-3 would be reshaped to form shallow depressions and a swale that would collect surface run off and rainfall to promote growth of CCC wetland vegetation.

#### 8.2.4.6.3 Additional Wetland Mitigation Evaluated

Additional potential mitigation areas were evaluated on the PG&E property to compensate for the loss of wetlands in temporary impact areas. One area, the temporary HBRP construction laydown area, containing CCC wetlands and two small seasonal wetlands could be restored to like-kind wetlands, but not immediately after HBRP completes construction. PG&E proposes to use this area for a laydown during the demolition of Units 1, 2, and 3 making the area unavailable for restoration for an undetermined period. Once demolition of Units 1, 2, and 3 is complete, the area could be restored to like-kind wetlands with native wetland vegetation and hydrology would remain rainfall. Because the laydown area may not be available in a suitable time period for mitigation purposes, it is not included as part of the proposed mitigation for HBRP at this time and is not specifically shown on Figure 8.2-4.

#### 8.2.4.6.4 Wetland Mitigation Schedule

Construction of created wetlands will commence prior to or simultaneous with the initiation of HBRP construction. The MIT-2 area could be restored prior to construction. The temporary construction parking facility (encompassing MIT-1) will serve as overflow parking for construction workers and could be used for wetland creation after construction is complete. Initial excavations will include appropriate onsite cultural and biological monitors, and season of use limitations to prevent impacts to potential resident or migratory bird nests or frog breeding habitat. The DESCP will be prepared to include detailed BMPs to protect adjacent wetland habitats during initial construction. After initial rough grading of the site, diurnal and seasonal hydrology will be monitored to further refine the final grading, and develop a vegetation plan.

Enhancement of special status plant habitat and wildlife habitat will begin prior to or simultaneous with initiation of the HBRP.

Post-construction restoration of the temporary access road and laydown areas would occur after the completion of the HBRP.

Mitigation monitoring will continue after implementation of mitigation to determine if the project meets stated goals, objectives, and measurable success criteria, and to identify and implement remediation measures as needed.

#### 8.2.4.6.5 Summary

This conceptual wetland mitigation plan provides a basis on which a comprehensive mitigation and monitoring plan will be developed that provides the following:

- Agency verified acreages
- Ecological assessment of the impacted wetlands and proposed mitigation areas
- Goals, Objectives, and Performance standards
- Concept drawings and design rationale
- Engineering plans
- Soil engineering specifications
- Comprehensive vegetation specifications
- Operations and Maintenance plan
- Implementation plan
- Monitoring program
- Remedial Action Plan

## 8.2.5 Applicable Laws, Ordinances, Regulations, and Standards

The following sections and Table 8.2-15 describe the primary LORS that apply to potential impacts on biological resources in the Project area, and list the responsible agencies for these regulations. LORS, including conformance to the LORS, are shown in Table 8.2-15. These LORS were reviewed and contacts with the appropriate agencies were made to determine if the proposed Project could affect sensitive biological resources. Through project design features and systems, and proposed resource protection and mitigation measures, the HBRP will conform to all applicable LORS for protection of biological resources. The following sections describe the sensitive biological resources in the Humboldt Bay region designated by federal, state, and regulatory agencies that could be affected by construction, demolition, and operation of the HBRP.

### 8.2.5.1 Federal

**Federal Water Pollution Control Act Amendments of 1977 (as amended).** This law, commonly known as the **Clean Water Act**, established the basic structure for regulating discharges of pollutants into the Waters of the U.S. Waters of the United States includes essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material into any Water (including wetlands) of the U.S. The permitting program is designed to minimize the fill of Waters of the U.S, and when impacts cannot be avoided, require compensatory mitigation. The USACE is responsible for administering Section 404 regulations. If the USACE takes jurisdiction over drainages and/or seasonally ponding man-made features on site, a Section 404 permit may be required to fill wetlands during construction activities on the proposed HBRP site, laydown, and parking along King Salmon Ave. The USACE will determine if permits are necessary when they have completed their review of the Project.

Under Section 401 of the Clean Water Act, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with state water quality standards. The State Water Resources Control Board is responsible for administering Section 401 regulations. Most Certifications are issued in connection with USACE Section 404 permits for dredge and fill discharges.

**Rivers and Harbors Act of 1899.** Section 10 of the Rivers and Harbors Act requires approval prior to the commencement of any work in or over navigable waters of the United States, or which affects the course, location, condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation. Section 10 permits are required for construction activities in these waters. The USACE is responsible for administering Section 10 regulations. A Section 10 permit is not required for HBRP since no work is proposed to occur in the Bay or along the shoreline or water intake and discharge channels.

TABLE 8.2-15  
Laws, Ordinances, Regulations, and Standards Applicable to HBRP Biological Resources.

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability
<b>Federal</b>				
Endangered Species Act of 1973 and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR 17.1 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS and NMFS	USFWS and NMFS issues a Biological Opinion, or Authorization with Conditions after review of project impacts	Applicant has sited facility to avoid direct impacts to habitat for listed federal species. No critical habitats will be affected in the Project area.
Section 404 of Clean Water Act of 1977	Requires permit to affect jurisdictional waters of the U.S., including wetlands.	USACE	Section 404 Permit	Applicant will minimize impacts to waters by avoiding salt marsh and Bay habitats. Permit may be required to fill drainages and seasonal wetlands on site.
Section 401 of Clean Water Act of 1977	Requires the Applicant to conduct water quality impact analysis for the Project when using 404 permits and for discharges to waterways.	RWQCB	Water Quality Certification	Applicant will obtain 401 Certification if required as a condition of the 404 permit. Stormwater discharge would be through an approved industrial NPDES permit.
Suggested Guidelines for Raptor Protection (APLIC, 1996)	Describes design measures to avoid and reduce impacts to raptors and other birds from electrical transmission and other facilities.	CEC	CEC Conditions of Approval	Applicant will implement design measures for new 230-kV transmission line to protect raptors from collision and electrocution.
Migratory Bird Treaty Act 16 USC §§703-711	Prohibits the non-permitted take of migratory birds.	USFWS and CDFG	CEC Conditions	Applicant proposed to use bird flight diverters on new transmission line to minimize take of migratory birds.

TABLE 8.2-15  
Laws, Ordinances, Regulations, and Standards Applicable to HBRP Biological Resources.

