BIOLOGICAL RESOURCES

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SUMMARY OF CONCLUSIONS

The Humboldt Bay Repowering Project (HBRP) site is located on the same parcel of land as the existing Humboldt Bay Power Plant, three miles south of the city of Eureka in Humboldt County. The HBRP will impact United States Army Corps of Engineers (USACE) jurisdictional wetlands and California Coastal Commission (Coastal Commission) wetlands. In addition, the HBRP has the potential to impact special-status plant and animal species known to occur in the project vicinity; however, compliance with Section 404 of the federal Clean Water Act, the biological resources Conditions of Certification, and other laws, ordinances, regulations, and standards (LORS) discussed in the staff analysis would likely mitigate impacts to biological resources from the HBRP. Additional Conditions of Certification or modifications to currently proposed Conditions of Certification may be necessary based on further consultation with agency personnel, information provided prior to completion of staff's Final Staff Assessment, and staff's Coastal Act conformance analysis. Staff is unable to make a final recommendation regarding the HBRP due to its pending review of Coastal Commission documents regarding compliance with the Coastal Act.

INTRODUCTION

This section of the Preliminary Staff Assessment provides the California Energy Commission (Energy Commission) staff's preliminary analysis of potential impacts to biological resources from the construction and operation of the HBRP. Information provided in this document addresses potential impacts to state and federally listed species, Species of Special Concern, and areas of critical biological concern. This analysis also describes the biological resources at the project site and at the locations of ancillary facilities. This document explains the need for mitigation, the adequacy of mitigation proposed by the applicant, and where necessary, specifies additional mitigation measures to reduce identified impacts to less-than-significant levels. It also describes compliance with applicable LORS and recommends Conditions of Certification.

This analysis is based, in part, upon information provided in the Application for Certification (AFC) for the HBRP (PG&E 2006a); the Draft Wetland Delineation Report (CH2MHILL 2006a); the Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for the HBRP (Dains and CH2MHILL 2007); responses to staff data requests (CH2MHILL 2007a); site visits conducted on August 21, 2006, December 18, 2006, February 2, 2007, and November 6, 2007; and discussions with various agency and applicant representatives.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

FEDERAL	
Clean Water Act (CWA) of 1977	Title 33, United States Code, Sections 1251–1376 and Code of Federal Regulations, part 30, Section 330.5(a)(26) prohibit the discharge of dredged or fill material into the waters of the United States without a permit. The administering agency is the U.S. Army Corps of Engineers.
Endangered Species Act (ESA) of 1973	Title 16, United States Code, Section 1531 et seq. and Title 50, Code of Federal Regulations, part 17.1 et seq. designate and provide for the protection of threatened and endangered plant and animal species and their critical habitat. The administering agency is the U.S. Fish and Wildlife Service (USFWS).
Migratory Bird Treaty Act	Title 16, United States Code, Sections 703–712 prohibit the take of migratory birds, including nests with viable eggs. The administering agency is the USFWS.
Bald and Golden Eagle Protection Act	Title 16, United States Code, Section 668 prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions.

STATE	The administering agency for the following state LORS is the California Department of Fish and Game (CDFG), except for the CWA Section 401 Water Quality Certification, which is administered by the Regional Water Quality Control Board and the California Coastal Act, administered by the California Coastal Commission.
California Endangered Species Act (CESA) of 1984	Fish and Game Code Sections 2050–2098 protect California's rare, threatened, and endangered species.
California Code of Regulations	California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 3, Sections 670.2 and 670.5 list plants and animals of California that are designated as rare, threatened, or endangered.
Fully Protected Species	Fish and Game Code Sections 3511, 4700, 5050, and 5515 prohibit the take of animals that are classified as Fully Protected in California.
Nest or Eggs – Take, Possess, or Destroy	Fish and Game Code Section 3503 protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.
Birds of Prey – Take, Possess, or Destroy	Fish and Game Code Section 3503.5 specifically protects California's birds of prey in the orders *Falconiformes* and *Strigiformes* by making it unlawful to take, possess, or destroy any such birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Migratory Birds – Take or Possession	Fish and Game Code Section 3513 protects California's migratory non-game birds by making it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird.
Significant Natural Areas	Fish and Game Code Sections 1930 et seq. designate certain areas in California such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.
Native Plant Protection Act of 1977	Fish and Game Code Sections 1900 et seq. designate rare, threatened, and endangered plants in the state of California.
Streambed Alteration Agreement	Fish and Game Code Sections 1603 et seq. regulate activities by private utilities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by the CDFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.
Regional Water Quality Control Board (RWQCB)	By federal law every applicant for a federal permit or license for an activity which may result in a discharge into a California water body, including wetlands, must request state certification that the proposed activity will not violate state and federal water quality standards.
California Coastal Act	The California Coastal Act sets out a series of policies to protect and enhance the California Coastal Zone. The Coastal Act addresses marine resources, biological productivity, environmentally sensitive habitat areas, wetlands, and other issues.

LOCAL	
Humboldt Bay Area Plan of the Humboldt County Local Coastal Program	Section 3.30 of the plan, "Natural Resources Protection Policies and Standards," includes a series of policies intended to protect and enhance the California Coastal Zone.
Humboldt County Zoning Regulations	Sections 312 and 313 of the zoning regulations describe protection and mitigation measures for projects that could affect coastal wetlands, wetland buffers, and environmentally sensitive areas.
Humboldt County General Plan	Chapter 3 of the Framework Plan includes biological resources policies that focus on protection and minimization of impacts to sensitive biological resources including wetlands and special-status species.

SETTING

REGIONAL AND LOCAL

The proposed HBRP site is located approximately three miles south of the City of Eureka in an unincorporated area of Humboldt County. The project is within the Coastal Zone and would be located on 5.4 acres within a 143-acre parcel currently occupied by the existing PG&E Humboldt Bay Power Plant.

The property is bounded on the north by Humboldt Bay, on the west by the King Salmon community, on the east by the Northwestern Pacific Railroad tracks, and on the south by King Salmon Avenue. East of the railroad property are Highway 101, some rural parcels, and commercial development. South of King Salmon Avenue are wetland areas and the Humboldt Hill residential development. Southwest of Humboldt Hill is the community of Fields Landing. West of the King Salmon community are Humboldt Bay, a sand spit known as South Spit, and beyond the spit, the Pacific Ocean (HBRP 2006a, pp. 8.6-1 and 8.6-2).

A shoreline trail maintained by PG&E and the Humboldt Bay Harbor Recreation and Conservation District runs along the shoreline on the perimeter of the Humboldt Bay Power Plant property to the northwest. This portion of the trail extends from the King Salmon community south to the wetlands along the bay. This trail represents part of a planned coastal trail system that the California Coastal Conservancy envisions would eventually extend from Oregon to Mexico (HBRP 2006a, p. 8.13-6).

The project vicinity is characterized by agricultural land as well as industrial, commercial, and residential areas, and there are areas of freshwater, saltwater, and riparian marsh in the vicinity of the project site. Other vegetation communities that exist within one mile of the project site include grasslands, coastal dunes, mud flats and eelgrass beds, coyote brush scrub, North Coast forest, and North Coast riparian forest. In addition, the waters of Humboldt Bay are located adjacent to the project site (PG&E 2006a).

Special-Status Species

A variety of special-status plant and animal species are known to occur in the area presently or to have occurred in the area historically. **Biological Resources Table 1** provides a list of these special-status species in the project vicinity. The majority of the species listed in **Biological Resources Table 1** are unlikely to be impacted by the HBRP due to lack of suitable habitat at the project site. Staff provides an analysis of potential impacts to special-status species that may be impacted by the project.

