Chapter 8
Wildlife

Chapter 8. Wildlife

INTRODUCTION

The study area included in Alternatives 4 through 8 is described in Chapter 7, Vegetation and Wetland Resources. This area comprises a mixture of developed urban, agricultural, and undeveloped rural lands, which support a variety of wildlife species. The 1997 DEIR/EIS provides a detailed discussion of wildlife potentially occurring in the area; additional information on wildlife species and habitats that were not affected by the alternatives considered in the 1997 DEIR/EIS is provided below.

With respect to wildlife resources, Alternative 4, "EBMUD-Only Lower American River Delivery," and Alternative 5, "Sacramento River Delivery," in this REIR/SEIS are essentially equivalent to Alternative 3, "Joint Water Supply," in the 1997 DEIR/EIS. The 1997 DEIR/EIS includes a full discussion of the environmental setting and potential impacts of these alternatives. Alternative 6, "Freeport East Delivery," Alternative 7, "Freeport South Delivery," and Alternative 8, "Bixler Delivery," include facilities in locations that were not described in the 1997 DEIR/EIS; additional information on these alternatives is provided in the "Affected Environment" section below.

AFFECTED ENVIRONMENT

Study Methods

Wildlife resources were initially assessed by reviewing existing information on biotic resources in the project area, including the 1997 DEIR/EIS and the CDFG Natural Diversity Database (CNDDB, August 2000), and analysis of recent aerial photographs and USGS topographic maps (7.5' quadrangles) encompassing the proposed project sites. Reconnaissance surveys of the proposed facilities and alignments were conducted, consisting mostly of visual observations from public roads. For each alternative, the footprint of the proposed facilities and a 200-foot-wide corridor along the route of each pipeline alignment were evaluated for wildlife habitats and potential occurrence of sensitive wildlife species.

For those portions of the study area that could not be observed directly from public roads, information on habitats was obtained by analysis of existing information on species occurrences and compared with equivalent, adjacent areas that could be directly observed.

Habitat Types

The 1997 DEIR/EIS identifies 15 habitat types, all of which are represented in the study area for Alternatives 4 through 8. These habitat types correspond to the plant communities described in Chapter 7. These habitat types include developed areas, agricultural lands, annual grassland, eucalyptus stand, blue oak woodland, live oak woodland, valley oak woodland, blackberry/rose riparian scrub, willow riparian scrub, riparian woodland, freshwater marsh, vernal pool, vernal swale, seasonal wetland, and open water (creeks, rivers, and ponds). Characteristics of these plant communities are described in the 1997 DEIR/EIS.

In addition to the communities listed above, two additional habitat types, brackish marsh and salt marsh, are found in the study area for Alternative 8. Brackish marsh habitats occur in estuarine areas with low to moderate salinity resulting from mixing of fresh water with brackish tidal or salt water. Black rails and other marsh species are found in these habitats. Salt marshes occur in higher salinity estuarine areas and are dominated by salt-tolerant plants such as salt grass and pickleweed. California clapper rail, black rail, and salt marsh harvest mice are characteristic sensitive species associated with salt marsh habitats. Brackish marsh is present in the vicinity of Indian Slough, and salt marsh habitat occurs in the vicinity of the proposed brine disposal pipeline for Alternative 8.

Special-Status Wildlife Species

Special-status wildlife species include species listed, proposed, or candidates for listing under the federal Endangered Species Act, California Endangered Species Act, or species designated as species of special concern by CDFG.

The 1997 DEIR/EIS identified 25 special-status wildlife species that could potentially occur in the study area. In addition to these species, 11 additional special-status wildlife species were identified as potentially occurring in the project area for Alternatives 4 through 8. These species are summarized in Table 8-1. No additional species that would be affected by Alternatives 2 and 3 have been listed since 1997.

ENVIRONMENTAL CONSEQUENCES

Significance Criteria

The significance criteria outlined in Chapter 7 of the 1997 DEIR/EIS were also applied in the evaluation of Alternatives 4 through 8. These criteria are consistent with the State CEQA Guidelines and with federal, state, and local laws, regulations, and policies pertaining to wildlife resources in the project area.