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability
<b>State</b>				
California Coastal Act	The California Coastal Act sets out a series of policies to protect and enhance the California Coastal Zone, including biological resources.	CCC	Coastal Commission 30413(d) Report for power plants before the CEC pursuant to Coastal Act §30413(d) in lieu of a Coastal Development Permit.	The HBRP site is within the Coastal Zone and would comply with the coastal act provisions.
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098	Protects California's endangered and threatened species. Requires take permit if direct impacts to listed species occurs.	CDFG	Comments as cooperating agency on Section 7 or Issues 2081 incidental take permit for state-listed species.	Applicant has sited facility to avoid direct impacts to habitat for listed state species.
Fish and Game Code Fully Protected Species §3511: Fully Protected birds §4700: Fully Protected mammals §5050: Fully Protected reptiles and amphibians §5515: Fully Protected fishes	Prohibits the taking of listed plants and animals that are Fully Protected in California.	CDFG	CEQA review by CDFG.	Applicant will avoid take of any Fully-protected species.
Fish and Game Code §1930, Significant Natural Areas (SNA)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats. Listed in the CNDDB.	CDFG	CEQA review by CDFG.	Applicant will avoid SNA, none within the Project area.
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in natural condition for the general public to observe and study.	CDFG	CEQA review by CDFG.	Applicant will avoid DER.

TABLE 8.2-15  
Laws, Ordinances, Regulations, and Standards Applicable to HBRP Biological Resources.

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability
Fish and Game Code 2080.1	Consistency Determination to verify the Federal Biological Opinion is "consistent" with CESA.	CDFG	FESA Biological Assessment review and approval by CDFG.	If formal consultation were required under the FESA, a Consistency Determination would be needed.
Fish and Game Code §1600, Streambed Alteration Agreement (SAA)	Reviews projects for impacts to waterways, including impacts to downstream vegetation and wildlife from sediment, diversions, and other disturbances.	CDFG	Issues conditions of the Streambed Alteration Agreement that reduces and minimizes effects on vegetation and wildlife	Would apply only if there were a need to cross waters of the state.
Native Plant Protection Act of 1977, Fish and Game Code, §1900 et seq.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG	Reviews mitigation options if there will be significant project effects on threatened or endangered plant species	Construction, access, or parking at the roadside parking area along King Salmon Avenue may affect individual CNPS List 1B plants. No threatened or endangered plants on Project site.
Public Resource Code §§25500 & 25527	Siting of facilities in certain areas of critical concern for biological resources, such as ecological preserves, wildlife refuges, estuaries, and unique or irreplaceable wildlife habitats of scientific or educational value, is prohibited, or when no alternative, strict criteria is applied.	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts	The Humboldt Bay Power Plant site is near the Humboldt Bay NWR and Elk River Wildlife Area. No direct impacts to these habitats will occur.
Title 20 CCR §§1702 (q) and (v)	Protects "areas of critical concern" and "species of special concern" identified by local, state, or federal resource agencies within the Project area, including the CNPS.	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts.	Areas of critical Habitat for Western snowy plover occurs greater than 1 mile west of the site. Species of special concern are addressed in the AFC.
Title 14 CCR Section 15000 et seq.	Describes the types and extent of information required to evaluate the effects of a proposed project on biological resources of a project site.	USFWS and CDFG	Review and comment on AFC.	AFC will provide this information.

TABLE 8.2-15  
Laws, Ordinances, Regulations, and Standards Applicable to HBRP Biological Resources.

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability
<b>Local Jurisdictions</b>				
Humboldt Bay Area Plan of the Humboldt County Local Coastal Program	The LCP implements measures in the California Coastal Act, specifically in the coastal zone within Humboldt County. It sets out a series of local policies to protect and enhance the California Coastal Zone.	Humboldt County and CDFG	Review and comment on AFC.	The HBRP site is within the Coastal Zone and would comply with the Local Coastal Plan provisions. Applicant has sited facility to avoid direct impacts to coastal wetlands and streams habitat for listed state species. Mitigation for impacts to man-made seasonal wetlands and drainages include creation, restoration, and enhancement of wetlands on the PG&E property and would not result in a net loss of wetlands in the county.
Humboldt County Zoning Regulations, Sections 312 and 313	Describes protection and mitigation measures for projects that could affect coastal wetlands, wetland buffers, and environmentally sensitive areas.	Humboldt County	Review and comment on AFC.	The project site is within Humboldt County and will comply with the zoning regulations regarding environmentally sensitive areas.
Humboldt County General Plan, Chapter 3 of the Framework Plan	County biological resources policies focus on protection and minimization of impacts to sensitive biological resources including wetlands, streamside management areas, and special-status species.	Humboldt County	Review and comment on AFC.	The HBRP complies with the general plan goals in that it avoids significant impacts to wetlands and special-status species. The site is not within streamside management areas.

**Federal Endangered Species Act (FESA) (16 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 USFWS. In addition, NMFS may be consulted regarding anadromous fish and marine mammals. Adverse impacts are defined as “take,” which is prohibited except through authorization of a FESA 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 CFR §17.3). Species that are candidates for listing are not protected by FESA; 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. Informal consultation with USFWS may be the consultation procedure for HBRP as no direct or indirect impacts to federal listed species are expected to occur from HBRP activities.

**Critical Habitat for Listed Species.** Critical habitat has been designated under the FESA in Humboldt County for several listed species. The closest critical habitat unit (Subunit CA-4A) is for the Western snowy plover located 1.1 miles west of the site along the South Spit of the Samoa Peninsula (see Figure 8.2-1; all figures are located at the end of the section). Consultation with USFWS typically addresses potential impacts to critical habitats, although no critical habitat will be affected by the HBRP.

**Migratory Bird Treaty Act (MBTA) (16 USC 703 to 711)** protects all migratory birds, including nests and eggs. USFWS will require protection measures for migratory birds, including wintering waterfowl, shorebirds, and raptors. These birds primarily occur adjacent to the site and would not be directly affected. Construction noise may temporarily disturb roosting migratory birds.

**Bald and Golden Eagle Protection Act (16 USC 668)** specifically protects bald and golden eagles from harm or trade in parts of these species. Bald eagles were observed in the Project area, foraging in the intake channel. No nest sites are in the project area, however, eagles fly over the site and forage periodically near the site. No significant impacts to eagles are expected.

#### 8.2.5.2 State

**California Endangered Species Act (CESA) (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. The CDFG has jurisdiction over listed state species. A permit to “take” a state listed species is most likely not required.

**Fish and Game Code Section 2080.1** - Allows an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) incidental take permit to notify the Director in writing that the applicant has been issued an incidental take statement or an incidental take permit pursuant to the federal Endangered Species Act of 1973. The applicant must submit the federal opinion incidental take statement or permit to the Director of Fish and Game for a determination as to whether the federal document is “consistent” with CESA. Receipt of the application by the Director starts a 30-day clock for processing the Consistency Determination

**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. Fully protected birds in the Project area include peregrine falcon, and California brown pelican, and southern bald eagle. No take of these species will occur from implementation of the HBRP.

**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. There are no fully-protected mammals, reptiles, amphibians, or fish in the HBRP impact area.

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

**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 limit of CDFG jurisdiction is subject to the judgment of the department, up to the 100-year flood level. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the Project. A permit is not required for HBRP as no work is proposed within a stream or other waterway.