BIOLOGICAL RESOURCES Table 1
Special-Status Species Reported or Suspected to Occur in the Vicinity of HBRP

Scientific Name	Common Name	Status
Plants		
Abronia umbellata ssp. *breviflora*	Pink sand-verbena	CNPS List 1B.1
Carex arcta	Northern clustered sedge	CNPS List 2.2
Carex leptalea	Flaccid sedge	CNPS List 2.2
Carex lyngbyei	Lyngbye's sedge	CNPS List 2.2

Scientific Name	Common Name	Status
Castilleja affinis ssp. *litoralis*	Oregon coast Indian paintbrush	CNPS List 2.2
Castilleja ambigua ssp. *humboldtiensis*	Humboldt Bay owl's-clover	CNPS List 1B.2
Cordylanthus maritimus ssp. *palustris*	Point Reyes bird's-beak	CNPS List 1B.2
Erysimum menziesii ssp. *eurekense*	Humboldt Bay wallflower	CNPS List 1B.1, CE, FE
Gilia millefoliata	Dark-eyed gilia	CNPS List 1B.2
Hesperevax sparsiflora var. *breviflolia*	Short-leaved evax	CNPS List 2.2
Lathyrus japonicus	Sand pea	CNPS List 2.1
Lathyrus palustris	Marsh pea	CNPS List 2.2
Layia carnosa	Beach layia	CNPS List 1B.1, CE, FE
Lilium occidentale	Western lily	CNPS List 1B.1, CE, FE
Sidalcea oregana ssp. *eximia*	Coast checkerbloom	CNPS List 1B.2
Spergularia canadensis var. *occidentalis*	Western sand-spurry	CNPS List 2.1
Fish		
Oncorhynchus kisutch	S. Oregon / N. California Coho salmon	CT, FE
Oncorhynchus tshawytscha	California coastal Chinook salmon	CT, FT
Oncorhynchus mykiss	Northern California steelhead	FT
Eucyclogobius newberryi	Tidewater goby	CSC, FE
Amphibians		
Caretta caretta	Loggerhead turtle	FT
Chelonia mydas	Green turtle	FT
Dermochelys coriacea	Leatherback turtle	FE
Lepidochelys olivacea	Olive ridley sea turtle	FT
Rana aurora aurora	Northern red-legged frog	CSC
Birds		
Brachyramphus marmoratus	Marbled murrelet	CE, FT
Charadrius alexandrinus nivosus	Western snowy plover	FT
Coccyzus americanus	Western yellow-billed cuckoo	CE
Haliaeetus leucocephalus	Bald eagle	CE, FP, FFTD
Pandion haliaetus	Osprey	CSC
Pelecanus occidentalis californicus	California brown pelican	CE, FP, FE
Phalacrocorax auritus	Double-crested cormorant	CSC
Phoebastris albatrus	Short-tailed albatross	FE
Rallus longirostris obsoletus	California clapper rail	CE, FE
Strix occidentalis caurina	Northern spotted owl	FT
Synthliboramphus hypoleucus	Xantus's murrelet	CT
Mammals		
Balaenoptera borealis	Sei whale	FE
Balaenoptera musculus	Blue whale	FE
Balaenoptera physalus	Fin whale	FE
Eumetopias jubatus	Steller sea lion	FT
Megaptera novaengliae	Humpback whale	FE
Physeter macrocephalus	Sperm whale	FE

Status Key

Federal Status

FE = Federally listed as Endangered
FT = Federally listed as Threatened
FD = Delisted

State Status

CE = State-listed as Endangered
CT = State-listed as Threatened
CSC = California Species of Special Concern
FP = Fully Protected species

California Native Plant Society (CNPS) Status

CNPS List 1B = Plants rare, threatened, or endangered in California and elsewhere
CNPS List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere
.1 = Very endangered in California
.2 = Fairly endangered in California
Sources: PG&E 2006a; CDFG 2007a, 2007b; CNPS 2007

Sensitive Habitats

Critical Habitat

The USFWS has designated critical habitat for the western snowy plover, beach layia, and Humboldt Bay wallflower within two miles of the project site. Critical habitat for the western snowy plover and for beach layia is located in the areas known as the North Spit and the South Spit, which are located across from the HBRP site on the western side of Humboldt Bay, as well as in an area at the mouth of the Elk River approximately one mile north of the HBRP site. The only critical habitat for Humboldt Bay wallflower within two miles of the HBRP is located on the North Spit. The project is not expected to impact any of these areas of critical habitat because they are all located at least one mile or more from the HBRP.

Aquatic Habitat

Aquatic habitats within two miles of the HBRP include seasonal wetlands, drainages, salt marsh, freshwater marsh, mud flats, California Coastal Commission wetlands, tidal channels, and Humboldt Bay. Section 404 of the federal Clean Water Act, Section 10 of the Rivers and Harbors Act, and the California Coastal Act regulate impacts to wetlands and “waters of the U.S.” Later sections of this chapter discuss impacts to aquatic habitats in more detail.

PROJECT SITE

The proposed HBRP site is located on a 143-acre parcel owned by PG&E and is currently occupied by the Humboldt Bay Power Plant. The HBRP site is situated on Buhne Point, a small peninsula along Humboldt Bay, and currently contains industrial land, landscaped areas, wetlands, Buhne Slough, and cooling water intake and discharge canals associated with the existing Humboldt Bay Power Plant. The Humboldt Bay Power Plant consists of a natural gas-fired power plant, an inoperable nuclear energy generating unit, and two mobile emergency power plants, as well as ancillary facilities. Buhne Slough and the intake and discharge channels connect to Humboldt Bay. Historical photographs of the site indicate that the majority of the proposed project site was marshy lowland prior to development (PG&E 2006a, Humboldt State University Library).

Power Plant Site and Construction Laydown Area

The HBRP would occupy 5.4 acres within the PG&E parcel. The 5.4-acre HBRP site currently contains developed areas that are part of the existing power plant, USACE-jurisdictional wetlands, and Coastal Commission wetlands. A 2.4-acre HBRP construction laydown area would be located adjacent to the HBRP site. Currently, the laydown area consists of grassland, Coastal Commission wetlands, and USACE-jurisdictional wetlands (PG&E 2006a, p. 8.2-32).

Aquatic Habitat

The USACE regulates impacts to wetlands under Section 404 of the Clean Water Act. The Clean Water Act defines "wetlands" as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support—and that under normal circumstances do support—a prevalence of vegetation typically adapted

for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (38 CFR 328.3). The project site contains approximately 20.67 acres of wetlands subject to the Clean Water Act, including areas of freshwater marsh, saltwater marsh, riparian marsh, and drainage ditches (Dains and CH2MHILL 2007).

The California Code of Regulations has a much broader definition of wetlands than does the federal Clean Water Act, stating, “Wetland shall be defined as land 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 and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate” (14 CCR 13577). The California Coastal Commission regulates impacts to wetlands that fall under this definition, including wetlands that are also under USACE jurisdiction.

The project site contains approximately 5.69 acres that are considered wetlands by the Coastal Commission but are not considered wetlands by the USACE. These areas on the project site are considered wetlands by the Coastal Commission based solely on the fact that they support facultative wetland vegetation (PG&E 2006a, p. 8.2-28).

Tidal channels that are located on the site are considered non-wetland “waters of the United States” and are also subject to USACE jurisdiction; however, tidal channels are not expected to be impacted by the HBRP (PG&E 2006a, p. 8.2-24). In addition, CDFG staff visited the project site and determined that none of the activities would require a 1600 permit (Streambed Alteration Agreement) (Crowe, personal communication, 2007).

Temporary Access Road and Remote Parking Areas

The HBRP would require construction of a temporary access road from King Salmon Avenue to the project site. The temporary access road will parallel the southern bank of the Humboldt Bay Power Plant intake channel. The area in which the temporary access road will be constructed contains grassland, Coastal Commission wetlands, ornamental trees and shrubs, drainage ditches, and seasonal wetlands (PG&E 2006a, p. 8.2-30, Fig. 8.2-3).