These criteria indicate that an alternative would generally have a significant impact on wildlife resources if it would result in losses of or effects on rare, threatened, or endangered species or substantially diminish habitat quality for such species.

Less Than Significant Impacts

All of the alternatives considered in this REIR/SEIS would result in similar less-than-significant impacts. These impacts are summarized below.

Impact: Loss or Disturbance of Developed and Agricultural Areas and Associated Wildlife Habitats. Developed areas along the proposed alignments provide very limited wildlife habitat value. Agricultural fields can provide foraging habitat for birds and small mammals; however, the total area affected would be relatively small, and most effects in these areas would be temporary. Therefore, this effect is not significant. No mitigation is required.

Impact: Temporary Loss of Swainson's Hawk Foraging Habitat. Temporary disturbance of annual grassland and agricultural land, as well as permanent conversion of agricultural land to annual grassland along the pipeline corridor and at pump stations, could result in temporary loss of Swainson's hawk foraging habitat. These temporary losses would not significantly reduce available foraging habitat for Swainson's hawk. Because the affected areas would be small in comparison to overall foraging habitat available for this species in the area, and habitat would recover following installation of the pipeline, this impact is less than significant. No mitigation is required.

Impact: Temporary Loss of San Joaquin Pocket Mouse Habitat. Impacts on annual grassland could result in temporary loss of San Joaquin pocket mouse habitat. The temporary loss of annual grassland during construction would not significantly affect habitat for the San Joaquin pocket mouse. Because the affected areas would be small compared with the overall habitat available for pocket mice, and habitat would recover following installation of the pipeline, this impact is less than significant. No mitigation is required.

Significant Impacts and Mitigation

The physical facilities associated with Alternatives 4 and 5 are similar to those described for Alternative 3, "Joint Water Supply," in the 1997 DEIR/EIS. Therefore, the effects on vegetation resources would be similar. The impacts of Alternatives 6, 7, and 8 would also be very similar to those described in the 1997 DEIR/EIS. Therefore, the description of impacts focuses on those effects that would be somewhat different from those described in the 1997 DEIR/EIS. Applicable mitigation measures described in the 1997 DEIR/EIS are also summarized. See the Summary in this

Table 8-1. Special-Status Wildlife Species with Potential to Occur in the Project Area

Species	Status [a] Federal/State	California Distribution	Habitat	Reason for Decline or Concern	Occurrence in Study Area
AMPHIBIANS					
California red-legged frog *Rana aurora draytoni*	T/SSC	Found along the coast and coastal mountain ranges of California from Humboldt County to San Diego County; Sierra Nevada (midelevations [above 1,000 feet] from Butte County to Fresno County)	Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along the edges; may estivate in rodent burrows or cracks during dry periods	Alteration of stream and wetland habitats, overharvesting (historically), habitat destruction, competition and predation by fish and bullfrogs	Not known to occur in the Sacramento or San Joaquin valleys below 1,000 feet. There are two known locations south of Hwy 4 near west Pittsburgh
BIRDS					
Cooper's hawk (nesting) *Accipiter cooperii*	--/SSC			Loss and fragmentation of habitat	This species prefers woodland areas and is unlikely to occur within the project area.
California black rail *Laterallus jamaicensis coturniculus*	--/T	Found in marsh habitats from San Francisco bay/ Sacramento-San Joaquin delta south.	Mainly inhabits salt-marsh areas, however also found in low elevation fresh-water and brackish marshes	Loss of habitat	Potential to occur at Indian Sloigh and the brine discharge site associated with alignment 8
Califronia clapper rail *Rallus longirostris obsoletus*	E/E	Coastal wetlands and brackish areas from San Francisco Bay to Morro Bay.	Inhabits brackish and salt marsh environments.	Loss of habitat	Potential to occur at the brine discharge site associated with alignment 8
Califronia least tern *Sterna antillarum browni*	E/E	Nests along the coast from San Francisco bay south to San Diego	Nests on bare or sparsely vegetated, flat substrates.	Loss of habitat	Observe nesting in the Port Chicago Marsh and at the PG&E plant in Pittsburgh. Potential to occur along the brine disposal pipe associated with alternative 8
Short eared owl (nesting) *Asio flammeus*	--/SSC	Found in the lower elevation grassland habitats of California	Found in marsh areas and lowland meadows, alfalfa fields.	Limited by a loss of habitats.	Potential to occur throughout the area
Loggerhead shrike *Lanius ludovicianus*	--/SSC	Resident and winter visitor in lowlands and foothills.	Prefers open habitats with scatterd shrubs, trees and fences.	Loss of habitat	Potential to occur along the Brine Disposal pipeline of Alternative 8
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	--/SSC	Resident of the fresh and salt marshes in the San Francisco Bay region	Requires thick cover extinding to water surface for foraging. Breeds in tall grasses tule patches, and willows	Loss of habitat	Potential to occur along the Brine Disposal pipeline of Alternative 8