**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 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 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** is a CEQA-equivalent process implemented by CEC. Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

**California Coastal Act.** Among the state laws applicable to this project is the California Coastal Act. The entire PG&E property is within the coastal zone. It is also within the retained jurisdiction of the California Coastal Commission.

The California Coastal Act sets out a series of policies to protect and enhance the California Coastal Zone. The following directives are established in the Act: oceanfront land suitable for aquaculture should be protected for that purpose; the commercial, economic, and recreational “importance of fishing activities shall be recognized and protected”; Environmentally Sensitive Habitat areas should be protected from disruption including conflicting development on adjacent lands; and marine resources should be “maintained, enhanced, and where feasible, restored.”

The following sections of the Act pertain to biological resources of ecological importance in the Coastal Zone. Section 30001 declares that the California coastal zone is a delicately balanced ecosystem that is a valuable natural resource of vital interest to residents of the state and nation, and protection of wildlife, marine fisheries, and other ocean resources is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction. It also states that existing and future developments are to be consistent with the policies of this Act to protect the economic and social well-being of people of the state.

The HBRP complies with this section of the Coastal Act as it is designed to protect the ecological balance of the coastal zone through avoidance and minimization of direct impacts to environmentally sensitive habitat areas. Environmentally sensitive habitat areas include wetlands and any other area that supports rare plants or wildlife that could be easily disturbed or degraded by human activities and developments.

Chapter 3 of the Coastal Act deals with projects that could affect wetlands. Section 30121 of the Act defines wetlands as:

Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens.

The California Coastal Commission (CCC) oversees the implementation of the Act and will be included in the project review. The Coastal Act further defines wetlands as:

Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.

The majority of wetland habitat on the HBRP site meets this definition and support only facultative wetland vegetation as most of the wetlands were man-made during site leveling and construction of Humboldt Bay Power Plant. Through project design, significant impacts to naturally occurring wetlands (salt marshes and slough) adjacent to the site have been avoided. Minor fill of man-made wetlands will not degrade the ecosystem and wetland

function as appropriate mitigation measures will be implemented to ensure a greater biological productivity and no-net-loss of wetland habitat.

Regarding impacts to wetlands, the Coastal Act Section 30233 (a), states in relevant part:

The diking, filling, or dredging of open coastal water, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- 1) New or expanded port, energy, and coastal-dependent industrial facilities including commercial fishing facilities...The HBRP is a coastal-dependent industrial facility.
- b) Dredging and spoils disposal shall avoid significant disruption to marine and wildlife habitats and water circulation. The HBRP would place spoils piles away from wetlands, Buhne Slough, intake/discharge channels, and other drainages and would not affect wildlife habitats or water circulation.
- c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. The HBRP construction fill would not affect estuaries and would minimize impacts to man-made seasonal wetlands and drainages.

The HBRP complies with Section 30233 of the Coastal Act as it is a coastal-dependent industrial facility that was designed to avoid filling open coastal water, estuaries, and lakes and minimizes fill in the man-made wetland habitats on land that was historically leveled and disturbed for construction of the Humboldt Bay Power Plant. This design is the least environmentally damaging alternative as it maintains and enhances the functional capacity of wetlands on the PG&E property through the wetland mitigation restoration plan and given the historical use of the site and the nature of the project as a replacement and repowering project. Regarding marine resources and water quality, the Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

The HBRP complies with this section of the Coastal Act as it will not adversely affect marine resources or water quality. No direct or indirect impacts to marine resources in Humboldt Bay will occur from construction or operation of HBRP. In addition, the HBRP will facilitate stopping once-through cooling water use at Units 1 and 2 that currently take water from and discharge water to the Humboldt Bay.

Regarding biological productivity and water quality, the Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The HBRP complies with this section of the Coastal Act and will not degrade biological productivity or water quality as it will not discharge wastewater to wetlands or coastal waters and will not have entrainment issues as the project does not use once-through cooling water from the Bay. In addition, no vegetation within riparian buffers would be affected. Runoff would be diverted from the existing drainages on site to a new swale that would eventually flow to Buhne Slough through a new stormwater outfall that will treat the water prior to being discharged.

Regarding environmentally sensitive habitat areas, the Coastal Act Section 30240 (b) states:

Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. Environmentally sensitive habitat areas include wetlands and any other area that supports rare plants or wildlife that could be easily disturbed or degraded by human activities and developments.

The HBRP complies with this section of the Coastal Act as it is designed to protect the ecological balance of the coastal zone through avoidance and minimization of direct impacts to environmentally sensitive habitat areas. Environmentally sensitive habitat areas in the HBRP project area include wetlands, sloughs, tidal flats and open water in Humboldt Bay, and the special-status species that occur in these habitats. With implementation of the wetland mitigation plan and protection measures identified to avoid impacts to special-status species (migratory birds, nesting resident birds, Northern red-legged frog), the HBRP would comply with this section of the Coastal Act.

Regarding mitigation measures, the Coastal Act Section 30607.1 states:

Mitigation measures for development in permitted wetlands shall include, at a minimum, either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action; or if no appropriate restoration site is available, an in-lieu fee sufficient to provide an area of equivalent productive value or surface area that would be dedicated to an appropriate public agency. The restoration site shall be purchased before the development may proceed. The mitigation measures shall not be required for temporary or short-term fill if financial responsibility is provided restoration will be completed in the shortest feasible time.

The proposed wetland mitigation plan for HBRP provides for wetland creation, restoration, and enhancement of salt/brackish marsh habitat on the PG&E property to compensate the permanent loss of man-made seasonal wetlands and drainages and the temporary loss of California Coastal Commission wetland areas. The salt/brackish marsh habitat is expected to be of greater biological productivity than the shallow man-made wetland habitats on the HBRP site.

### 8.2.5.3 Local Jurisdictions

#### 8.2.5.3.1 Applicable Habitat Conservation Plans

The PG&E property and HBRP site is not located within any existing FESA Section 10 Habitat Conservation Plan Areas.

#### 8.2.5.3.2 Humboldt County LORS

##### *Humboldt Bay Area Plan of the Humboldt County Local Coastal Program*

Although the HBRP project site is located within the Humboldt Bay Area of the Humboldt County Local Coastal Program, the site is within the retained jurisdiction of the California Coastal Commission. The California Coastal Commission retains jurisdiction of tidelands trust and other public trust lands such as historical coastal wetlands within areas that would otherwise fall under the jurisdiction of the local Coastal program. The California Coastal Commission's jurisdictional status means that the California Coastal Commission would review Coastal Development permit applications for projects in this area, instead of Humboldt County (under the Local Coastal Program). For energy projects under the jurisdiction of the California Energy Commission, the California Energy Commission would issue a report pursuant to Public Resources Code Sections 25523(b) and 30413(d) in lieu of a Coastal Development Permit. In either case, the California Coastal Commission takes the policies of the Local Coastal Program into consideration when reviewing Coastal applications. For this reason, the policies of the Humboldt Bay Local Coastal Program are applicable LORS.