A short-term delivery parking area to be used for equipment deliveries and a temporary remote parking area for construction personnel would be constructed for the project. The short-term delivery parking area is a 0.34-acre site located on the south side of King Salmon Avenue. The parking area is currently compacted gravel; however, it is located immediately adjacent to wetlands in which special-status plant species were discovered during surveys conducted by the applicant’s biologists (PG&E 2006a, p. 8.2-30, Fig. 8.2-3).

The temporary remote parking area is located farther north on the east side of King Salmon Avenue. The proposed parking area has been used for parking in the past, but is currently abandoned. It currently consists of broken pavement and weedy vegetation. A footpath for construction personnel from this parking area to the construction site would be constructed as part of the project. The footpath may affect grassland areas but would not affect wetlands (PG&E 2006a, p. 8.2-30, Fig. 8.2-3).

Linear Facilities

Linear facilities that would be built as part of the HBRP include an electric transmission connection and a gas interconnection. Both of these facilities would be located within the footprint of the temporary access road and the HBRP site (PG&E 2006a, p. 8.2-30).

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

The California Environmental Quality Act (CEQA) Guidelines define "direct" impacts as those impacts that result from the project and occur at the same time and place. **"**Indirect" impacts are caused by the project but can occur later in time or farther removed in distance, yet are still reasonably foreseeable. The potential impacts discussed below are those most likely to be associated with construction and operation of the project.

Significance of impacts is generally determined by compliance with applicable LORS; however, because of the diversity of biological resource impacts, guidelines adopted by resource agencies may also be used.

DIRECT/INDIRECT IMPACTS AND MITIGATION

The applicant conducted biological resource surveys of the PG&E property on which the existing Humboldt Bay Power Plant is located and on which the proposed HBRP would be located, as well as of areas within a one-mile radius of the proposed HBRP site. The applicant conducted habitat and wildlife field surveys on 10 dates in March, April, June, July, and August 2006 (PG&E 2006a, p. 8.2-2).

Effects on Wetlands

Construction of the HBRP will cause temporary and permanent impacts to wetlands that are under the jurisdiction of the USACE and the California Coastal Commission and to additional wetlands that are solely under the jurisdiction of the Coastal Commission (PG&E 2006a, p. 8.2-36). Impacts to wetlands are a potentially significant impact, and the applicant has proposed measures to mitigate wetland impacts.

USACE-Jurisdictional Waters

The applicant delineated USACE jurisdictional waters and Coastal Commission wetlands for the AFC and for the draft wetland delineation (PG&E 2006a, Fig. 8.2-3; CH2MHill 2006a). The applicant worked to avoid impacts to wetlands due to construction of the project, but, due to the prevalence of wetlands on the site, the HBRP would require fill of some drainages, seasonal wetlands, and marsh areas.

Biological Resources Table 2 indicates the acreages of USACE-jurisdictional seasonal wetlands, drainages, and riparian, salt, and freshwater marsh that would be impacted by the project as identified in the AFC and final wetland acreages verified by the USACE (Dains and CH2MHILL 2007).

BIOLOGICAL RESOURCES Table 2
Estimated Impacts to USACE-Jurisdictional Wetlands and Waters of the U.S.

Project Feature	Habitat Type	Permanent Impact (Acres)	Temporary Impact (Acres)
HBRP footprint including gas and transmission connections	Seasonal wetlands	0.10	**0**
	Drainages	0.07	0
	Riparian, salt, and freshwater marshes	0.05	
Construction laydown area, temporary access road, and water pipeline	Seasonal wetlands	0	0.03
	Drainages	0	0
	Riparian, salt, and freshwater marshes	0	0
TOTAL		**0.22 acre**	**0.03 acre**

Sources: PG&E 2006a, p. 8.2-32, CH2MHill 2007e, Dains and CH2MHILL 2007

California Coastal Commission Wetlands

In addition to impacting USACE-jurisdictional waters, the HBRP would impact areas that the California Coastal Commission classifies as wetlands but are not classified as wetlands by the USACE. The Coastal Commission also regulates areas that are under USACE jurisdiction. **Biological Resources Table 3** summarizes impacts to wetlands under the jurisdiction of the California Coastal Commission, including wetlands that are also under USACE jurisdiction.

BIOLOGICAL RESOURCES Table 3
Estimated Impacts to Coastal Commission Wetlands

Project Feature	Habitat Type	Permanent Impact (Acres)	Temporary Impact (Acres)
HBRP footprint including gas and transmission connections	Coastal Commission wetlands[1]	0.96	0
Construction laydown area, temporary access road, and water pipeline	Coastal Commission wetlands[1]	0	2.49
TOTAL		**0.96 acres**	**2.49 acres**

Source: PG&E 2006a, p. 8.2-32, CH2MHill 2007e, Dains and CH2MHILL 2007

[1] Acreages for Coastal Commission wetlands do not include wetlands that are under jurisdiction of the USACE; however, USACE wetlands are also under the jurisdiction of the Coastal Commission.

Wetland Mitigation Measures

The applicant designed the HBRP to minimize impacts to wetlands and has proposed measures to mitigate unavoidable impacts to wetlands (PG&E 2006a, pp. 8.2-36, 8.2-47 to 8.2-55). The applicant's proposed mitigation measures include restoration of wetland habitats disturbed during construction, restoration of historic wetlands on the PG&E property that have previously been filled, enhancement of existing wetlands on the property, and implementation of best management practices and erosion control measures (PG&E 2006a, p. 8.2-47).

Biological Resources Table 4 summarizes the mitigation ratios for temporary and permanent wetland impacts proposed by the applicant (CH2MHILL 2007e, WSQ-8; Dains and CH2MHILL 2007) and the amount of wetland mitigation land required based on the applicant's proposed mitigation ratios and the impacts to wetlands as summarized in **Biological Resources Table 2** and **Table 3**.

BIOLOGICAL RESOURCES Table 4
Applicant's Proposed Wetland Mitigation

Wetland Type	Applicant's Proposed Mitigation Ratio	Approximate Wetland Acreage Impacted[2]	Approximate Mitigation Acreage Required[3]
Drainages	1.5:1	0.07	0.11
Seasonal wetlands	2:1	0.13	0.25
Riparian, salt, and freshwater marshes	4:1	0.05	0.22
Other Coastal Commission wetlands	1:1	3.46	3.46
TOTAL		**3.71 acres**	**4.04 acres**

Source: PG&E 2006a, p. 8.2-48, CH2MHill 2007e, Dains and CH2MHILL 2007
[2] All acreages are rounded from those given in Dains and CH2MHill 2007.
[3] Mitigation acreage totals are based on the same ratios for both temporary and permanent impacts.

On February 1, 2007, applicant and Energy Commission representatives met with USACE and Coastal Commission personnel to discuss the draft wetland delineation and wetland impacts that would occur during construction of the HBRP. USACE personnel indicated that the USACE may take jurisdiction over additional areas that had not been identified as USACE jurisdictional in the AFC and in the draft wetland delineation. The applicant continued to work with the USACE to verify impacts to USACE-jurisdictional wetlands and obtain a Section 404 permit for the project. At that time, Coastal Commission personnel indicated that the Coastal Commission, in its consistency determination, may recommend higher wetland mitigation ratios than have been proposed by the applicant in the AFC (CEC 2006d). Coastal Commission guidance suggests that wetland acreage and functional capacity must be maintained in order to mitigate for impacts to wetlands (Coastal Commission 1995, Ch. 2, p. 5). Specifically, the Coastal Commission is likely to recommend mitigation ratios of 4:1 for any marsh areas that are impacted (CEC 2006d). The applicant has agreed to a 4:1 mitigation ratio for impacts to marsh areas; however, the Coastal Commission has since withdrawn its involvement in the project due to a heavy workload. Based on information received from the agencies during the field meeting on February 1, 2007, PG&E updated its estimates of affected wetlands and proposed mitigation measures (CH2MHILL 2007e, WSQ-8). Subsequently, the Section 404 permit was granted in a project authorization letter dated September 26, 2007. The acreages in **Biological Resources Tables 2, 3,** and **4** reflect the verification of the wetland delineation by the USACE and initial guidance from the Coastal Commission regarding wetland mitigation ratios.