Table 8-1, Continued. Special-Status Wildlife Species with Potential to Occur in the Project Area

Species	Status [a] Federal/State	California Distribution	Habitat	Reason for Decline or Concern	Occurrence in Study Area
Suisun song sparrow *Melospiza melodia maxillaris*	--/SSC	Resident of brackish water marshes surrounding Suisun Bay.	Found in tules and similar vegetation	Loss of habitat	Potential to occur along the Brine Disposal pipeline of Alternative 8
MAMMALS					
Salt marsh harvest mouse *Reithodontomys raviventris*	E/E	Found in the saline emergent wetlands of the San Francisco Bay region	Pickleweed areas	Loss of habitat	Potential to occur in the salt marsh associated with the brine disposal pipeline.
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Occurs along the western side of the San Joaquin Valley	Favors grasslands and oak savannas with friable soils	Fragmentation and loss of habitat	Could extend to the Bixler area, however unlikely within the project area.

[a] Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded.
SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

-- = no listing.

State

T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
-- = no listing.

REIR/SEIS and Chapter 2 of the 1997 DEIR/EIS for descriptions of Alternatives 2 and 3.

Alternative 4: EBMUD-Only Lower American River Delivery
Alternative 5: Sacramento River Delivery
Alternative 6: Freeport East Delivery

Impact: Disturbance of Nesting Raptors, Including Swainson's Hawk and Burrowing Owls. Construction in the study area could result in the disturbance of nesting raptors or cause loss or failure of active nests near the construction areas. Swainson's hawk is a state threatened species, and nesting raptors are further protected under Sections 3503 and 3503.5 of the California Fish and Game Code. Construction in grasslands or agricultural fields could also displace burrowing owls, a California Species of Special Concern. Therefore, potential impacts on Swainson's hawk, burrowing owls, and other nesting raptors are significant. Implementation of the following mitigation measures, fully described in the 1997 DEIR/EIS, would reduce this impact to a less-than-significant level.

Mitigation Measure 8-1: Conduct Surveys for Nesting Raptors and Tricolored Blackbirds and Take Appropriate Precautions.

Mitigation Measure 8-2: Consult with DFG and Follow Mitigation Guidelines to Avoid Disturbance of Nesting Swainson's Hawk.

Mitigation Measure 8-3: Consult with DFG and Follow DFG's Burrowing Owl Mitigation Guidelines.

Impact: Disturbance of Vernal Pools, Vernal Swales, and Other Temporary Ponds that Could Provide Habitat for Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and Other Associated Sensitive Species. Construction of the pipelines could affect vernal pools. Vernal pools and similar habitats support a diverse array of endemic species, including the fairy shrimp and tadpole shrimp. Temporary ponds along the alignment could also support vernal pool crustaceans. Trenching through vernal pools would destroy the hardpan forming these pools and consequently their hydrology. These potential impacts on vernal pool habitats and associated sensitive species are significant. Implementation of the following mitigation measure, fully described in the 1997 DEIR/EIS, would reduce this impact to a less-than-significant level.

Mitigation Measure 8-4: Conduct Surveys and Prepare a Mitigation Plan for Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp.