Section 3.30 of the Local Coastal Program describes the Natural Resources Protection Policies and Standards. Subsection 30233(a)(1) defines allowable permitted fill of wetlands, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, to include new or expanded port, energy, and coastal-dependent industrial facilities. The HBRP complies with Section 3.30 as it is an expanded energy facility that will be located on a coastal-dependent site.

Subsection 3.30(A) Planned Uses describes the PG&E property between the existing Humboldt Bay Power Plant and Highway 101 as Resource Dependent and potentially suitable for development due to the proximity to existing industrial land uses. The area is also defined as a potential suitable wetland restoration site.

Subsection 3.30(B) Development Policies describes, in relevant part, development policies for (B)(1) environmentally sensitive habitats (wetlands, dunes, rivers, creeks, and sloughs, or critical habitat for rare species), (B)(5) wetland restoration requirements, (B)(6) wetland buffer restrictions, (B)(7) road construction within watersheds containing wetlands, and (B)(8) maintain biological productivity and water quality of coastal streams, riparian vegetation, and marine resources. The HBRP complies with each of these sections as shown in Table 8.2-16.

TABLE 8.2-16  
HBRP Compliance with Subsection 3.30(B) Development Policies of the Local Coastal Plan

Section 3.30(B) Development Policy	HBRP Compliance
<p><b>(B)(1) Environmentally Sensitive Habitats</b> Environmentally sensitive habitats include wetlands and any other area that supports rare plants or wildlife that could be easily disturbed or degraded by human activities and developments.</p>	<p>The HBRP will include CDFG review as part of the permitting process since the project will affect environmentally sensitive habitat areas (man-made wetlands).</p>
<p><b>(B)(5) Wetland Restoration.</b> Wetland restoration should be in designated wetland restoration areas shown on the Resource Protection Maps, in any farmed wetland, in areas with willing seller and where the project does not interfere with adjacent agriculture, or through mitigation banking if the restoration project is not specifically required by Section 30607.1 of the Coastal Act.</p>	<p>The wetland restoration plan for HBRP includes creation, restoration, and enhancement of wetland habitats on the PG&amp;E property.</p>
<p><b>(B)(6) Wetland Buffer.</b> No development shall be permitted in wetland buffer areas (defined as the area between a wetland and the nearest paved road or the forty (40) foot contour line (as determined from the 7.5-minute USGS contour maps), whichever is the shortest distance; or 250 feet from the wetland, where the nearest paved road or forty-foot contour exceeds this distance) that degrade the wetland value; however, (B)(6)(e) states setbacks of less than the distance specified above may be permitted only when the buffer would prohibit development of the site for principle use for which it is designated and shall be sited to retain a setback from the wetland sufficient to prevent adverse effects to the wetland's habitat values.</p>	<p>The HBRP has minimized the footprint required to construct the project and extends into wetland buffer areas but would not adversely affect the habitat values of adjacent salt marsh wetlands or Buhne Slough.</p>
<p><b>(B)(6)(f) Wetland Buffer Mitigation.</b> All new development within the wetland buffer shall include certain mitigation measures, as follows: *</p>	
<p>(1) 25% or less of the lot surface shall be impervious</p>	<p>Approximately 10% of the PG&amp;E property would be impervious with both HBRP and the existing Humboldt Bay Power Plant.</p>
<p>(2) The release rate of storm runoff to adjacent wetlands shall not exceed the natural rate of storm runoff for a 50 year storm of 10 minute duration</p>	<p>The HBRP stormwater release rate meets a 50 year storm of 15 minute duration.</p>
<p>(3) storm water outfalls shall be dissipated</p>	<p>The HBRP would use a grassy swale and cobble or other material at the outfall to dissipate water flows before eventually flowing to Buhne Slough as currently occurs at the site.</p>
<p>(4) areas disturbed within 100 feet of the mean high water line shall be restored to original contours and replanted with wetland vegetation naturally occurring in the area</p>	<p>The HBRP will restore temporary areas to original contours and will use native vegetation from the area in the restoration plan),</p>
<p>(5) Construction shall minimize cut and fill operations and erosion and sedimentation through sediment controls, seeding, divert runoff away from graded areas, and avoid grading during the rainy season.</p>	<p>PB&amp;E will prepare a SWPPP and DESCP that would meet this requirement.</p>

TABLE 8.2-16  
HBRP Compliance with Subsection 3.30(B) Development Policies of the Local Coastal Plan

Section 3.30(B) Development Policy	HBRP Compliance
<b>(B)(7) Road Construction.</b> Road construction within watersheds containing wetlands shall employ suitable measures to prevent erosion and minimize surface runoff.	The HBRP will prepare a SWPPP and DESCP that would meet this requirement.
<b>(B)(8)(30231) Biological Productivity.</b> The LCP borrows the requirements from Coastal Act Section 30231 for protection of biological productivity and water quality of coastal streams, riparian vegetation, and marine resources	The HBRP complies with this section of the LCP as it also complies with the Coastal Act

\* It is important to note that the HBRP is not a new development. It is a repowering project for the existing Humboldt Bay Power Plant (Section 2.1). Nevertheless, the HBRP will comply with the provisions of this section.

Section 3.60 Area Plan Maps define the Humboldt Bay Power Plant site as Industrial/Coastal Dependent (MC) and the southern portion as Resource Dependent (MR)/Commercial Recreation (CR). The HBRP site is within all three categories. The HBRP site is also designated as Farmed Wetland (FW) (or Transitional Agricultural Land), which is a wetland that has been farmed but where wetland vegetation typical of non-farmed wetlands predominate if farming is discontinued. In Humboldt County, these wetlands are typically diked former tidelands.

**Humboldt County Zoning Regulations.** Table 8.2-17 lists relevant sections of the Humboldt County Zoning Regulations and describes the HBRP's compliance with them.

TABLE 8.2-17  
HBRP Compliance the Humboldt County Zoning Regulations

Humboldt County Zoning Regulations	HBRP Compliance
Section 312-3.1.4 states that a Coastal Development Permit must be secured before starting of any development on land, in or under water, within the Coastal Zone of the County.	PB&E is seeking California Energy Commission Certification in lieu of a Coastal Development permit, because of the CEC's sole jurisdiction for thermal power plants greater than 50 MW.
Section 312-7.4 describes the Wetland Restoration Plan Procedure that regulates the development, content, review, and approval of a wetland restoration plan in conjunction with required Coastal Development Permits.	HBRP is preparing a Wetland Restoration Plan Procedure as part of the mitigation measures to protect wetland function values and compensate for the unavoidable loss of man-made wetlands that would follow the prescribed Wetland Restoration Plan Procedure.
Section 312-39.8.1 describes that natural drainage courses, including ephemeral streams, will be retained and protected from development which would impede the natural drainage pattern or have a significant adverse affect on water quality or wildlife habitat.	The development of HBRP will not impede natural drainage pattern of Buhne Slough. Stormwater runoff would be diverted from the existing man-made stormwater drainages on site to a new swale that would eventually flow to Buhne Slough. Stormwater would meet the water quality objectives for beneficial uses in the receiving waters (Bunhe Slough and Humboldt Bay). HBRP would comply with this section of the zoning regulations.