Staff has proposed Conditions of Certification **BIO-1** through **BIO-6** and **BIO-8** through **BIO-9** to mitigate impacts to wetlands and other biological resources. These Conditions of Certification are described below.

In addition, Condition of Certification **BIO-12** requires that the project owner develop a wetland mitigation plan to mitigate impacts to wetlands under USACE and Coastal Commission jurisdiction. The applicant provided a wetland mitigation plan in July 2007 (Dains and CH2MHILL 2007), and staff deemed it acceptable as did the USACE who included it as a "Special Condition" in their project authorization letter during Section 404 permitting. The wetland mitigation plan will be incorporated into the project's Biological Resources Mitigation, Implementation, and Monitoring Plan (BRMIMP, **BIO-6**). The applicant has proposed five separate areas on the PG&E property that would be used as wetland mitigation areas (CH2MHILL 2007e, Figure 2A). All five mitigation areas are in the western portion of the property along King Salmon Avenue. Mitigation Area 1 comprises 0.61 acre that is currently an abandoned parking lot and would be used as a remote parking lot during construction of the projects. After construction of the project, the parking lot would be removed, and salt marsh would be created in the area. This mitigation area would compensate for the permanent loss of Coastal Commission wetlands and USACE-jurisdictional wetlands. Mitigation Area 2 comprises 1.03 acre immediately south of Mitigation Area 1. Mitigation Area 2 is currently a disturbed upland that was likely a salt marsh prior to being filled. This area would be restored to wetland to compensate for impacts to Coastal Commission wetlands and USACE-jurisdictional wetlands. Mitigation Area 3 consists of 2.26 acres of existing salt marsh that is immediately southeast of Mitigation Area 2. Mitigation for this area would consist of removing invasive dense-flowered cordgrass (*Spartina densiflora*) to enhance the wetland. Mitigation Area 4 comprises 1.57 acre of degraded riparian wetlands vegetation that would be enhance by replacement of non-native vegetation with native vegetation. Mitigation Area 5 comprises 0.13 acre of Coastal Commission wetlands that would be enhanced through replacement of non-native vegetation with native vegetation. The applicant has also stated that the wetland mitigation areas will be placed under conservation easement (PG&E 2006a, p. 8.2-48). Staff requested additional information regarding the conservation easements in a data request (CEC 2007a), and the applicant responded that the mitigation areas will be preserved in perpetuity under a deed restriction on the PG&E property that precludes development (CH2MHILL 2007e, WSQ8; Dains and CH2MHILL 2007). The five mitigation areas comprise a total of 5.60 acres of wetland mitigation lands, which is greater than the total mitigation land required in **Biological Resources Table 4** (4.04 acres) (PG&E 2006a, p. 8.2-48; Dains and CH2MHILL 2007).

It is staff's belief that compliance with any terms and conditions of the USACE section 404 permit, compliance with mitigation measures recommended by the Coastal Commission during earlier discussions, implementation of avoidance and mitigation measures proposed by the applicant— including implementation of the wetland mitigation plan, and compliance with Conditions of Certification **BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-8**, **BIO-9, BIO-10,** and **BIO-12** will ensure that impacts to wetlands are mitigated to less-than-significant levels.

Condition of Certification **BIO-1** requires the selection of a qualified Designated Biologist by the project owner. A qualified Designated Biologist is necessary to oversee the

implementation of mitigation measure for impacts to wetlands. Condition of Certification **BIO-2** outlines specific duties that the Designated Biologist must carry out to mitigate impacts. Condition of Certification **BIO-3** outlines the qualifications for any Biological Monitors assigned to assist the Designated Biologist. Condition of Certification **BIO-4** describes the authority of the Designated Biologist and the Biological Monitor to ensure that impacts to biological resources, including wetlands, are avoided to the extent possible. Condition of Certification **BIO-5** describes a Worker Environmental Awareness Program (WEAP) that will be required to ensure that construction personnel do not cause additional impacts to wetlands and other biological resources during construction of the HBRP. Condition of Certification **BIO-6** describes a Biological Resources Mitigation, Implementation, and Monitoring Plan (BRMIMP) that will be prepared by the applicant that describes all measures necessary to ensure compliance with LORS and minimization of impacts related to wetlands and other biological resources. Condition of Certification **BIO-8** requires the applicant to acquire a Clean Water Act Section 401 Water Quality Certification. This certification will assist in avoiding and minimizing impacts to wetlands. Condition of Certification **BIO-9** requires the applicant to provide a copy of the Clean Water Act Section 404 permit and incorporate its terms and conditions into the BRMIMP. Obtaining this permit and implementing its terms and conditions will help ensure compliance with LORS related to wetland impacts. Condition of Certification **BIO-10** requires the applicant to incorporate feasible measures to avoid impacts to biological resources, including wetlands, in the project design. This requirement will assist in mitigating and avoiding wetland impacts. Condition of Certification **BIO-12** ensures that impacts to wetlands are mitigated through implementation of the wetland mitigation plan that complies with USACE and Coastal Commission requirements regarding wetland mitigation.

Effects on Special-Status Species

Special-Status Plants

Humboldt Bay owl's-clover (*Castilleja ambigua* ssp*. humboldtiensis*)
During pre-construction biological resources surveys, the applicant located a population of Humboldt Bay owl's-clover in a salt marsh that is adjacent to the project's short-term delivery parking area between King Salmon Avenue and the Humboldt Bay Power Plant intake channel (PG&E 2006a, p. 8.2-12, Fig. 8.2-4). Humboldt Bay owl's-clover is classified as a List 1B.2 plant by CNPS, meaning that it is rare, threatened, or endangered in California and elsewhere and fairly endangered in the state. The population is not in an area that is expected to be disturbed due to the project; however, construction activities have the potential to impact this species. For example, construction personnel or construction vehicles could accidentally enter the area, potentially disturbing individuals of this species or altering the habitat that is necessary for the species to survive.

Point Reyes bird's-beak (*Cordylanthus maritimus* ssp*. palustris*)
During pre-construction biological resources surveys, the applicant located a population of Point Reyes bird's-beak adjacent to the project's short-term delivery parking area in the same area in which the Humboldt Bay owl's-clover population is located (PG&E 2006a, p. 8.2-13, Fig. 8.2-4). Point Reyes bird's-beak is also a CNPS List 1B.2 plant. Potential impacts would be identical to potential impacts discussed for Humboldt Bay owl's-clover.

To ensure avoidance of impacts to areas in which Humboldt Bay owl's-clover and Point Reyes bird's-beak are located, the applicant has proposed mitigation measures including temporary fencing to reduce the likelihood of personnel entering the area, signage indicating the environmental significance of the area, weekly inspection of fencing, employment of best management practices to prevent drainage of toxins into sensitive habitats, and development of a restoration plan in the event of unanticipated impacts to special-status plants (PG&E 2006a, pp. 8.2-45 and 8.2-46).

Staff agrees with the applicant's proposed mitigation measures and believes that their implementation as well as the project's conformance with Conditions of Certification **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program), **BIO-6** (BRMIMP), and **BIO-8** (Water Quality Certification) will ensure that any impacts to special-status plant species would be less than significant.

No impacts are expected to other special-status plant species listed in **Biological Resources Table 1** due to lack of potential habitat on the project site.