Impact: Loss of Aquatic Habitats Such as Irrigation Ditches or Ponds That Could Support Giant Garter Snake or Western Pond Turtle. The intake to FSC pipeline under Alternative 6 runs adjacent to or crosses several small ditches that could provide habitat for aquatic species. The ditches running parallel to railroad tracks have the greatest potential for supporting listed species (e.g., giant garter snake). Overall, the potential for impact is low, and effects would be temporary. However, appropriate actions can be undertaken to minimize disturbance and impacts. These potential impacts on aquatic habitats and associated sensitive species are considered significant. Implementation of the following mitigation measure, fully described in the 1997 DEIR/EIS, would reduce this impact to a less-than-significant level.

Mitigation Measure 8-5: Conduct Preconstruction Surveys and Mitigate for Loss of Special-Status Amphibians and Reptiles, including Western Spadefoot Toad, California Tiger Salamander, Giant Garter Snake, and Western Pond Turtle.

Impact: Potential Mortality of or Disturbance to the Valley Elderberry Longhorn Beetle During Construction. Construction activities could potentially result in mortality of or disturbance to the beetle or its habitat. This impact is significant. Implementation of the following mitigation measure, fully described in the 1997 DEIR/EIS, would reduce this impact to a less-than-significant level.

Mitigation Measure 8-6: Conduct Preconstruction Valley Elderberry Longhorn

Beetle Surveys and Avoid or Compensate for Loss of Habitat.

Impact: Potential Loss of Habitat for Sacramento Anthicid Beetle, Sacramento Tiger Beetle, and Yuma Myotis. Construction at stream crossings could result in the loss of habitat for these species. Because these species are considered rare, loss of potential habitat is a significant impact. Implementation of Mitigation Measures 7-3a and 7-3b, fully described in the 1997 DEIR/EIS and summarized in Chapter 7 of this REIR/SEIS, would reduce this impact to a less-than-significant level.

Alternative 7: Freeport South Delivery

Generally, impacts of Alternative 7 are very similar to those described for Alternatives 4, 5, and 6 above. Specific information relevant to this alternative is provided below. Potential mitigation measures to address all project impacts are identical to those described above for Alternatives 4, 5, and 6.

Vernal pools are present along the pipeline alignment for this alternative. The greatest extent of these habitats is found along the northern portion of the alignment, along the west side of I-5 in the Stone Lakes area. Construction could affect special-status species associated with these habitats

The pipeline alignment runs adjacent to or crosses several small ditches that could provide habitat for aquatic species. The Stone Lakes area supports larger marsh habitats that could also support sensitive aquatic species. Overall, the potential for impact is moderate, and impacts would be temporary.

Construction could result in the loss of or disturbance to raptor or tricolored blackbird nests. Swainson's hawk and other raptor nests have been documented throughout the vicinity of the alignment. Potential impacts on tricolored blackbirds would be limited to the Stone Lakes area.

Alternative 8: Bixler Delivery

Generally, impacts of this alternative are very similar to those described for Alternatives 4, 5, and 6 above. Specific information relevant to this alternative is provided below. Potential mitigation measures to address all project impacts are identical to those described above for Alternatives 4, 5, and 6.

Impact: Loss or Disturbance of Habitats for Salt Marsh Harvest Mouse, Clapper Rail, and Black Rail. The brine discharge pipeline associated with the advanced water treatment option would cross areas with brackish and salt marsh habitats. Although direct take of species can be avoided through construction techniques, salt marshes are relatively rare habitats that support a wide array of sensitive species, including the federally endangered salt marsh harvest mouse and California clapper rail, as well as the state threatened black rail. Therefore, impacts on this habitat are considered significant. Implementation of Mitigation Measures 7-4a, 7-4b, and 7-4c, fully described in the 1997 DEIR/EIS and summarized in Chapter 7 of this REIR/EIS, would reduce this impact to a less-than-significant level.

Impact: Loss or Disturbance of Brackish Marsh Habitats. The intake structure would impact approximately 0.1 acre of brackish marsh habitat along Indian Slough. Brackish marshes are capable of supporting an array of sensitive species, including the state threatened black rail. Therefore, this impact is significant. Implementation of Mitigation Measures 7-4a, 7-4b, and 7-4c, fully described in the 1997 DEIR/EIS and summarized in Chapter 7 of this REIR/EIS, would reduce this impact to a less-than-significant level.