TABLE 8.2-17  
HBRP Compliance the Humboldt County Zoning Regulations

Humboldt County Zoning Regulations	HBRP Compliance
Section 313-38.1 describes the regulations for development in coastal wetlands. The purpose of the regulatory provisions establishes regulations to provide that any development in coastal wetlands will not degrade the wetland, but will maintain optimum populations of marine or freshwater organisms and, where feasible, will enhance wetland resources.	HBRP will comply with this regulation as it affects primarily man-made wetlands and the wetland mitigation plan will enhance wetland resources in the area by creating and restoring salt marsh wetlands to increase the available habitat for populations of marine/freshwater organisms.
Section 313-38.1.2 states the Wetland Area Regulations shall apply to lands containing wetlands designated "W" on the Zoning Maps, and shall also apply to unmapped wetlands.	None of the wetlands on the HBRP site were designated on the Zoning Maps; however, the HBRP is including them in the project impact analyses and will provide mitigation.
Section 313-38.1.4 describes the review process California Department of Fish and Game will conduct for proposed developments planned in wetlands requiring mitigation.	HBRP will have CDFG review the project and wetland mitigation plan.
Section 313-38.1.5 allows permitted diking, filling and dredging in developments designated as Coastal-Dependent Industrial Use Type developments.	HBRP has been determined to be a coastal-dependent industrial use, as all the infrastructure required to provide electricity to the state are currently on site and functioning for that purpose. HBRP complies with this section of the zoning regulations.
Section 313-38.1.8 finds that diking, filling, and dredging of wetlands shall be permitted only if the application Resource Protection Impact Findings in Chapter 2, Procedures, are made. The Resource Protection Impact Findings (312-39) require that impacts are minimized, stream flows are maintained, wetland functional capacity is maintained, there is no less environmentally damaging feasible alternative, and the best mitigation available is implemented for impacts to coastal habitats such as streams, riparian areas, dunes, elk habitat, natural drainages and landforms, offshore rocky intertidal areas, and transitional agricultural land.	HBRP will comply with this section as it has designed the project to avoid and minimize impacts to wetland habitats to the furthest extent feasible and will provide appropriate mitigation for unavoidable impacts.
Section 313-38.1.9 describes required minimum mitigation measures for impacts to wetlands, including: either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action. This section also describes the requirements for a restoration plan, mitigation site to be purchased before the fill may proceed, permanent protection of the mitigation site through restrictions, and the potential for an in-lieu fee to be paid to an appropriate public agency if no appropriate mitigation sites are available.	HBRP will comply with this section as it will mitigate the loss of man-made seasonal wetlands and drainages on the HBRP site with salt/brackish marsh habitat that has greater biological productivity on the PG&E property. This area will be protected permanently on the PG&E property. The restoration plan is briefly described in this document and will be detailed in the BRMIMP. Although Section 38.1.9.2.1.4 requires that the restoration plan provide for appropriated public access to the restoration site, the area would be in the PG&E controlled area and public access is restricted for safety and security reasons.

TABLE 8.2-17  
HBRP Compliance the Humboldt County Zoning Regulations

Humboldt County Zoning Regulations	HBRP Compliance
Section 313-125 describes wetland buffers and their specific protection and mitigation measures. Wetland buffer areas shall be defined as: the area between a wetland and the nearest paved road or the forty (40) foot contour line (as determined from the 7.5-minute USGS contour maps), whichever is the shortest distance; or 250 feet from the wetland, where the nearest paved road or forty- foot contour exceeds this distance. Section 313-125.6 describes development permitted in the coastal buffer zone that includes Industrial Use Types (Section 313-175), including coastal-related use types (Section 313-175.3) such as electric generating facilities that require improvements or relocation of existing industrial facilities.	HBRP complies with this section in that the project is included as a permitted use in wetland buffer areas.

**County of Humboldt General Plan Policies.** Existing County biological resources policies are contained in Chapter 3 of the Framework Plan (County of Humboldt 2006) and are listed in Table 8.2-18, along with an explanation of how the HBRP complies with these policies.

TABLE 8.2-18  
HBRP Compliance the Humboldt County General Plan Policies

Humboldt County General Plan Policies	HBRP Compliance
Maintain values of significantly important habitat areas by assuring compatible adjacent land uses, where feasible.	HBRP will maintain values of wetland habitats through mitigation that includes enhancing, restoring, and creating salt marsh/brackish marsh habitat for replacement of man-made seasonal wetlands and drainages.
Habitats for "critical species" shall be protected under provisions of NEPA and CEQA.	The HBRP would not adversely affect habitat for federal or state listed species.
Development within stream channels shall be permitted when there is no less environmentally damaging feasible alternative, where the best feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to essential, non-disruptive projects.	The HBRP was designed to avoid impacts to stream channels.
To protect sensitive fish and wildlife habitats and to minimize erosion, runoff and interference with surface water flows, the County shall maintain Streamside Management Areas, along its blue line streams as identified on the largest scale U.S.G.S. topographic maps most recently published, and any significant drainage courses identified through the CEQA process.	The HBRP site is not located in any Streamside Management Area; the nearest Streamside Management Area is on the Elk River several miles to the north of the Site (County of Humboldt, 2006).

TABLE 8.2-18  
HBRP Compliance the Humboldt County General Plan Policies

Humboldt County General Plan Policies	HBRP Compliance
The Biological Resource Maps shall be incorporated into the project review process in order to identify sensitive habitat concerns. These maps shall be kept up to date with the most recent information obtainable. Accommodation of new resource information on the Biological Resource Maps may require an amendment to the adopted General Plan.	HBRP will provide maps showing biological resources within the project area that could be used by the County to update Biological Resource Maps.
The County should request the Department of Fish and Game, as well as other appropriate agencies and organizations to review plans for development within sensitive habitat areas or Streamside Management Areas. Recommended mitigation measures shall be considered prior to project approval.	The HBRP would not affect streamside management areas.

### 8.2.5.3.3 City of Eureka LORS

The HBRP site is located in unincorporated lands of Humboldt County, and as such, is not subject to any City of Eureka LORS. The site is within the Sphere of Influence of Eureka.

## 8.2.6 Involved Agencies and Agency Contacts

Involved agencies and agency contacts are listed in Table 8.2-19.