Special-Status Wildlife

Northern red-legged frog (*Rana aurora aurora*)

The northern red-legged frog, a California Species of Special Concern, is known to inhabit wetlands on and around the PG&E property. During surveys by the applicant's biologists, northern red-legged frogs were observed in the sump adjacent to the existing detention ponds, in the landscaped area east of the existing power plant, and in a drainage ditch south of the existing power plant (PG&E 2006a p. 8.2-32). This species breeds in permanent or temporary water bordered by dense grassy or shrubby vegetation (Jennings and Hayes 1993). The HBRP is not likely to impact the northern red-legged frog breeding habitat, but it will impact wetland and grassland habitats that the species does use. There is the potential for individuals of this species to be directly impacted during construction of the HBRP. However, impacts to wetland habitat used by the northern red-legged frog will be mitigated by the wetland mitigation measures proposed by the applicant, as discussed in the "Effects on Wetlands" section of this staff assessment. In addition, the employment of a Designated Biologist and Biological Monitors who will perform daily biological monitoring during construction, implementation of worker environmental education training to educate personnel, and installation of silt fencing will mitigate impacts to the northern red-legged frog. The applicant has stated that any northern red-legged frogs discovered in construction areas will be relocated to appropriate habitat outside of the construction area (PG&E 2006a, p. 8.2-35).

Implementation of Conditions of Certification **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program), **BIO-6** (BRMIMP), and **BIO-8** (Water Quality Certification) will ensure that any impacts to the northern red-legged frog would be less than significant.

Coho salmon (*Onchorhynchus kisutch*), Northern California steelhead (*Oncorrhynchus mykiss*), California coastal Chinook (*Oncorrynchus tshawytscha*) and tidewater goby (*Eucyclogobius newberryi*)

Coho salmon (state listed Threatened, federally listed Endangered), Northern California steelhead (federally listed Threatened), and California coastal Chinook (state and federally listed Threatened) are known to inhabit Humboldt Bay and its tributaries. In addition, the tidewater goby (California Species of Special Concern and federally listed Endangered) is believed to have inhabited the area historically, and USFWS expressed initial concern for the species (CH2MHILL 2007a). The USFWS later stated that there were no concerns with take of federally listed species at the site, and formal consultation would not be required. Informal consultation involving a concurrence letter to the USACE, who would have been the lead agency under Section 7 of the Endangered Species Act if formal consultation were needed, was anticipated in June 2006 (CH2MHILL 2007a). However, the USFWS subsequently stated that, due to workload constraints, they would not have time to write this no-effect letter (Crowe, personal communication, 2007). Impacts are not expected to these special-status fish species because the project will not impact Humboldt Bay or its tributaries (PG&E 2006a, p. 8.2-15 to 8.2-17). However, due to the proximity of construction to the cooling water intake and discharge channels that connect with Humboldt Bay, there is the possibility for impacts to special-status fish species and their habitat. Potential threats include sewage effluent, upstream alteration of sediment flow, diversion of water flow, and watercourse contamination resulting from vehicular activity (USFWS 2007). Measures proposed by the applicant to mitigate potential impacts to special-status fish species include hiring of a designated biologist and biological monitors to monitor construction, a WEAP to educate workers on potential impacts and LORS related to biological resources, and implementation of best management practices to minimize sedimentation and discharge of pollutants (PG&E 2006a, pp. 8.2-44 to 8.2-47).

Implementation of the following Conditions of Certification will ensure avoidance of impacts to special-status fish species: **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program), **BI0-6** (BRMIMP), **BIO-8** (Water Quality Certification), **SOIL & WATER-1** (Drainage, Erosion and Sediment Control Plan for Construction & Operations), **SOIL & WATER-2** (Storm Water Pollution Prevention Plan or SWPPP for Construction Activity), and **SOIL & WATER-3** (SWPPP for Industrial Activity).

Bald eagle (*Haliaeetus leucocephalus*) and California brown pelican (*Pelecanus occidentalis californicus*)

The bald eagle is listed as an endangered species and a Fully Protected species in California and was also recently delisted by the USFWS. In addition, bald eagles are protected under the Bald and Golden Eagle Protection Act. Bald eagles have been seen at the Humboldt Bay Power Plant and may use the cooling water intake and discharge channels for foraging (Crowe and Dains, personal communication, 2006; PG&E 2006a, p. 8.2-42).

The California brown pelican is listed as Endangered under the federal and state endangered species acts and is also a Fully Protected species. California brown pelicans feed on fish in the waters of Humboldt Bay and surrounding areas; however,

there are no known breeding colonies of California brown pelicans in the area. California brown pelicans have been observed foraging in the cooling water discharge channel and roosting along the shoreline near the Humboldt Bay Power Plant (PG&E 2006a, p. 8.2-19).

Impacts to bald eagles and California brown pelicans could occur through discharge of oil or other contaminants into the intake and discharge channels; however, mitigation and avoidance measures proposed by the applicant will avoid potential impacts to the intake and discharge channels and to bald eagles and California brown pelicans. These mitigation and avoidance measures include employment of a designated biologist and biological monitors to monitor construction, a WEAP to educate workers on potential impacts and LORS related to biological resources, and implementation of best management practices to minimize sedimentation and discharge of pollutants (PG&E 2006a, pp. 8.2-44 to 8.2-47).

Implementation of the following Conditions of Certification will ensure avoidance of impacts to bald eagles and California brown pelicans: **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program), **BIO-6** (BRMIMP), **BIO-8** (Water Quality Certification), **SOIL & WATER-1** (Drainage, Erosion and Sediment Control Plan for Construction & Operations), **SOIL & WATER-2** (SWPPP for Construction Activity), and **SOIL & WATER-3** (SWPPP for Industrial Activity).

Western snowy plover (*Charadrius alexandrinus nivosus*)
As discussed earlier, western snowy plover critical habitat is located across Humboldt Bay from the HBRP site in the areas known as the North Spit and the South Spit. The HBRP will not impact western snowy plover critical habitat. It is possible that western snowy plovers forage along the shoreline of Humboldt Bay in the vicinity of the HBRP site; however, impacts to the western snowy plover due to construction of the HBRP are not expected because no construction-related activities will occur in Western snowy plover breeding or foraging habitat.

General Wildlife and Wildlife Habitat Impacts

In addition to the loss of USACE wetland habitat and Coastal Commission wetlands discussed previously, construction of the HBRP will result in the permanent loss of approximately 1.5 acres of grassland and the temporary disturbance of approximately 2.5 acres of grassland. Grassland habitat provides foraging and/or nesting habitat for a number of common bird species (including mourning doves, house finches, and red-winged blackbirds) as well as habitat for wildlife species such as raccoons and California ground squirrels (PG&E 2006a, p. 8.2-32). In addition to the loss of grassland habitat, any wildlife species using the habitat may be impacted due to construction of the HBRP or through the actions of construction personnel.

The applicant's proposed mitigation measures include implementation of worker environmental awareness training, construction monitoring of sensitive habitats, avoidance of sensitive habitats, preparation of a BRMIMP, pre-construction surveys for sensitive species and ground-nesting birds, monthly monitoring and compliance reports, and restoration of temporarily disturbed areas to pre-construction conditions (PG&E

2006a, pp. 8.2-44 to 8.2-47). Staff agrees with the applicant's proposed mitigation measures and recommends implementation of these proposed mitigation measures as well as Conditions of Certification **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program), **BIO-6** (BRMIMP), and **BIO-11** will ensure that any impacts to wildlife and wildlife habitat will be less than significant. Condition of Certification **BIO-11** outlines specific measures designed to avoid harassment and harm to wildlife during construction of the HBRP.

OPERATION IMPACTS AND MITIGATION

Humboldt Bay is located along the Pacific Flyway, one of four major bird migration routes in North America. Large numbers of migratory and resident birds use Humboldt Bay as both a feeding and resting site. Specifically, eelgrass beds and mudflats in the bay attract large concentrations of water birds due to the abundance of food that these habitats provide. The presence of large numbers of birds in the project area creates the potential for impacts to migratory and resident birds during operation of the HBRP.

Collision Impacts

The primary potential impact for birds is through collisions with the HBRP transmission lines and exhaust stacks. Three transmission lines approximately 100 to 500 feet long and 50 to 90 feet high and ten 100-foot high exhaust stacks would be part of the project (PG&E 2006a, pp. 5-2, 8.2-30, 8.2-39). Collision with the terminal ground wire (or static wire) of transmission lines has been reported as a primary cause of avian fatality from power line strikes. Transmission line ground wires are smaller in diameter and significantly less visible than the transmission wires. Ground wires are installed on transmission lines to dissipate lightning strikes, thereby preventing damage to transmission structures and equipment. Fatal strikes may also occur when birds collide with transmission and distribution wires and other structures associated with electrical power transmission (CEC 2002). Potential impacts due to collision with transmission lines and exhaust stacks is highest during periods of low visibility such as fog or rain, and the Humboldt Bay area is known to experience many foggy and rainy days (Western Regional Climate Center 2007).

Although collision impacts are likely to occur during operation of the HBRP, the potential for impacts will be decreased due to the relatively short lengths of the transmission lines and due to the fact that existing structures at the Humboldt Bay Power Plant site (such as the 120-foot tall Humboldt Bay Power Plant stacks) are taller than the proposed HBRP stacks and transmission lines. To mitigate potential impact to birds due to collision, the applicant has proposed installing bird flight diverters on the transmission lines (PG&E 2006a, p. 8.2-46). Bird flight diverters can reduce avian collisions by 57 to 89% (Avian Power Line Interaction Committee 1994). Staff agrees with the applicant's proposed mitigation measures. The short length of the transmission lines, the fact that HBRP structures will be lower than existing structures on the site, and the applicant's proposal to install bird flight diverters will mitigate potential collision impacts. Staff's Condition of Certification **BIO-10** requires the installation of swan flight diverters on the new transmission line (ground wire).

Electrocution Impacts

Electrocution from transmission lines and towers may be an impact concern for large birds such as raptors and egrets. Birds are electrocuted when they simultaneously contact two conductors or a conductor and a ground wire. To mitigate potential electrocution impacts, the applicant has proposed constructing aboveground transmission lines in accordance with Avian Power Line Interaction Committee (APLIC) guidelines that are designed to significantly reduce the risk of electrocution (PG&E 2006a, p. 8.2-46). The APLIC guidelines outline methods of configuring and designing utility line components and recommend spacing distances between utility line components to reduce the likelihood of avian electrocution. Staff agrees with the proposed mitigation measure and believes that its implementation will reduce potential impacts to less-than-significant levels. Condition of Certification **BIO-10** requires that transmission lines be designed and built in accordance with the Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006).

Noise Impacts

Operation of the HBRP would produce continuous noise that could disturb wildlife in the vicinity of the site. The level of noise produced by the HBRP would be similar to the level produced by the existing Humboldt Bay Power Plant, which would be decommissioned after construction of the HBRP. Ultimately, shutdown of the Humboldt Bay Power Plant would likely result in a net decrease in noise levels (PG&E 2006a, p. 8.2-38). Because the current level of noise at the site would be similar to noise from the HBRP, staff does not believe that noise impacts from the HPRP will be significant.

Lighting Impacts

Lighting has the potential to impact wildlife in the project area. Some species of birds are believed to be attracted to night lighting. If lighting at the HBRP attracts birds, those birds would be more likely to collide with structures associated with the HBRP. To minimize the effects of lighting on birds and other wildlife, the applicant has stated that lighting will be hooded and pointed downwards and away from the bay (PG&E 2006a, pp. 8.2-41 and 8.2-46). Implementation of the applicant's proposed mitigation measures as well as the measures in Condition of Certification **BIO-10** regarding facility lighting will ensure that lighting impacts to wildlife are less than significant.

CUMULATIVE IMPACTS AND MITIGATION

"Cumulative" impacts refer to a proposed project's incremental effect viewed over time together with other closely related past and present projects and projects in the reasonably foreseeable future whose impacts may compound or increase the incremental effect of the proposed project (Pub. Resources Code Section 21083; Cal. Code Regs., tit. 14, Sections 15064[h], 15065[c], 15130, and 15355).

The HBRP is designed to replace Units 1 and 2 of the existing Humboldt Bay Power Plant as well as two Mobile Emergency Power Plants (MEPPs) that currently provide electricity generation for the region. Therefore, construction and commissioning of the HBRP will lead to the decommissioning of Units 1 and 2 and the MEPPS (PG&E 2006a, pp. 2-2 through 2-4). In the future, Unit 3 of the Humboldt Bay Power Plant likely will be

decommissioned and an independent spent fuel storage installation (ISFSI) constructed to provide long-term, safe storage for the spent nuclear fuel rods from Unit 3.

Decommissioning of Units 1 and 2 would benefit biological resources by reducing the volume of seawater used for once-through cooling purposes by 40,000 gallons per minute (PG&E 2006a, p. 2-2) and by reducing impacts to marine life through impingement and entrainment as a result of once-through cooling (CEC 2005, p. 2). The HBRP reciprocating engine-generators would utilize a closed loop air-cooled radiator system for cooling, eliminating the need for withdrawal of seawater for power plant cooling.

The decommissioning of Unit 3 also would result in the elimination of impacts to the Humboldt Bay ecosystem associated with the use of seawater for cooling. Unit 3 of the Humboldt Bay Power Plant is an inoperable nuclear unit that is in the planning stages for decommissioning. Although Unit 3 does not currently produce energy, it does still require the use of seawater for operations purposes and will continue to require the use of approximately 12,000 gallons per minute of seawater while it is being decommissioned. However, after final decommissioning of Unit 3, the use of seawater for cooling at the Humboldt Bay Power Plant would cease (PG&E 2006a, p. 2-2).

The ISFSI project would be the first step in the decommissioning of Unit 3. Construction of the ISFSI would allow for the ultimate elimination of use of seawater for Unit 3 plant operations, which would benefit marine life. During 1999 and 2002, PG&E conducted site surveys for sensitive species, including terrestrial and marine plants and animals. While the overall HBPP does provide suitable habitat for some species, none were observed on the ISFSI site, and thus the construction and operation of the ISFSI is not expected to adversely affect any sensitive species or their habitat. Construction of the ISFSI would not have any impact to wetlands as it would be located near the highest ground on the HBPP property. Grassland vegetation lost in the course of excavating for the ISFSI would be only temporary, and would be replaced near completion of the ISFSI (Coastal Commission 2005).

Implementation of the applicant's proposed mitigation measures and staff's Conditions of Certification will ensure that all potential impacts due to the HBRP are mitigated to less-than-significant levels. In addition, any other projects that are proposed in the area would be subject to CEQA as well as LORS that protect biological resources. Due to the mitigation of all potential significant impacts resulting from the HBRPand the possibility of long-term benefits from decommissioning of the Humboldt Bay Power Plant Units 1, 2, and 3, staff concludes that the HBRP will not considerably contribute to a significant cumulative impact to biological resources.

COMPLIANCE WITH LORS

The proposed project is subject to several LORS, including the California Coastal Act and the Clean Water Act. To comply with LORS, the applicant obtained a Clean Water Act Section 404 permit from the USACE. In addition, the applicant must obtain Clean Water Act Section 401 water quality certification from the North Coast Regional Water Quality Control Board. Normally, a Coastal Development permit would be required from the Coastal Commission; however, due to the Coastal Commission's withdrawal from

the project, Energy Commission staff will need to review earlier guidance from the Coastal Commission in the Final Staff Assessment to ensure compliance with provisions of the Coastal Act. Pending Coastal Act conformance analysis, implementation of the Conditions of Certification is likely to ensure compliance with all applicable LORS.