TABLE 8.2-19  
Agency Contacts for the HBRP Project

Biological Resource Agency	Contact	Issue	Phone
U.S. Fish and Wildlife Service	Greg Goldsmith	Species List request, informal consultation	(707) 825-5120
National Oceanic and Atmospheric Administrations Fisheries Service	Staff	Federal listed marine species	(707) 575-6050
California Coastal Commission	John Dixon	CCC wetlands in Coastal Zone	(415) 904-5200
California Department of Fish and Game; Listed Species	Bruce Webb Gordon Leppig	California listed state species and species of concern	(530) 225-2675 (707) 441-2062
California Department of Fish and Game	Vicky Fry	Marine species and eel grass	(707) 445-7830
USACE	Ed Wiley	Section 404 permit for fill of potential wetlands	(415) 977-8436
Regional Water Quality Control Board	Staff	Potential need of a RWQCB 401 permit as condition of the USACE 404 permit	(707) 576-2220

## 8.2.7 Required Permits and Permitting Schedule

For informational purposes, the list of applicable permits, including permits that would be required, but for CEC's exclusive siting jurisdiction, are shown in Table 8.2-20.

TABLE 8.2-20  
Required Permits and Schedule

Permit/Authorization	What Is Required to Complete Consultations and Permit Applications	Date Application to be Submitted
Coastal Commission 30413(d) Report	Report is for power plants before the CEC pursuant to Coastal Act §30413(d) in lieu of a Coastal Development Permit	Prior to CEC Evidentiary Hearings
Biological Opinion pursuant to Section 7 of the ESA	May need informal consultation and concurrence letter from USFWS. Informal consultation with USFWS/NMFS in process concerning Western snowy plover CH.	If required, a Biological Assessment would be submitted late 2006.
CDFG Consistency Determination potentially required for state-listed species addressed in the federal consultation.	Completion of USFWS consultation and preparation of letter requesting consistency with the USFWS Biological Opinion (BO).	If required, the request would be submitted as soon as a USFWS BO is obtained.
Clean Water Act Section 404 Permit potentially required for filling jurisdictional wetlands	Prepare notification package with final construction design and protection measures described for wetland fill.	Notification package and request for permit would be submitted late 2006.
Clean Water Act Section 401 Water Quality Certification	If a Section 404 permit is needed, prepare 401 application that describes monitoring plan for water quality during construction, and completed endangered species consultations.	Application for 401 certification would be submitted to coincide with the 404 application.

## 8.2.8 References

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TABLE 8.2-1  
Plant Species Observed at the HBRP and adjacent PG&E Property and Their Status as Wetland Indicator Species

Scientific Name	Common Name	Wetland Indicator <sup>a</sup> (Reed, 1988)
<i>Abronia latifolia</i>	yellow sand verbena	NI
<i>Achillea millefolium</i>	yarrow	FACU
<i>Agrostis capillaris</i>	colonial bentgrass	FAC
<i>Aira caryophylla</i>	silver hairgrass	NI
<i>Alnus rubra</i>	red alder	FACW
<i>Alopecurus geniculatus</i>	water foxtail	OBL
<i>Ambrosia chamissonis</i>	beach-bur	NI
<i>Anagallis arvensis</i>	scarlet pimpernel	FAC
<i>Anthoxanthum odoratum</i>	sweet vernal grass	FACU
<i>Aralia californica</i>	elk's clover	FACW
<i>Aster chilensis</i>	common California aster	FAC
<i>Atriplex triangularis</i>	spearscale	NI
<i>Avena barbata</i>	slender wild oats	NI
<i>Baccharis douglasii</i>	salt marsh baccharis	OBL
<i>Baccharis pilularis</i>	coyote brush	NI
<i>Bellis perennis</i>	English daisy	NI
<i>Brassica rapa</i>	field mustard	NI
<i>Briza maxima</i>	big quaking grass	NI
<i>Bromus carinatus</i>	California brome	NI
<i>Bromus diandrus</i>	ripgut brome	NI
<i>Cakile maritima</i>	European sea rocket	FACW
<i>Carex jonesii</i>	Jones' sedge	FACW
<i>Carex luzulina var. ablata</i>	wood rush sedge	OBL
<i>Carex obnupta</i>	slough sedge	OBL
<i>Carpobrotus chilensis</i>	sea fig	
<i>Castilleja ambigua ssp. humboldtiensis</i>	Humboldt Bay owl's-clover	OBL
<i>Cerastium glomeratum</i>	mouse-ear chickweed	FACU
<i>Cirsium vulgare</i>	bull thistle	FAC
<i>Cordylanthus maritimus ssp. maritimus</i>	salt marsh bird's-beak	OBL
<i>Cortaderia selloana</i>	pampas grass	NI
<i>Cotula coronopifolia</i>	brass-buttons	FACW+
<i>Cuscuta salina</i>	saltmarsh dodder	NI
<i>Cyperus eragrostis</i>	tall flatsedge	FACW
<i>Dactylis glomerata</i>	orchard-grass	FACU
<i>Daucus carota</i>	carrot	NI
<i>Deschampsia cespitosa</i>	tufted hair-grass	FACW
<i>Distichlis spicata</i>	saltgrass	FACW

TABLE 8.2-1  
Plant Species Observed at the HBRP and adjacent PG&E Property and Their Status as Wetland Indicator Species

Scientific Name	Common Name	Wetland Indicator <sup>a</sup> (Reed, 1988)
<i>Eleocharis macrostachya</i>	common spikerush	OBL
<i>Epilobium angustifolium</i> ssp. <i>circumvagum</i>	fireweed	FAC
<i>Epilobium ciliatum</i>	willowherb	FACW
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail	OBL
<i>Erechtites glomerata</i>	cut-leafed erechtites	NI
<i>Erica lusitanica</i>	Spanish heather	NI
<i>Erodium cicutarium</i>	red-stemmed filaree	NI
<i>Festuca arundinacea</i>	tall fescue	FAC-
<i>Festuca californica</i>	California fescue	FACU*
<i>Festuca rubra</i>	red fescue	FAC
<i>Foeniculum vulgare</i>	fennel	FACU-
<i>Fragaria chiloensis</i>	beach strawberry	NI
<i>Galium trifidum</i> var. <i>pacificum</i>	three-petaled bedstraw	FACW
<i>Geranium dissectum</i>	cut-leaved geranium	NI
<i>Grindelia stricta</i>	coastal gumweed	FACW*
<i>Hedera helix</i>	English ivy	NI
<i>Heliotropium europaeum</i>	European heliotrope	NI
<i>Heracleum lanatum</i>	cow parsnip	FACU
<i>Holcus lanatus</i>	common velvetgrass	FAC
<i>Hordeum brachyantherum</i>	meadow barley	FACW
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	foxtail barley	UPL
<i>Hypochaeris radicata</i>	rough cat's ear	FACU*
<i>Juncus balticus</i>	Baltic rush	FACW+
<i>Juncus bufonius</i>	toad rush	FACW+
<i>Juncus effusus</i>	common bog rush	FACW+
<i>Juncus lesueurii</i>	dune rush	FACW
<i>Juncus patens</i>	common rush	FAC
<i>Leontodon taraxacoides</i>	hawkbit	FACU
<i>Linum usitatissimum</i>	common flax	NI
<i>Lolium perenne</i>	English rye-grass	FAC*
<i>Lonicera conjugialis</i>	double honeysuckle	FAC
<i>Lotus corniculatus</i>	bird's-foot trefoil	FAC
<i>Lotus micranthus</i>	small-flowered lotus	NI
<i>Lupinus rivularis</i>	riverbank lupine	FAC
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	FACW
<i>Medicago polymorpha</i>	California burclover	FACU-
<i>Melilotus alba</i>	white sweetclover	
<i>Mentha pulegium</i>	pennyroyal	OBL

TABLE 8.2-1  
Plant Species Observed at the HBRP and adjacent PG&E Property and Their Status as Wetland Indicator Species

Scientific Name	Common Name	Wetland Indicator <sup>a</sup> (Reed, 1988)
<i>Montia fontana</i>	water chickweed	FACW
<i>Myrica californica</i>	wax-myrtle	FAC+
<i>Nothoscordum inodorum</i>	false garlic	NI
<i>Oenanthe sarmentosa</i>	Pacific oenanthe	OBL
<i>Parapholis incurva</i>	sickle grass	OBL
<i>Parentucellia viscosa</i>	yellow parentucellia	FAC
<i>Picea sitchensis</i>	Sitka spruce	FAC
<i>Picris echioides</i>	bristly ox-tongue	FAC
<i>Pinus radiata</i>	Monterey pine	NI
<i>Plantago coronopus</i>	cut-leaf plantain	FAC
<i>Plantago elongata</i>	long-leaf plantain	FACW*
<i>Poa annua</i>	annual blue grass	FAC
<i>Poa douglasii</i>	sand dune blue grass	UPL
<i>Poa pratensis</i>	Kentucky blue grass	FAC
<i>Polystichum munitum</i>	western sword fern	FACU
<i>Potentilla anserina</i>	silver-weed cinquefoil	OBL
<i>Ranunculus orthorhynchus</i>	straight-beaked buttercup	FACW
<i>Raphanus sativus</i>	wild radish	UPL
<i>Ribes sanguineum var. glutinosum</i>	pink-flowering currant	NI
<i>Rosa nutkana var. nutkana</i>	Nootka rose	FAC*
<i>Rubus discolor</i>	Himalaya-berry	FAC+
<i>Rubus spectabilis</i>	salmon berry	FAC+
<i>Rubus ursinus</i>	California blackberry	FAC+
<i>Rumex acetosella</i>	common sheep sorrel	FAC-
<i>Rumex crispus</i>	curly dock	FACW-
<i>Ruppia maritima</i>	ditch grass	OBL
<i>Salicornia virginica</i>	pickleweed	OBL
<i>Salix sitchensis</i>	Sitka willow	FACW+
<i>Scirpus cernuus</i>	annual tule	OBL
<i>Scirpus maritimus</i>	prairie rush	OBL
<i>Scrophularia californica</i>	California figwort	FAC
<i>Senecio vulgaris</i>	common groundsel	NI*
<i>Sonchus arvensis</i>	perennial sow thistle	FACU
<i>Spartina densiflora</i>	dense-flowered cord grass	OBL
<i>Stachys ajugoides var. rigida</i>	rigid hedge-nettle	OBL
<i>Stachys bullata</i>	southern hedge-nettle	NI
<i>Taraxacum officinale</i>	common dandelion	FACU
<i>Tragopogon porrifolius</i>	salsify	NI

TABLE 8.2-1  
Plant Species Observed at the HBRP and adjacent PG&E Property and Their Status as Wetland Indicator Species

Scientific Name	Common Name	Wetland Indicator <sup>a</sup> (Reed, 1988)
<i>Trifolium depauperatum</i> var. <i>depauperatum</i>	dwarf sack clover	FAC-
<i>Trifolium repens</i>	white clover	FAC
<i>Typha latifolia</i>	broadleaf cattail	OBL
<i>Veronica scutellata</i>	marsh speedwell	OBL
<i>Vicia benghalensis</i>	purple vetch	NI
<i>Vicia hirsuta</i>	hairy vetch	NI
<i>Vicia sativa</i> ssp. <i>sativa</i>	spring vetch	FACU
<i>Vinca major</i>	greater periwinkle	NI
<i>Vulpia myuros</i>	rattail fescue	FACU*

\* Table 8.2-3 provides a key to the wetland indicator codes and a descriptions of the wetland types.

TABLE 8.2-2  
Cumulative Wildlife Species Observed in or Near the Humboldt Power Plant Project Area, Spring/Summer 2006

Common Name	Scientific Name	Comments
<b>Birds</b>		
Western grebe	<i>Aechmophorus occidentalis</i>	Observed along bay shoreline
Brown Pelican	<i>Pelecanus occidentalis</i>	Observed foraging along bay shoreline
Double-crested cormorant	<i>Phalacrocorax auritus</i>	Observed along bay shoreline and in power plant water intake/exhaust area
Great blue heron	<i>Ardea herodias</i>	Fly over, marsh area northeast, east and south of existing power plant and along bay shoreline
Great egret	<i>Casmerodius albus</i>	Fly over and marsh area northeast, east and south of existing power plant
Snowy egret	<i>Egretta thula</i>	Marsh area east of existing power plant
Cattle egret	<i>Bubulcus ibis</i>	Marsh area east of existing power plant
Black-crowned night heron	<i>Nycticorax nycticorax</i>	Fly over and marsh area northeast and east of existing power plant also observed foraging within intake canal at night using existing power plant lighting to attract small baitfish
Canada goose	<i>Branta canadensis</i>	Fly over and marsh area northeast and east of existing power plant
Mallard	<i>Anas platyrhynchos</i>	Marsh area northeast and east of existing power plant nesting and foraging
Northern shoveler	<i>Anas clypeata</i>	Fly over and along bay shoreline
Gadwall	<i>Anas strepera</i>	Marsh area northeast of existing power plant
American wigeon	<i>Anas americana</i>	Marsh area northeast of existing power plant
Ring-necked duck	<i>Aythya collaris</i>	Along bay shoreline
Lesser scaup	<i>Aythya affinis</i>	Along bay shoreline
Harlequin duck	<i>Histrionicus histrionicus</i>	Along bay shoreline

TABLE 8.2-2  
Cumulative Wildlife Species Observed in or Near the Humboldt Power Plant Project Area, Spring/Summer 2006