NOTEWORTHY PUBLIC BENEFITS

There are no noteworthy public benefits to biological resources from construction of the HBRP. Possible cumulative benefits resulting from decommissioning of the existing Humboldt Bay Power Plant are discussed in the cumulative impacts section.

FACILITY CLOSURE

At some point in the future, the HBRP will experience either a planned closure or be unexpectedly (either temporarily or permanently) closed. When facility closure occurs, it must be done in such a way as to protect the environment and public health and safety. The project owner will prepare a closure plan prior to any planned closure. To address unanticipated facility closure, the project owner would develop an “on-site contingency plan” to be approved by the Energy Commission Compliance Project Manager (CPM). Facility closure requirements are discussed in more detail in the GENERAL CONDITIONS section of this staff assessment. The BRMIMP prepared by the project owner will also include facility closure mitigation measures.

The facility closure plan should address habitat restoration measures to be implemented in the event of a planned or an unexpected permanent closure. Planned or unexpected permanent facility closure should address the removal of the transmission conductors since birds are known to collide with transmission line ground wires.

Condition of Certification **BIO-7** contains measures that must be implemented to ensure that impacts to biological resources are addressed prior to the planned permanent or unexpected permanent closure of the HBRP.

CONCLUSIONS

Staff agrees with the applicant’s proposed mitigation measures to avoid significant impacts to biological resources. The applicant’s proposed mitigation measures and the Conditions of Certification proposed in this preliminary staff analysis are necessary to mitigate impacts to biological resources from the HBRP to less-than-significant levels and ensure compliance with LORS. Biological resources staff is unable to make a final recommendation regarding the HBRP because it must review Coastal Commission documents regarding compliance with the Coastal Act. Additional Conditions of Certification or modifications to currently proposed Conditions of Certification may be necessary based on further consultation with agency personnel, information provided, and staff’s Coastal Act conformance analysis prior to completion of the Final Staff Assessment.

PROPOSED CONDITIONS OF CERTIFICATION

Designated Biologist Selection

BIO-1 The project owner shall assign a Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval.

The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; and

2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and

3. At least one year of field experience with biological resources found in or near the project area.

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the Conditions of Certification.

Verification: The project owner shall submit the specified information at least 90 days prior to the start of any site (or related facilities) mobilization. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site.

If a Designated Biologist must be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

Designated Biologist Duties

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved Biological Monitor(s), but remains the contact for the project owner and CPM.

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources Conditions of Certification;

2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan, to be submitted by the project owner;

3. Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special-status species or their habitat;

4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;

5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (i.e. parking lots) for animals in harm's way;

6. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification;

7. Respond directly to inquiries of the CPM regarding biological resource issues;

8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Report; and

9. Train the Biological Monitors as appropriate and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits.

Verification: The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources activities. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless his/her duties are ceased as approved by the CPM.

Biological Monitor Qualifications

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references and contact information of the proposed Biological Monitors to the CPM for approval. The resume shall demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the assigned biological resource tasks.

Biological Monitor(s) training by the Designated Biologist shall include familiarity with the Conditions of Certification and the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), WEAP, and all permits.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site (or related facilities) mobilization.

The Designated Biologist shall submit a written statement to the CPM confirming that the individual Biological Monitor(s) has been trained and the date when training was completed. If additional biological monitors are needed during construction, the specified information shall be submitted to the CPM for approval 10 days prior to the first day of monitoring activities.

Designated Biologist and Biological Monitor Authority

BIO-4 The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources Conditions of Certification.

If required by the Designated Biologist and Biological Monitor(s), the project owner's Construction/ Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;

2. Inform the project owner and the Construction/Operation Manager when to resume activities; and

3. Notify the CPM if there is a halt to any activities, and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.

Verification: The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt to any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

Worker Environmental Awareness Program

BIO-5 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) that informs each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization,

ground disturbance, grading, construction, operation and closure about sensitive biological resources associated with the project.

The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media is made available to all participants;

2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;

3. Present the reasons for protecting these resources;

4. Present the meaning of various temporary and permanent habitat protection measures;

5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and

6. Include a training acknowledgment form to be signed by each worker indicating that he/she received training and shall abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Verification: At least 60 days prior to the start of any site (or related facilities) mobilization, the project owner shall provide to the CPM two copies of the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to site and related facilities mobilization, submit two copies of the CPM-approved materials.

Training acknowledgement forms signed during construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

During project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.

Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

BIO-6 The project owner shall develop a BRMIMP and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to the Coastal Commission (for review and comment) and shall implement the measures identified in the approved BRMIMP. The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;

2. All biological resources Conditions of Certification identified as necessary to avoid or mitigate impacts;

3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the CWA Section 404 permit;

4. All biological resources mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the Water Quality Certification;

5. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;

6. All required mitigation measures for each sensitive biological resource;

7. A wetland mitigation plan for temporary and permanent impacts to USACE and Coastal Commission wetlands;

8. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;

9. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;

10. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities—one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;

11. Duration for each type of monitoring and a description of monitoring methodologies and frequency;

12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;

13. All performance standards and remedial measures to be implemented if performance standards are not met;

14. A preliminary discussion of biological resources related facility closure measures;

15. Restoration and re-vegetation plan;

16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and

17. A copy of all biological resources related permits obtained.

Verification: The project owner shall provide the specified document at least 60 days prior to start of any site (or related facilities) mobilization.

The CPM, in consultation with the Coastal Commission and any other appropriate agencies, will determine the BRMIMP's acceptability within 45 days of receipt. If any permits have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM within 5 days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within 10 days of their receipt by the project owner. Ten days prior to site and related facilities mobilization, the revised BRMIMP shall be resubmitted to the CPM.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with appropriate agencies to ensure no conflicts exist.

Implementation of BRMIMP measures shall be reported in the Monthly Compliance Reports by the Designated Biologist (i.e. survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction closure report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.

Closure Plan Measures

BIO-7 The project owner shall incorporate into the permanent or unexpected permanent closure plan and the BRMIMP measures that address the local biological resources related to facility closure.

The planned permanent or unexpected permanent closure plan shall address the following biological resources related mitigation measures. Typical measures are:

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all power plant site facilities and related facilities;
3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species; and
4. Re-vegetation of the plant site and other disturbed areas utilizing appropriate seed mixture.

Verification: Draft permanent or unexpected closure measures shall be made part of the BRMIMP. At least 12 months prior to commencement of closure activities, the project owner shall address all biological resources related issues associated with

facility closure, and provide final measures, in a Biological Resources Element. The Biological Resources Element shall be incorporated into the Facility Closure Plan and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

Water Quality Certification

BIO-8 The project owner shall acquire Water Quality Certification from the Regional Water Quality Control Board in accordance with Section 401 of the Clean Water Act, or a waiver, and incorporate the biological resources related terms and conditions into the project's BRMIMP.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities, the project owner shall provide the CPM with a copy of the final Water Quality Certification.

U. S. Army Corps of Engineers Section 404 Permit

BIO-9 The project owner shall provide a copy of the final individual or Nationwide Permit per U.S. Army Corps of Engineers (USACE) Section 404 of the federal Clean Water Act permit. The terms and conditions contained in the permit shall be incorporated into the project's BRMIMP.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities, the project owner shall submit to the CPM a copy of the USACE permit.