Common Name	Scientific Name	Comments
Surf scoter	<i>Melanitta perspicillata</i>	Along bay shoreline
Red-breasted merganser	<i>Mergus serrator</i>	Along bay shoreline
Turkey vulture	<i>Cathartes aura</i>	Fly over throughout area
Osprey	<i>Pandion haliaetus</i>	Fly over with prey throughout area
Northern harrier	<i>Circus cyaneus</i>	Marsh area northeast and east of existing power plant
Red-shouldered hawk	<i>Buteo lineatus</i>	Foraging in riparian area southwest of existing power plant
Red-tail hawk	<i>Bueto jamaicensis</i>	Observed foraging in surrounding habitats
Killdeer	<i>Charadrius vociferus</i>	Marsh area northeast and east of existing power plant
Black oystercatcher	<i>Haematopus bachmani</i>	Marsh area southwest of existing power plant
Willet	<i>Catoptrophorus semipalmatus</i>	Marsh area northeast, east, and southwest of existing power plant
Whimbrel	<i>Numenius phaeopus</i>	Marsh area northeast, east, and southwest of existing power plant
Marbled godwit	<i>Limosa fedoa</i>	Large flocks observed foraging and loafing in marsh area southwest of existing power plant
Western sandpiper	<i>Calidris mauri</i>	Marsh area northeast, east and southwest of existing power plant and along bay shoreline
Least sandpiper	<i>Calidris minutilla</i>	Marsh area east and southwest of existing plant
Common snipe	<i>Gallinago gallinago</i>	Marsh area east and southwest of existing power plant
Red-necked phalarope	<i>Phalaropus lobatus</i>	Foraging in marsh area southwest of existing power plant
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	Foraging in intake structure during low tide
Heerman's gull	<i>Larus heermanni</i>	Along bay shoreline and fly over
California gull	<i>Larus californicus</i>	Fly over and along bay shoreline
Common tern	<i>Sterna Hirundo</i>	Along bay shoreline and fly over
Rock dove	<i>Columba livia</i>	Fly over
Mourning dove	<i>Zenaida macroura</i>	Fly over and perched
Barn owl	<i>Tyto alba</i>	Observed flying over existing power plant during night surveys
Anna's hummingbird	<i>Calypte anna</i>	Landscape area northeast of existing plant
Belted kingfisher	<i>Ceryle alcyon</i>	Power plant water intake/exhaust area and in marsh areas southwest and east of existing plant
Downy woodpecker	<i>Picoides pubescens</i>	Landscape area southwest of existing plant
Hairy woodpecker	<i>Picoides villosus</i>	Landscape area southwest of existing plant
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	Foraging in marsh area northeast of existing plant
Black phoebe	<i>Sayornis nigricans</i>	Fly over and marsh area east, northeast, and southwest of existing power plant
Say's phoebe	<i>Sayornis saya</i>	Fly over and marsh area northeast of existing power plant

TABLE 8.2-2  
Cumulative Wildlife Species Observed in or Near the Humboldt Power Plant Project Area, Spring/Summer 2006

Common Name	Scientific Name	Comments
Tree swallow	<i>Tachycineta bicolor</i>	Fly over throughout surveyed habitats
Barn swallow	<i>Hirundo rustica</i>	Fly over throughout surveyed habitats nests observed within existing power plant structures
Steller's jay	<i>Cyanocitta stelleri</i>	Observed in riparian area near parking lot southwest of existing power plant
Scrub jay	<i>Aphelocoma coerulescens</i>	Observed in riparian area near parking lot southwest of existing power plant
American crow	<i>Corvus brachyrhynchos</i>	Observed throughout project areas foraging and flyover
Common raven	<i>Corvus corax</i>	Observed throughout project areas foraging and flyover
Bushtit	<i>Psaltriparus minimus</i>	Fly over and riparian area southwest of existing power plant
Marsh wren	<i>Cistothorus palustris</i>	Marsh area northeast, east, and southwest of existing power plant nesting and foraging
American robin	<i>Turdus migratorius</i>	Observed throughout project areas foraging and flyover
Cedar waxwing	<i>Bombycilla cedrorum</i>	Observed in riparian area near parking lot southwest of existing power plant
European starling	<i>Sturnus vulgaris</i>	Observed in landscape areas throughout project
Savannah sparrow	<i>Passerculus sandwichensis</i>	Observed throughout project areas foraging and flyover
Fox sparrow	<i>Passerella iliaca</i>	Observed throughout project areas foraging and flyover
Song sparrow	<i>Melospiza melodia</i>	Observed throughout project areas foraging and flyover
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	Observed throughout project areas foraging and flyover
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Observed throughout project areas foraging and flyover
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	Observed throughout project areas foraging and flyover
Brown-headed cowbird	<i>Molothrus ater</i>	Marsh area northeast of existing power plant
Northern oriole	<i>Icterus galbula</i>	Observed throughout project areas foraging and flyover
House finch	<i>Carpodacus mexicanus</i>	Observed throughout project areas foraging and flyover
American goldfinch	<i>Carduelis tristis</i>	Observed throughout project areas foraging and flyover
House sparrow	<i>Passer domesticus</i>	Observed throughout project areas foraging and flyover
<b>Mammals</b>		
Vole	<i>Microtus</i> sp.	Burrows observed throughout project area
Red fox	<i>Vulpes vulpes</i>	Observed on Buhne Hill, scat observed throughout project areas

TABLE 8.2-2  
 Cumulative Wildlife Species Observed in or Near the Humboldt Power Plant Project Area, Spring/Summer 2006

Common Name	Scientific Name	Comments
Raccoon	<i>Procyon lotor</i>	Tracks observed in marsh areas
Mule deer	<i>Odocoileus hemionus</i>	In foothill riparian areas east of project site and landscaped areas near Buhne Slough
Striped skunk	<i>Mephitis mephitis</i>	Marsh area northeast of project site
River otter	<i>Lontra Canadensis</i>	Observed in King Salmon Slough south of existing power plant
Virginia opossum	<i>Didelphis virginiana</i>	Observed tracks in marsh area northeast, east and southwest of existing power plant
<b>Amphibians and Reptiles</b>		
Pacific tree frog	<i>Hyla regilla</i>	Observed throughout project areas
Northern red-legged frog	<i>Rana aurora aurora</i>	Observed in sump adjacent to existing detention ponds, landscaped area east of existing power plant and in drainage ditch south of existing power plant
Western fence lizard	<i>Sceloporus occidentalis</i>	Observed throughout project areas
Northern alligator lizard	<i>Gerrhonotus coeruleus</i>	Observed in marsh area northeast of project site



**LEGEND**

70-acre Portion of PG&E Property	FWM - Freshwater Marsh
Humboldt Bay Power Plant Boundary	G - Grassland
1-Mile Radius	Lds - Landscaping
Abandoned Railroad	Mud - Mud flats
<b>Habitat Type</b>	NCF - North Coast Forest
Com/RC/Res - Commercial, Residential/Commercial, Residential	Rip - Riparian
D - Dune	Scr - Scrub
DC - Dredged Channel, Tidal	Sm - Saltwater Marsh
Eelgrass	W - Water

Scale: 1:6000

500 250 0 500 Feet

**FIGURE 8.2-2**  
**BIOLOGICAL RESOURCES WITHIN**  
**1-MILE OF THE SITE**  
 HUMBOLDT BAY REPOWERING PROJECT