Impact Avoidance Mitigation Features

BIO-10 Any time the project owner modifies or finalizes the project design, they shall incorporate all feasible measures that avoid or minimize impacts to the local biological resources, including the following:

1. Design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources;

2. Avoid wetland loss;

3. Design, install, and maintain transmission lines and all electrical components in accordance with APLIC's *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006,* to reduce the likelihood of electrocutions of large birds;

4. Design, install and maintain transmission lines and all electrical components in accordance with the APLIC *Mitigating Bird Collisions with power lines: The State of the Art in 1994* to reduce the likelihood of bird collisions;

5. Eliminate any California Exotic Pest Plants of Concern (CalEPPC) List A species from landscaping plans;

6. Prescribe a road sealant that is non-toxic to wildlife and plants and use only fresh water when adjacent to wetlands, rivers, or drainage canals;

7. Design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat; and

8. Install swan flight diverters at 5-meter intervals on the new transmission line (ground wire).

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

Mitigation Management to Avoid Harassment or Harm

BIO-11 The project owner shall implement the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to the local biological resources:

1. Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar materials that are approved by USFWS and CDFG;

2. Make certain all food-related trash is disposed of in closed containers and removed at least once a week;

3. Prohibit feeding of wildlife by staff and subcontractors;

4. Prohibit non-security related firearms or weapons from being brought to the site;

5. Prohibit pets from being brought to the site;

6. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to CDFG, and the project owner shall follow instructions that are provided by CDFG; and

7. Minimize use of rodenticides and herbicides in the project area and prohibit the use of chemicals and pesticides known to cause harm to amphibians.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

Wetland Mitigation

BIO-12 To mitigate for temporary and permanent impacts to USACE-jurisdictional drainages, USACE-jurisdictional seasonal wetlands, USACE-jurisdictional marshland, and Coastal Commission wetlands, the project owner shall establish a minimum of 4.04 acres of wetland creation, restoration, and enhancement to ensure compliance with all USACE and Coastal Commission requirements.

The project owner shall develop and implement a wetland mitigation plan for inclusion in the project's BRMIMP. The project owner shall place wetland mitigation lands under easements to ensure that mitigation lands are protected from future development. The wetland mitigation plan shall be prepared in consultation with the Designated Biologist and shall be developed in accordance with USACE and Coastal Commission guidance documents. At a minimum, the wetland mitigation plan shall include:

1. Maps of wetland impact and mitigation areas;
2. Acreages of wetlands to be impacted and acreages of wetland mitigation areas;
3. Terms and conditions of conservation easements for wetland mitigation areas;
4. Description of mitigation goals and objectives;
5. Description of wetland functions lost at impact sites;
6. Description of wetland functions to be gained at each mitigation site;
7. Description of overall watershed improvements to be gained;
8. Photographs and descriptions of wetland mitigation areas, including photographs prior to the implementation of and after the completion of the wetland mitigation;
9. Construction plans for wetland restoration, creation, and enhancement work to be completed;
10. Description of planned hydrology;
11. Description of plant material to be used for wetland restoration and creation;
12. Duration of wetland mitigation monitoring and description of monitoring methods;
13. Performance standards to be used to help decide if/when proposed wetland mitigation is or is not successful; and

14. All performance standards and remedial measures to be implemented if performance standards are not met.

Verification: The project owner shall provide the wetland mitigation plan at least 60 days prior to start of any site (or related facilities) mobilization. The CPM, in consultation with the Coastal Commission, USACE, and any other appropriate agencies, will determine the wetland mitigation plan's acceptability within 45 days of receipt. The approved wetland mitigation plan and its implementation methods shall be included in the BRMIMP.

Implementation of wetland mitigation plan measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction closure report identifying which items of the wetland mitigation plan have been completed, a summary of all modifications to the wetland mitigation plan made during the project's site mobilization, ground disturbance, grading, and construction phases, and which wetland mitigation items are still outstanding.

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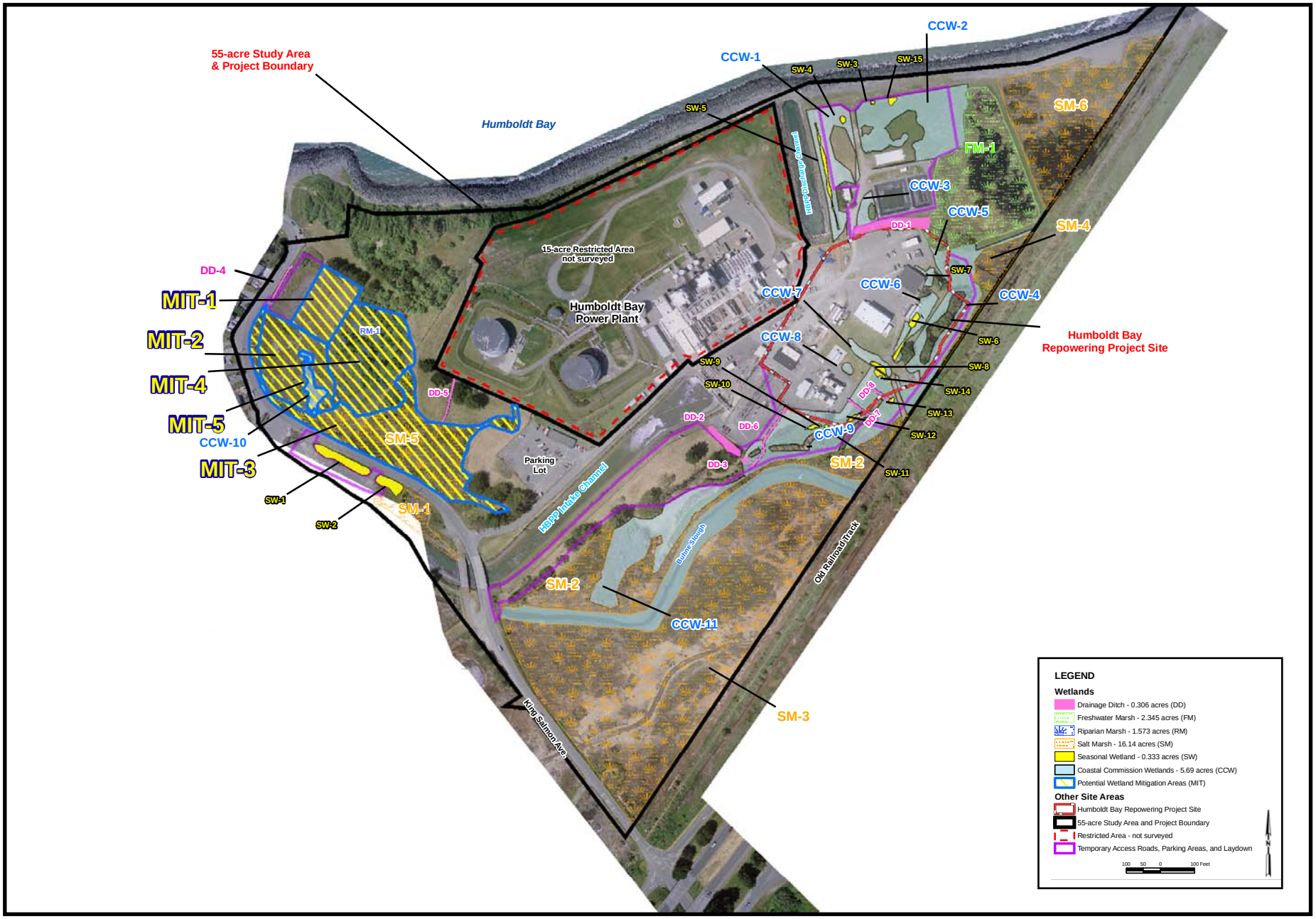
BIOLOGICAL RESOURCES - FIGURE 1

Humboldt Bay Repowering Project - Wetland Mitigation



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SOURCE: Data Response 80/Workshop Query 8 Figure 2A, Revised March 2007.